

# GARTH D. EHRLICH, Ph.D.

## *CURRICULUM VITAE*

307 Overbrook Rd.  
Valencia, PA 16059  
(724) 898-1686 (H)  
(412) 287-5361 (Cellular Phone)  
(412) 359-4228 (Office) and (412) 359-8169 (Assistant, Tawanda)  
(412) 359-6995 (Facsimile)  
e-mail address: [gehrlich@wpahs.org](mailto:gehrlich@wpahs.org)  
URL: <http://www.centerforgenomicsciences.org>

## PROFESSIONAL INTERESTS

- I. Institute Building and Faculty Mentoring
- II. Molecular Pathogenesis of Chronic Infectious Diseases
- III. Human Disease, Susceptibility, & Performance Gene Mapping, Cloning, and Modeling
- IV. Military Medicine
- V. Molecular Biology of Scarless Wound Healing
- VI. Engineering Approaches to Combat Biofilms
- VII. Applications of the polymerase chain reaction to diagnostics, epidemiology, and genetics

## ACADEMIC AND ADMINISTRATIVE POSITIONS AT ALLEGHENY SINGER RESEARCH INSTITUTE/ ALLEGHENY GENERAL HOSPITAL/DREXEL UNIVERSITY COLLEGE OF MEDICINE

### Current Positions (10/97 – Date)

10/97 – Date	<b>Executive Director</b> , Center for Genomic Sciences, Allegheny Singer Research Institute/Allegheny General Hospital (primary research position)
10/01 –Date	<b>Scientific, Governmental, and Regional Affairs, Liaison Officer</b> Allegheny Singer Research Institution (primary administrative position)
1/05 – Date	<b>Scientific Director</b> , Allegheny Human Performance Laboratory, Allegheny Singer Research Institute/ Allegheny General Hospital
06/01 – Date	<b>Professor of Microbiology and Immunology</b> , Drexel University College of Medicine (primary academic appointment)
10/97 – Date	<b>Professor and Director of Research Dept of Otolaryngology</b> , Drexel University College of Medicine
07/98 – Date	<b>Professor and Vice Chairman of Human Genetics</b> , Drexel University College of Medicine

### Past Positions

1999-2004	<b>Vice Chairman</b> – Institutional Animal Care and Use Committee, Allegheny Singer Research Institute
07/01 – 2004	<b>Research Advisor</b> , GI fellowship program, Allegheny General Hospital
12/97 – 7/98	<b>Associate Director</b> , Allegheny Cancer Center, MCP – Hahnemann University School of Medicine (center closed due to bankruptcy)

### HONORARY AND ADJUNCT ACADEMIC APPOINTMENTS

07/99 – Date	<b>Honorary Professor of Medical Genetics</b> , West China University of the Medical Sciences, Chengdu, Sichuan, China
01/01 – Date	<b>Adjunct Professor of Biomedical &amp; Health Engineering</b> , Carnegie Mellon University, Pittsburgh, PA.
10/03 – Date	<b>Guest Professor</b> , Shantou University School of Medicine, Shantou, Guangdong, China
Pending	<b>Honorary Professor of Microbiology</b> , Institute of Microbiology, Chinese Academy of Sciences, Beijing, China

### ACADEMIC AND ADMINISTRATIVE POSITIONS AT THE UNIVERSITY OF PITTSBURGH & THE UNIVERSITY OF PITTSBURGH MEDICAL CENTER (6/90 – 10/97)

1/96 - 10/97	<b>Associate Professor of Pathology (with Tenure)</b> , University of Pittsburgh, School of Medicine
6/96 - 10/97	<b>Executive Director</b> , Center for Genomic Sciences, University of Pittsburgh and Children's Hospital of Pittsburgh
12/93 - 10/97	<b>Chief</b> , Virology, Microbiology and Infectious Disease Section, Molecular Diagnostics Division, Department of Pathology
5/91 - 10/97	<b>Member</b> , Graduate Faculty, University of Pittsburgh, School of Medicine
1/92 - 10/97	<b>Adjunct Member</b> , Central Blood Bank of Pittsburgh
1/96 - 10/97	<b>Associate Professor of Otolaryngology</b> , University of Pittsburgh, School of Medicine
1/96 - 10/97	<b>Associate Professor of Infectious Disease and Microbiology</b> , Graduate School of Public Health
6/90 - 6/91	<b>Head</b> , Molecular Diagnostics Unit, Department of Pathology
6/90 - 10/97	<b>Clinical Director</b> , Central Testing Facility, Molecular Diagnostics Division, University of Pittsburgh Medical Center
7/91 - 10/97	<b>Director</b> , Core PCR Facility, Department of Pathology
7/95 - 8/95	<b>Acting Director</b> , Molecular Diagnostics Division
6/90 - 12/95	<b>Assistant Professor of Pathology</b> , University of Pittsburgh, School of Medicine
6/90 - 12/95	<b>Assistant Professor of Infectious Diseases &amp; Microbiology</b> , Graduate School of Public Health, University of Pittsburgh
7/92 - 12/95	<b>Assistant Professor, Department of Otolaryngology</b> , University of Pittsburgh

**Department of Pediatric Otolaryngology, Children's Hospital of Pittsburgh**

**ACADEMIC AND ADMINISTRATIVE POSITIONS AT SUNY HSC@ SYRACUSE &  
SYRACUSE UNIVERSITY**

- 04/89 - 06/90      **Research Assistant Professor**, Department of Medicine, SUNY Health Science Center @ Syracuse and **Principal Research Scientist** SUNY Research Foundation
- 07/88 - 04/89      **Research Instructor**, Department of Medicine, SUNY Health Science Center @ Syracuse
- 07/86 - 06/88      **Technical Specialist II**, SUNY Research Foundation at SUNY Health Science Center @Syracuse
- Development of PCR as a diagnostic tool in retrovirology
  - Evaluation of the effect of retroviral infections on chromosomal methylation patterns
- 05/84 - 07/86      **Technical Specialist I**, SUNY HSC @ Syracuse
- Detection, epidemiology and spectrum of disease associated with HIV, HTLV-I and II
  - Correlation of HTLV-I *tax* gene expression with disease
- 04/84 – 07/87      Doctoral Student, Syracuse University, Biology Department
- 10/81 - 01/83      **Research Specialist**, Syracuse University, Biology Department

**INDUSTRIAL & EARLY EMPLOYMENT**

- 07/83 - 04/84      **Research Scientist B**, Bristol Myers Industrial Division, Genetic Engineering Group
- Characterized expression patterns of amidohydrolase and purified mRNA from *Fusarium oxysporum*
  - Establish *in vitro* translation assay for *F. oxysporum* mRNA
- 10/81 - 07/83      **Research Scientist C**, Bristol Myers Industrial Division, Genetic Engineering Group
- Initiated amidohydrolase cloning project
  - Studied *F. oxysporum* growth kinetics vs. regulation of amidohydrolase
- 03/80 - 10/81      **Research Microbiologist**, Bethesda Research Laboratories
- 03/78 - 02/80      Cloning and mutagenesis of genes for amino acid biosynthesis
- 09/75 - 05/77      Self-employed Agri-business
- University-sponsored tutor in the Biological and Chemical Sciences.
- Laboratory specimen preparation

## **CURRENT RESEARCH PROJECTS**

**Development of a multi-component theoretical framework “bacterial plurality” for the understanding of chronic bacterial pathogenesis; this rubric embodies the concepts of:**

- 1) Pathogenesis of chronic otitis media with effusion (1990), a model of chronic bacterial disease
- 2) The biofilm paradigm (1996) of chronic bacterial infections (phenotypic plurality) based upon metabolic and imaging studies
- 3) The distributed genome hypothesis and the concept of the bacterial population supragenome (2001) as mechanisms of bacterial virulence (present only at the population level) active in chronic infections (i.e. genomic plurality, based upon intra-species strain diversity at the genomic level)
- 4) Bacterial virulence gene mapping using a QTL-like analysis of the supragenome and individual strain disease phenotyping (2006).

**Understanding the pathophysiological bases of human genetic diseases based upon disease gene identification and the development of animal and theoretical models**

- 1) Disease gene mapping: a) Crouzon craniofacial dysostosis – completed 1994; b) hereditary pancreatitis – completed 1996; c) diffuse abnormal insertional activity (DAIA) – completed 1996; d) ectrodactyly – completed 1999; e) Crohn's disease and ulcerative colitis – QTL identified 1998; f) pediatric gastroesophageal reflux – completed 2000; g) vesicoureteral reflux – ongoing since 1995; h) Dupuytren contracture – completed 2005; i) speech and language acquisition – specimen collection initiated 2000; j) susceptibility to chronic bacterial infections – specimen collection initiated 2001; k) autoimmunity multiple sclerosis – specimen collection initiated 2001; l) external ear formation – animal breeding experiments 2001.
- 2) Disease gene cloning: a) Crouzon syndrome/Jackson Weiss – completed 1995; b) hereditary pancreatitis – completed 1996-1997; c) pediatric GER – ongoing; d) Dupuytren – ongoing.
- 3) Disease gene modeling: a) Crouzon syndrome – nude rat – human mutant osteoblast chimeras; b) hereditary pancreatitis – theoretical model based on mutational affects on protein (1996) – experimental support 1998-2001.

**Building moving pictures of gene expression using SS-RT-PCR, differential display, and RNA array technologies of normal and pathological conditions.**

- 1) scarless wound healing (1995 –date);
- 2) premature craniosynostosis (1998-date);

- 3) bacterial biofilm formation in the middle ear (both bacterial and mucosal gene expression patterns) (1998-date)
- 4) Multiple Sclerosis – responsiveness/nonresponsiveness to therapy (2003 – date)

## CLINICAL MOLECULAR DIAGNOSTICS

- Co-developed the original human retroviral (HIV-1 & -2, and HTLV-I & II) PCR-based assays with Cetus Corporation that formed the bases for the commercial Roche assays
- Developed and implemented clinical RT-PCR-based diagnostics for the human retroviruses
- Developed and implemented clinical molecular diagnostics for numerous DNA viral pathogens including adenovirus, CMV, HSV, VZV, EBV, HPV, & HBV
- Developed and implemented clinical RT-PCR-based diagnostics for numerous RNA viral pathogens including: influenza virus, parainfluenza virus, rhinovirus, and respiratory syncytial virus
- Developed and implemented clinical molecular diagnostics for bacterial pathogens associated with upper and lower respiratory infections, and otitis media including *S. pneumoniae*, *H. influenzae*, *M. catarrhalis*, *Bordetella pertussis*.
- patented an RT-PCR/PCR-based test to discriminate viral and bacterial meningitis

## CONSULTING & INDUSTRIAL COLLABORATIONS

11/89 - 05/90	University of Pittsburgh
11/89 - 08/90	Syracuse Research Corporation
02/90 - Date	Teltech, Inc/Intota.
08/90 - 07/91	EWI
06/91 - 1993	RFP - NIH - NIAID - DAIT - 91-22 (Rene J. Duquesnoy, Ph.D.)
07/91 - 1997	Roche Molecular Systems (informal, limited to materials exchange and comparison of test results)
07/91 - 06/94	Kodak, Clinical Products Division, Rochester, New York
01/92 – 01/95	Central Blood Bank, Pittsburgh, PA
05/92 – 3/93	Smith, Helms, Mulliss & Moore, Raleigh, North Carolina
11/92	Travelers Insurance Co.
02/93 - 11/96	Oncogenetics
08/93 – 7/95	TM Technologies
02/95 – 01/96	McKnight and Thompson, Houston, TX/ Hotel Six
07/94 - 11/97	Children's Hospital, Pittsburgh, PA
08/96 – 10/97	Third Wave Technologies (informal, limited to material exchange and comparison of test results)
11/96 – 9/97	Impath
01/97	Boehringer Mannheim

02/97 – 6/99	Visible Genetics/Gene Foundry
03/97 – 03/99	CL Scientific/ Kaiyuan Bioengineering, Ltd.
01/98 – 03/99	Quest Diagnostics/Nichols Institute
01/00 – 12/03	Pfizer (molecular diagnostic support of clinical trials)
01/03 – Date	Zimmer (Biomedical Implant infections)
03/03 – 02/04	Tulsa Lawyers
05/04 – 03/06	White and Steele, Attorneys-at-Law
05/04 – Date	Merck (Montelukast in OME)
07/05 – Date	Novaflex technologies (antibiofilm plastics)
09/05 – Date	Bayer Corporation (Development of antibiofilm surfaces)
02/06 – Date	Searcy et al, Attorneys-at-Law
08/06 – Date	Ibis/Isis (Consultant on Molecular Diagnostics)
11/06 – Date	Allotrope (In vitro and animal testing of bipartite anti-biofilm systems)
12/06 – Date	Stryker Orthopedics (Infectious Diseases Panel Member; and Antibiofilm strategies for arthroplastic implants)
1/07 – Date	Medtronic ENT Division – Biofilm Panel
2/07 – Date	iNetworks (venture capital) Consulting Technical Analyst

## Industrial & Professional Organization Board Memberships

10/01 – 10/03	Radvault (Scientific Advisory Board member) – company bought out
03/02 – Date	Bacterin (Scientific Advisory Board member)
2005 – Date	LifeBoat Foundation (Scientific Advisory Board, Medical and Genetics subsection)
2005 – Date	Pittsburgh Tissue Engineering Initiative (Board of Directors)
2007 – Date	Pittsburgh-Toronto (MaRS) Joint Regional Biomedical Development Program (Institutional Scientific Delegate)

## EDUCATION

07/87 - 06/88	<b>Post-Doctoral Fellow in Human Retrovirology</b> - Division of Hematology/Oncology, Department of Medicine, SUNY HSC (Upstate Medical Center) at Syracuse, Syracuse, New York
09/84 - 08/87	<b>Ph.D.</b> - Syracuse University - in Biology - Dissertation title: <b>Correlation of Clinical and Molecular Parameters of Human Retroviral Infections</b> - Mentors: Bernard Poiesz, M.D., John Vournakis, Ph.D., and Judith Foster, Ph.D.
09/74 - 05/77	<b>B.A.</b> - Alfred University – Honors in Biology, May 1977 <i>magna cum laude</i>

## PROFESSIONAL LICENSURE

07/26/94 - 07/26/2006 New York State Department of Health, Certificate of Qualification.

Laboratory Director: Direct Molecular Detection Techniques  
Infectious Agents  
Code Number: EHRLGI

## PERSONAL

**BIRTH DATE:** July 9, 1956

**HEALTH:** Excellent

**CHILDREN:** **Ian S. G. Ehrlich**, son DOB 04/09/81; B.S. Mathematics, 2004 University of Pittsburgh; M.S in Mathematics, 2006 Montana State University; 1<sup>st</sup> Actuarial exam 2006; Lecturer ITT Technical Institute 2006.

**Nathan E.G. Ehrlich**, son DOB 03/21/84; varsity soccer, math major, Taylor Allderdice HS, 2002; B.A History, 2006 University of Pittsburgh.

**HOBBIES:** Alpine Skiing, Sports Car Racing, Mountain Biking, Travel

## COMMUNITY ACTIVITIES

**Member** - Syracuse City School District's Gifted Education Advisory Board (1989-1990)

**Lecturer** - on AIDS to Secondary School Children; Science to elementary school children (1989-1997)

**Established** - the **Genomic Sciences Institute** for training of high school biology teachers through didactic and hands-on continuing education within a major research facility (2001-Date)

**Established** – The **Professor Robert E. Ehrlich Mathematics Scholarship** at Alfred University (2005)

## HONORS & AWARDS

- New York State Regents Scholarship 09/73 - 05/77
- Advanced biology GRE 840 (98th percentile)
- American Chemical Society Organic Chem Exam 56 (99th percentile)
- Departmental Honors (Biology) conferred upon graduation from Alfred University (1977).
- Member Phi Kappa Phi, Alfred University (general scholastic honorary)
- Nominated by Alfred University for the Danforth Fellowship competition (1977)
- Awarded honorable mention in the National Science Foundation predoctoral fellowship competition (1977)
- National Institutes of Health predoctoral Fellowship, University of Chicago (1977-1978)
- Research Assistant SUNY HSC at Syracuse 04/84 - 07/87
- Invited Participant, NIH Workshop on PCR 06/30/88
- Invited participant NMMS meeting on MS, HTLV-1 and PCR, June 1989, Montreal, Canada
- Invited participant NCI symposia on HTLV-I, 1989.
- Invited participant NIAID symposia on detecting HIV-1 in urogenital fluids, October, 1991.
- Visiting Professor, Cleveland Clinic, February 18, 1992
- Honorary member, Association of Medical & Laboratory Immunologists, 1992-1993
- Invited Participant, NICHD/NIDCD Symposia on Infectious agents and SIDS
- Heritage Foundation Lecturer, Cross Cancer Institute Edmonton CANADA, 1994
- Cited in Marquis's Who's Who in the East, 1995
- Cited in Marquis's Who's Who in Science and Engineering 1995, 2006/2007



- Invited speaker NIDCD Council Meeting, May 18, 1995
- Alumni Citation Award, Alfred University, Alfred, New York, June 3, 1995
- Feinstein Lecturer, Alfred University, Alfred, New York, October 21, 1995
- Invited Guest, Visible Genetics, Toronto Ontario, Canada, June 26, 1996
- Invited Guest, Third Wave Technologies, Madison, Wisconsin, July 25-26, 1996.
- Invited Speaker, Association for Research in Otolaryngology's Workshop in Molecular Genetics, St. Petersburg Beach, Florida, February 1-6, 1997.
- Invited Speaker and Guest, Kaiyuan Bioengineering, Ltd., Xian, CHINA, March 25-April 2, 1997.
- Invited Participant, NIDCD Workshop on Molecular Genetics of Language and Speech Acquisition, April 28, 1997.
- Career featured as cover story in the Sunday Magazine Section of the Pittsburgh Post Gazette, February 22, 1998.
- Keynote speaker, National Convention of Directors of Clinical Diagnosis Centers and the National Symposium of the Academic Exchange for young scientists, sponsoring agency, Health Ministry of P.R.China, Xian, CHINA May 28, 1998.
- Work on medical biofilms featured in news article in *Science*, January 1999
- Honorary Professorship in Medical Genetics conferred by West China University of the Medical Sciences July 15, 1999, Award Ceremony October 11, 1999, Chengdu, CHINA.
- Cited in Marquis' Who's Who in America 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007
- Invited Participant, DARPA biowarfare PI's conference, Ft. Lauderdale, FL, Jan 30 – Feb 4, 2000.
- Guest of Honor, PAGER's Annual Walk-Run, San Diego, CA, September 21, 2000.
- National Institute of Deafness and Other Communication Disorders, Board of Scientific Counselors, *ad hoc* October 2000.
- Invited Participant, NIH NIDCD Workshop, Otitis Media: New Approaches for Analysis, Treatment, and Prevention, Rockville, MD November 29-30, 2000.
- Invited Participant, MCP-Hahnemann University Pre-Commencement Dinner with Dr. Craig Venter, Philadelphia, PA May 17, 2001
- Keynote Speaker, Indian Association of Medical Microbiology, Silver Jubilee Meeting, November 24, 2001 New Delhi, India
- Guest Professor, Shantou University, Shantou CHINA, October 2003.
- Invited Speaker, NIDCD Council Meeting, September 10, 2004.
- Cited in the Marquis Who's Who in Medicine and Healthcare 5<sup>th</sup> Edition 2004/05, & 6<sup>th</sup> ed 2006/07
- Finalist, Healthcare Hero Award, Research and Innovation, Pittsburgh Business Times, 2005
- Honorary Professor, National Institute of Microbiology, Chinese Academy of Science, (pending), Beijing CHINA
- Top 1% of cited authors for journals in the Life Sciences
- NSF Panel Member on Future Areas for Biotechnology Research and Development, 2007

## MEMBERSHIPS

1983 - Date	American Association for the Advancement of Science
1990 - Date	American Society for Microbiology
1990 - 1997	Pittsburgh Cancer Institute
1991 - 2000	Academy of Clinical Laboratory Physicians and Scientists

1992 - 1996	Association of Medical Laboratory Immunologists
1993 - Date	Association for Research in Otolaryngology
1993 - 1996	Society for Leukocyte Biology
1994 - Date	Sigma Xi
1994 - 1999	Association for Molecular Pathology - Founding Member Infectious Diseases Committee Co-Chair 1994-1995
1996 - Date	American Society for Human Genetics
1997 – Date	Pittsburgh Tissue Engineering Institute (mentor Award 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006)
2000 - Date	American Academy of Otolaryngology-Head and Neck Surgery
2001 – 2003	Tissue Engineering Society

## GRANT SUPPORT

### - Past -

08/88 - 07/89	Endowment for the Neurosciences - \$12,052.00 ( <b>Principal Investigator</b> )
08/89 - 07/91	National Multiple Sclerosis Society- PCR-Based analyses for HTLV-I in MS \$20,000 ( <b>Principal Investigator</b> )
1988 - 1991	National Heart, Lung and Blood Institute - Development and evaluation of new screening tests for human retroviruses. R01 HL-43602-01, \$299,119 direct costs first year. (5% Effort) ( <b>Co-Investigator</b> ) (Bernard J. Poiesz, Principal Investigator)
06/90 - 06/96	Pathology Education and Research Foundation - \$160,000.00 ( <b>Principal Investigator</b> )
01/91 - 12/91	Pathology Education and Research Foundation - postdoctoral salary - \$18,000 ( <b>Principal Investigator</b> )
07/91 - 06/92	Joint Development Fund - Sequence capture of PCR amplimers using a multiplex cyanine dye detection methodology. \$20,000 Technician salary support. ( <b>Principal Investigator</b> )
09/89 - 08/92	National Heart Lung and Blood Institute - Development and evaluation of new screening tests for HTLV-III antigens, antibodies, or nucleic acids. N01-HB-67021, \$320,790 direct costs first year ( <b>Co-Investigator</b> ) (5% Effort) (Bernard J. Poiesz, Principal Investigator)
06/91 - 05/92	Otitis Media Research Center, \$4,000.00 equipment grant ( <b>Co-Principal Investigator</b> )
09/91 - 10/92	Children's Hospital of Pittsburgh - New Research Project Fund. PCR-based detection of unculturable microorganisms in otitis media. \$4,400.00. ( <b>Co-Principal Investigator</b> )

01/92 - 12/92	Blood Science Foundation - Development of HCV Diagnostic Assays. \$25,000.00. <b>(Principal Investigator)</b>
01/92 - 12/92	General Clinical Research Center, University of Pittsburgh, \$4,000 for study of infectious organisms by rDNA PCR <b>(Co-Principal Investigator)</b>
08/91 - 07/93	Stanley Foundation Research Awards Program - TCR_ usage in T lymphocytes isolated from the CSF of Schizophrenic patients. (Cathy McAllister, Principal Investigator, Garth Ehrlich, <b>Co-Investigator</b> ) \$12,800 direct costs for PCR subproject.
04/92 - 03/93	Department of Pathology, Chairman's Discretionary Fund - Development of an automatable single stranded sequence capture technique using magnetic bead separation. \$26,913.00 <b>(Principle Investigator)</b>
07/92 - 06/93	The American Academy of Otolaryngology, Head and Neck Surgery Foundation -Academy Research Training Award, "PCR identification of <u>M. catarrhalis</u> DNA in chronic OME". \$15,000 (Christopher Post - Principal Investigator) <b>(Preceptor)</b>
07/92 - 06/93	The Pennsylvania Lions Hearing Research Foundation - Bacterial Detection in Middle-Ear Effusions Using the Polymerase Chain Reaction, \$20,000 (Christopher Post – Principal Investigator, Garth Ehrlich - <b>Co-Principal Investigators</b> )
07/92 - 06/94	Kodak Corporation, Comparative Analyses of PCR-Based Clinical Diagnostic Assays, \$61,489 <b>(Principal Investigator)</b>
07/92 - 06/94	Kodak Corporation, PCR Detection of Gram Negative Bacteremia and Antiviral Susceptibility testing of HIV-1, \$292,904 <b>(Principal Investigator)</b>
01/93 - 12/94	The Deafness Research Foundation - Development of a multiplex PCR-based assay to detect respiratory viruses associated with otitis media, \$30,000 (Christopher Post, Garth Ehrlich - <b>Co-Principal Investigators</b> )
06/93 - 05/94	Pathology Education and Research Foundation - Analysis of the <i>Chinchilla laniger</i> animal model of OME for PCR-based detection of <i>H. influenzae</i> . <b>(Principal Investigator)</b>
07/94 - 06/95	Triological Society, The molecular biology of tissue injury and wound healing in sub glottic stenosis, \$25,000 (Robert Yellon, Principal Investigator) <b>(Co-Investigator)</b> .
07/94 - 06/95	Triological Society, The molecular characterization of mutations and co-infections in juvenile laryngeal papillomas, \$25,000 (Dr. Frank Rimell, Principal Investigator) <b>(Preceptor)</b> .

07/90 - 09/95	National Institute of Health, NIAID, Multicenter AIDS Cohort Study (20% Effort) (Charles Rinaldo, Jr., Ph.D., Principal Investigator, Garth Ehrlich, Co-Investigator) Viroimmunology subproject \$70,000/annum in direct costs.
01/91 - 04/96	Pittsburgh Supercomputing Center, Grant #DMB910001P Clinical Molecular Diagnostics -14.0 service units ( <b>Principal Investigator</b> )
07/95 - 06/96	Children's Hospital of Pittsburgh, Investigation of Mycoplasma pneumoniae as an Etiology of Recurrent Throat Infection in Children. \$9800.00 (Robert Wadowsky, PI) ( <b>Co-Principal Investigator</b> ).
07/94 - 12/95	General Clinical Research Center, Children's Hospital of Pittsburgh, PCR analysis of pediatric blood specimens for evidence of <i>S. pneumoniae</i> bacteremia. \$19,330.86 ( <b>Principal Investigator</b> )
12/93 - 11/94	General Clinical Research Center, Children's Hospital - RT-PCR analysis of nasal secretions for individuals challenged with influenzae virus infection, \$5,500 ( <b>Principal Investigator</b> ).
05/01/95 – 04/30/97	NIH RO3, Microsatellite Mapping of Saethre-Chotzen Syndrome, 50,000 (Robert Preston, Principal Investigator) ( <b>Co-Investigator and Preceptor</b> ).
07/01/95 – 06/30/98	NIH, NIAID, Characterization of HIV in sexual transmission. (Phalguni Gupta, Principal Investigator) ( <b>Co-Investigator</b> ).
9/96 - 8/98	NIH, NIDDK, PAR-95-078 "Genetic linkage in patients with Hereditary Pancreatitis" ( <b>Co-Principal Investigator</b> ) Direct costs for first year - \$50,000.
9/96 – 8/98	Eli Lilly, Loribid Trial - PCR for URVI. \$15,000.
02/97 - 1/98	National Kidney Foundation, "Clinical, Biochemical and Molecular Genetic Characterization of Persons and Families with Vesicoureteral Reflux". ( <b>Mentor</b> ) Total Project Funding: \$25,000.00
01/97 - 12/98	Crohn's and Colitis Foundation of America "Genetic linkage of inflammatory bowel disease; ( <b>Co-Principal Investigator</b> ) Direct Costs for first year - \$80,000.
09/94 - 08/99	NIH, NIAID, AIDS Training Grant (5% Effort) (Charles Rinaldo, Jr., Ph.D., Principal Investigator, Garth Ehrlich, <b>Co-Investigator</b> ) Total Project Funding: \$1,166,178.
07/94 - 06/2000	NIH, NIDCD, R29DC02398-01, Genetic mapping of a syndrome with hearing impairment, \$70,000 direct costs per year (Dr. J. Christopher Post, Principal Investigator) ( <b>Preceptor and Consultant</b> )

9/96 - 9/99	NIH DC-95-13 "Molecular Analyses of Autopsy Specimens from SIDS and Control Infants to Ascertain Middle-Ear Infection" ( <b>Principal Investigator</b> ) Direct costs for first year - \$75,111.
07/95 - 06/00	NIH NIDDK DK-94-022, Alcohol and altered regulation of pancreatic secretion, \$149,909 direct costs year one (David C. Whitcomb, PI) ( <b>Co-Principal Investigator</b> ).
12/93 - 03/04	NIH NIDCD, 2R01DC02148, Molecular Analysis of Pathogens in Otitis Media by PCR, \$362,496 costs year eight ( <b>Principal Investigator</b> ). (1 <sup>st</sup> competitive renewal received a 2 <sup>nd</sup> percentile)
07/00 – 6/2003	NIH-NIDCD, R01DC04173- The Role of Biofilms in the Pathogenesis of Otorrhea, \$742,262 direct costs first year. Three year total: \$3,091,316 ( <b>Principal Investigator</b> ).
06/2002 – 05/2003	The Buhl Foundation “Henry C. Frick Educational Fund of the Buhl Foundation” Professional Development Program in Molecular Genetics and Biotechnology for High School Biology Teachers \$19,680 ( <b>Sponsor</b> ; Dr. Eva Erdosne Toth, PI).
01/2000 – 2003	Pfizer – Molecular Diagnostics for Clinical Trials (protocols 1015, 1016, 1039 and 1043) ~ \$150,000 ( <b>Principal Investigator</b> )
04/2002- 03/2003	Motorola – Comparative Gene Expression of Calvarial Sutures in a Chimeric Human Osteoblast/ Nude Rat Model. \$7000 [in reagents] ( <b>Principal Investigator</b> )
05/2002 – 04/2004	Biogen – Comparative Gene Expression of Cytokines in Treated and Untreated Patients with Relapsing-Remitting Multiple Sclerosis. \$60,617 ( <b>Co-Principal Investigator</b> ; Thomas Scott, Co-PI)
01/2003 – 06/2004	NIH-NIDCD -3 <b>R01 DC04591-03S1</b> Minority Supplement to: The Genetics of Gastroesophageal Reflux, ~60,000 direct costs/year ( <b>Principal Investigator</b> )
07/2003-12/2004	DHSHSRSA C76HF00659 Genomic Automation and Enhancement of Bio-Imaging at the Center for Genomic Sciences. ( <b>Principal Investigator</b> ) \$1,623,000 direct costs.
07/2000- 06/2005	NIH-NIDCD-RO1-DC04591-01 The Genetics of Gastroesophageal Reflux, \$225,000 direct costs/year ( <b>Principal Investigator</b> ). renewal to be submitted 3/06

01/2003 – 12/2005	Allegheny Orthopedic Associates. Molecular Analyses of Bacterial Biofilms associated with Osteomyelitis following Total Joint Replacement. \$133,000 first year (\$400,000 direct costs total) ( <b>Principal Investigator</b> )
07/2000 – 06/2006	NIH-NIDCD- 2 R01 DC02398-08A1 Molecular Genetics of a Syndrome with Hearing Impairment, \$250,000 direct costs first year, ( <b>Co-Investigator</b> ; Dr. J. Christopher Post, PI).
04/2003 – 8/2006	NIH/NIDCD 3 R01 DC005659-02S1 Pneumococcal Biofilms in Otitis Media , Minority Scientist Supplement\$110,669 (1st year total costs) (Co-Mentor; Dr. Michael Forbes, PI).
07/2004-06/2006	OMFS Foundation ( <b>Mentor</b> , Dr. Steven Krakora, PI). Total costs \$80,000.
09/2005-08/2006	The Pittsburgh Foundation. Gene Expression in Peripheral Blood Mononuclear Cells from Multiple Sclerosis Patients undergoing $\beta$ -interferon Therapy. Fen Ze Hu, PI (Co-investigator). First year costs (\$48,000)
12/2002 – 11/2006	National Science Foundation (NSF) \$356,000 total costs ( <b>Co-investigator</b> ; Dr. Eva Toth, PI)

## GRANT SUPPORT

### - Current -

01/2003 – 12/2007	NIH-NIDCD - <b>1 K08 DC05819-01</b> Genetics of Papilloma-induced Voice Disturbance. (\$190,606 total costs first year) ( <b>Mentor</b> , Dr. Farrel Buchinsky, PI)
04/2003-03/2008	NIH/NIDCD <b>R01 DC05659-01</b> Pneumococcal Biofilms in Otitis Media \$448,000 (1st year direct costs) ( <b>Co-Principal Investigator</b> ; Dr. J. Christopher Post, PI).
08/2003-07/2008	NIH/NIDCR. <b>1 K08 DE014780-01</b> Molecular Analysis of Scarless Fetal Wound Healing ( <b>Mentor</b> , Dr. Sandeep Kathju, PI) Total costs \$760,050.
12/2003-11/2008	NIH-NIDCD, 2R01DC04173- The Role of Biofilms in the Pathogenesis of Otorrhea, \$610,383 direct costs first year. Five year total: \$4,510,109 ( <b>Principal Investigator</b> ). (First competitive renewal, years 4-8)
04/2004-03/2009	NIH-NIDCD 3R01DC02148, Molecular Analysis of Pathogens in Otitis Media by PCR (03/01/02 – 2 <sup>nd</sup> competitive renewal for years 11-15) ( <b>Principal Investigator</b> ) Received 2 <sup>nd</sup> percentile for both the first and second competitive renewals.

09/2004-04/2007	HRSA, C76HF03009, Construction of a Biosafety Level 3 Facility and Enhancement of Engineering, Enzymology and Bio-Imaging Capabilities at the Center for Genomic Sciences – “a Construction and Equipment” Project. <b>(Principal Investigator)</b> \$1,000,000 direct costs
06/2005-Date	Merck – SINGULAIR Medical School Grant – “The Effect of Montelukast Treatment in the Chinchilla Model of Otitis Media” Total costs \$97,500.00 <b>(Principal Investigator)</b>
07/2005-Date	NIH-NIDCR - R03 Homozygosity Mapping of Oculo-oto-facial Dysplasia, w/ Seattle Childrens’ Hospital, Anne Hing PI \$50,000 direct costs first year <b>(Principal Investigator)</b> – Subcontract – Total costs first year \$28,752) 10/01/2004 submission.
09/2005-08/2006	HRSA Development of Proteomics and Adult Stem Cell Facilities. <b>(Principal Investigator)</b> \$1,000,000 direct costs (Congressional Earmark in ’05 omnibus appropriations bill)
09/2005 – 08/2008	Department of Education. Total costs ~ \$1, 000,000. Luanne Hall-Stoodley PI (Co-investigator)
07/2006 – 06/2007	Bayer Corporation. Anti-biofilm surfaces. \$90,000 direct costs. <b>(Principal Investigator)</b>
09/2006 – 08/2008	The Pittsburgh Foundation. Gene expression in CD4+ lymphocytes from Multiple Sclerosis patients undergoing $\beta$ -Interferon therapy. Total Costs = \$102,092.59. Fen Hu, PI <b>(Co-investigator)</b>
7/2006 – 7/2007	US Department of Defense, United States Air Force. 311th Flight Wing, Brooks City Base, TX. Genetics of Fatigue, (Congressional Earmark in Department of Defense 2006 Appropriations Bill for \$1,000,000) <b>(Principal Investigator)</b>
12/2006 - Date	Zimmer Corporation. Development of a treatment procedure to clear persistent biofilm-based infections in joint replacement patients by using the bioelectric effect. (\$152474.56) <b>(Principal Investigator)</b>
03/2007 – Date	Pittsburgh Tissue Engineering Initiative. Scarless Wound Healing (\$100,000), Sandeep Kathju, PI <b>(Co-investigator)</b>
07/2007 – Date	Pittsburgh Super Computing Center. Grant # BIO070001P: Massively Parallel Microbial DNA Sequence Analysis. Award of time <b>(PI)</b>

## SUBMITTED AND PLANNED GRANT APPLICATIONS

Resubmitted	NIH/NIDCD – R01, Whole Genome Molecular Epidemiology of <i>Haemophilus influenzae</i> in Otitis Media. Total direct costs first year: \$389,026.00 Fen Ze Hu, PI (C-o-I) - 11/01/2006 resubmission
Submitted	Stryker Corporation. Analysis of Candidate Antibiofilm Surfaces
Submitted	NIH/NIDCD – R01, Chronic Molecular Pathogenic Mechanisms of Pneumococcus in Otitis Media. Total direct costs first year = \$484,951.20 (Principal Investigator) (February 1, 2007)
Submitted	NIH/NIDCR. R01 - Molecular Analysis of Scarless Fetal Wound Healing (Dr. Sandeep Kathju, PI) 12/2007-11/20012 (February 1, 2007 submission – continuation of a funded K08 award)
Submitted	NIH- NIAMS – R21 – Physiology and Biochemistry of Dupuytren’s Contraction. (Latha Satish, PI). 12/2007 – 11/2009 First year direct costs \$150,000.00 (February 15, 2007 submission)
Pending	NIH/NIDCD R01 DC05659-01 Pneumococcal Biofilms in Otitis Media. Renewal (4/1/2008 – 3/30/2013) First year direct costs ~ \$450,000.00
Pending	NIH-NIDCD – R01 - Genetics of Papilloma-induced Voice Disturbance. (Dr. Farrel Buchinsky, PI) 01/2008 – 12/20012 First year direct costs ~ \$350,000.00 (March 1, 2007 submission – Scored – will be resubmitted)
Pending	NIH –NIDCD – R01 – Biofilm Ecology of the Adenoids and Middle Ear in The Pathogenesis of Otitis Media. (Paul Stoodley, PI). First year direct costs \$250,000.00 (March 1, 2007 resubmission – scored will be resubmitted)
Pending	NIH – STTR – Development of Bifunctional Molecular Products for the Degradation of Biofilm Matrix (w/ Allotrope) (Luanne Stoodley, PI) (April 2007 Submission (Grant application completed)



## STUDENTS/MENTORSHIPS

### Graduate Students

**Lauren Bruckner** - M.D./Ph.D. Student at SUNY HSC at Syracuse; Topic - The role of HTLV-I proviral integration, or lack thereof, on retroviral expression and pathogenicity. (Co-Mentor 1989-90)

**Michael Sherman** - M.D./Ph.D. Student at SUNY HSC at Syracuse; Topic - Examination of HTLV-I proviral flanking sequences in chromosomal DNA by means of ligation mediated PCR. (Co-Mentor 1989-90)

**Timothy Oriss** - Ph.D. Candidate, Department of Infectious Diseases and Microbiology, University of Pittsburgh (Committee Member) - **Ph.D. awarded June 1993.**

**Debbie Boldt** - Ph.D., Admitted to candidacy 1992, **Ph.D. awarded September 1994**, Department of Pathology, University of Pittsburgh (**Mentor**). Currently in Biotechnology Industry.

**Alexa Sirko** - Ph.D., Admitted to candidacy 1993, **Ph.D. awarded with honors, November 1995**, Department of Pathology, University of Pittsburgh (**Mentor**). Currently Assistant Professor of Human Genetics, Case Western Reserve University

**James Christopher Post, M.D.**, Professor of Otolaryngology - Ph.D. Admitted to candidacy 1995, **Ph.D. awarded May 1999**, Department of Human Genetics, Graduate School of Public Health, University of Pittsburgh (**Mentor, ex officio**). Currently President and Chief Scientific Officer Director, and Medical Director, Center for Genomic Sciences, Allegheny Singer Research Institute; and Chief Pediatric ENT, Allegheny General Hospital

**Jasmin Dada** - M.S. Student, Department of Infectious Diseases and Microbiology, Graduate School of Public Health, University of Pittsburgh (Thesis Committee) - **M.S. awarded 1992**

**Stella Laus** - M.S. Student, Department of Infectious Diseases and Microbiology, Graduate School of Public Health, University of Pittsburgh (Thesis Committee) - **M.S. awarded December, 1993**

**Yingze Zhang** - Ph.D. Student, Passed qualifying exams, June 1995, Ph.D. **Ph.D. awarded with honors December 1997**. Department of Pathology, University of Pittsburgh (**Mentor**). Currently, Research Associate Professor University of Pittsburgh School of Dentistry

**Chaofu Shi** - Ph.D. Student, Department of Infectious Diseases and Microbiology, Graduate School of Public Health, University of Pittsburgh (Ph.D. Oral Comprehensive Examination Committee). Currently Staff Scientist at Spectra Genetics

**Meisheng Chen** - Ph.D. Student, Department of Infectious Diseases and Microbiology, Graduate School of Public Health, University of Pittsburgh (Ph.D. Oral Comprehensive Examination Committee)

**Maria Victoria Dolor** - M.S. Student, Department of Infectious Diseases and Microbiology, Graduate School of Public Health, University of Pittsburgh (Thesis Committee) - **M.S. Awarded March 1996.**

**Anita Beyer** - M.S. Student, Department of Infectious Diseases and Microbiology, Graduate School of Public Health, University of Pittsburgh (Thesis Committee) - **M.S. awarded December, 1995**

**Li Zheng** - Ph.D. Student, Department of Pathology, University of Pittsburgh, School of Medicine - Summer 1996.

**Erin Beth Summerly** - M.S. Student, Department of Infectious Disease and Microbiology, Graduate School of Public Health, University of Pittsburgh (Thesis Committee) - **M.S. Awarded July, 1997.**

**Devin Dressman** - Ph.D. student, Biomedical Graduate Program, University of Pittsburgh Summer 1997 (transferred to Eric Hoffman's Lab when I left). Ph.D awarded 2001. Currently post-doctoral fellow in Bert Vogelstein Lab at John's Hopkins University.

**Jeffrey Dingman** – Ph.D. Student, Graduate Program in Molecular and Human Genetics, Center for Genomic Sciences, Allegheny University of the Health Sciences. **M.S. awarded, May 1999** (due to breakup of AUHS). Currently, medical student University of Pittsburgh.

**Michael Gorry** – Ph.D. Student, Graduate Program in Molecular and Human Genetics, Center for Genomic Sciences, Allegheny University of the Health Sciences. (left program because of AUHS bankruptcy 10/98)

**Xiaobin Dai** – Ph.D. Student, Graduate Program in Molecular and Human Genetics, Center for Genomic Sciences, Allegheny University of the Health Sciences. (died 4/98)

**Fen Ze Hu** – Ph.D. Student, Graduate Program in Molecular and Human Genetics, Center for Genomic Sciences, Allegheny University of the Health Sciences. **M.S. awarded with Distinction, May 1999, Ph.D. awarded January 2004 from Drexel University College of Medicine, (Mentor)** Currently, Assistant Professor of Genomics and Operations Director, Center For Genomic Sciences, ASRI.

**Kirsten St. George** - Ph.D. Student, Department of Microbiology and Immunology, Graduate School of Public Health, University of Pittsburgh (Doctoral Exam and Dissertation Committees) Ph.D. awarded April 2004. Currently Director, Virus Reference and Surveillance Laboratory Deputy Director, Clinical Virology Program Wadsworth Center, NYSDOH in Albany New York

**Jennifer Bennett** – Ph.D. Student (admitted with advanced standing), Department of Microbiology and Immunology, Drexel University College of Medicine (Co-Mentor with Dr. Thomas Scott)

### **Post-doctoral Fellows**

**Basavaraju Shankarappa, Ph.D.** (1991-1994) (Ph.D. University of Maryland) Correlation of *env* gene Genotype and clinical Phenotype of HIV-1 isolates from members of the MACS cohort. Previous, faculty at University of Washington in Seattle, currently faculty at University of Pittsburgh.

**Hawazin Faruki, Dr. P.H.** (1992-1994) Development of Molecular Diagnostics for Viral Pathogens associated with solid organ transplant. Previously Director of Molecular Diagnostics for The

Central Blood Bank, Pittsburgh PA. Currently Vice President of Operations for the Center for Molecular Biology and Pathology, Laboratory Corporation of America.

**Sameera Sayeed, Ph.D.** (2000-2004) (Ph.D. Bangladesh; National Institutes of Health post doc) Construction, characterization and normalization of gene expression libraries for creation of RNA arrays to study the gene expression patterns of host and pathogen associated with mucosal biofilm diseases. Currently Research Associate University of Pittsburgh

**Patricia Antalis, Ph.D.** (2000-2004) (Ph.D. Ohio State University; Carnegie Science Center post doc). Construction and characterization of pooled bacterial genomic libraries prepared from multiple clinical strains to characterize the pathogen supragenome. Currently raising a family

**Azad Ahmed, M.D.** (2001-present) (M.D. Bangladesh) Transformation and strain construction in clinical isolates of the nontypeable *Haemophilus influenzae*; direct testing of the distributed genome hypothesis using engineered bacterial strains and animal models; Positional cloning of the GER gene; Gene mapping of GER and Dupuytren's contracture.

**Joseph Goodwin, D.P.M.** (2001 – 2003) Genomic plasticity of bacterial pathogens. Currently in private practice.

**Kai Shen, M.D., M.S.** (2001 – present) (M.D., M.S. West China University of the Medical Sciences, Chengdu, Sichuan, China) Genomic plasticity of the bacterial pathogens: *Haemophilus influenzae*, *Streptococcus pneumoniae*; and *Pseudomonas aeruginosa*; Comparative gene expression of planktonic and biofilm envirovars of *P. aeruginosa* clinical strains.

**Mandal Singh, Ph.D.** (2001 – 2005) Differential gene expression analyses of: MS responders and nonresponders to therapy; synostosing and nonsynostosing calvarial sutures in the rat xenograft model of Crouzon/Apert syndromes; and metastatic vs. nonmetastatic colon cancers. Currently Research Associate University of Pittsburgh

**John Gladitz, Ph.D.** (2002 – 2006) Computational biology – evolutionary origin of novel genes; developed independently the CodeSquare Program.

**Joseph Donfack, Ph.D.** (2002- present) (Ph.D. - University of Younde, Cameroon; University of Chicago post doc) Human genetics of: susceptibility to recurrent respiratory papillomatosis; pediatric GERD; resistance to sleep deprivation; resistance to HIV infection and disease progression

**Nalini Mehta, Ph.D.** (2004 – present) Bacterial pathogenesis using molecular strain construction techniques (*Streptococcus pneumoniae* and *Pseudomonas aeruginosa*) and animal models; visual and molecular characterization of the *Staphylococcus epidermidis* large-scale 3-D structures.

**Robert Boissy, Ph.D.** (2004 – present ) (Ph.D. - University of British Columbia, Post Doc - NIH) Computational biology – establishment of the CGS annotation pipeline and 2<sup>nd</sup> generation BLAST server cluster

**Laura Nistico, Ph.D.** (2004 – present) (Ph.D. - University of Palermo, Sicily ITALY) FISH and immunostaining of clinical biofilm specimens; characterization of the microecology of the human adenoid

**Duc Nyugen, Ph.D.** (2004 – present) (PhD – Carnegie Mellon University, Chemical Engineering) Antibiofilm surfaces. Currently in industry.

**Louisa Hiller, Ph.D.** (2006 – present) (PhD – Northwestern University) Computational Biology and Bacterial Pathogenesis

## **Faculty Mentored**

**Robert Wadowsky, Sc.D.** (Currently, Professor of Pathology, University of Pittsburgh & Director of Clinical Microbiology, Children's Hospital of Pittsburgh) Provided training in molecular diagnostics for infectious agents. (1991-1997)

**Parmjeet Randawa, M.D.** (Currently, Associate Professor of Pathology, University of Pittsburgh School of Medicine) Provided training in molecular diagnostics for infectious agents (1991-1994)

**Robert Preston, Ph.D.** (Currently retired) Research Associate Professor of Biochemistry Drexel University College of Medicine. Provided training and oversight in Genetic Mapping, Linkage Analysis, and Sequence Analysis. (1992-2006)

**Xue Wang M.D., M.S.** (Currently Research Assistant Professor of Microbiology and Immunology, Drexel University College of Medicine) Provided training in animal models of microbiological research and protein biochemistry.

**Geza Erdos, Ph.D.** (Currently Assistant Professor of Dermatology, University of Pittsburgh, School of Medicine). Provided mentoring in NIH grant writing, personnel management, and career positioning. Provided training in production and screening of arrayed libraries and micro-arrays (2000-2004)

**Basavaraju Shankarappa, Ph.D., D.V.M.** (Currently Assistant Professor of University of Pittsburgh, School of Medicine). Provided mentoring in NIH grant writing, personnel management, and career positioning

**Sandeep Kathju, M.D., Ph.D.** (Currently Assistant Professor of Surgery, Drexel University College of Medicine). Providing mentoring in project selection, and NIH grant submissions. Serve as sponsor on K08 career development award 2003-2008.

**Farrell Buchinsky, M.D.** (Currently Assistant Professor of Surgery, Drexel University College of Medicine. Providing mentoring in project selection, and NIH & foundation grant submissions. Serve as sponsor on K08 career development award (01/01/2003 – 12/31/2007)

**Steve Krakora, DDS, M.D.** (Currently in Private Practice in Pittsburgh, PA) Attending physician in OMFS at Allegheny General Hospital. Providing mentoring in project selection, grant writing, and career development from time of residency 1999-2005

**Michael Forbes, M.D.** (Currently Attending Physician, Childrens Hospital of Akron). Attending physician as a Pediatric Intensivist at Allegheny General Hospital. Providing mentoring with respect

to developing a research career, project selection, manuscript writing and obtaining an NIH grant, 2004-2006.

**Laurel Omert, M.D.** (currently Vice President of a blood substitute company) Attending Trauma Surgeon, Allegheny General Hospital, Providing mentoring with respect to project selection and performance, 1998-2004.

**Kelly Woods, M.D.** Attending Pulmonologist, Allegheny General Hospital, Official Mentor for her NIH K23 award 2005—2006.

### **Medical Student Research Fellowships**

**Keri Lavigne** - Medical Student Research Program - SUNY HSC at Syracuse; Topic - differentiation of HTLV-I and II by immunoblot, PCR and RT-PCR of plasma/serum. M.D. 1990 (Primary Advisor)

**Mark Malone** - Post-sophomore Fellow, Department of Pathology, University of Pittsburgh (90-91)

**Tylis Chang** - Post-sophomore Fellow, Department of Pathology, University of Pittsburgh (91-92)

**Margaret Pettigrew** - Post-sophomore Fellow, Department of Pathology and Otolaryngology, University of Pittsburgh (91-92)

**Jill Rydquist-White** - Post-sophomore Fellow, Department of Pathology, University of Pittsburgh (92-93)

**Tylis Chang** - Post-sophomore Fellow, Department of Pathology, University of Pittsburgh (92-93) (Co-sponsor)

**Kenneth Anderson** - Post-sophomore Fellow, Department of Pathology, University of Pittsburgh (93-94) First Place Award in the Medical Student/Post-sophomore Fellow category of the Fifth Annual Research Presentation Day Competition.

**Jerry Aul** - Medical Student Summer Research Program - Medical Alumni Association, University of Pittsburgh, Summer, 1993 and Post-sophomore Fellow (1994-1995), Department of Pathology, University of Pittsburgh (1994-95)

**Derek Armfield** - Medical Student Summer Research Program - Medical Alumni Association, University of Pittsburgh, Summer, 1994 - Received Travel Award from ARO to present his poster at the National Meeting.

**Daryle Darden** - Post-sophomore Fellow, Department of Pathology, University of Pittsburgh (96-97).

**Mark Rayner** - Medical Student Research Fellowship, University of Pittsburgh (96-97).

**Erin O'Brien** - Medical Student Research Program - Medical Alumni Association - University of Pittsburgh (97).

**Christopher Polling** - Medical Student Research Program - Medical Alumni Association - University of Pittsburgh (97).

**Cindy Nelson** - Medical Student Research Program - Medical Alumni Association - University of Pittsburgh (97).

**Demetri Laddis** - Medical Student Research Program - Medical Alumni Association - University of Pittsburgh (97).

**Jay Stutz** - Medical Student Research Program - Medical Alumni Association - University of Pittsburgh (97).

**Sy Catino** - Medical Student Research Program - Medical Alumni Association - University of Pittsburgh (97).

**Dorothea Yee** – Medical Student Research Rotation – MCP-Hahnemann University - October 1999

**Gregory White** – Medical Student Summer Intern – Osteopathic School of Philadelphia – Summer 2000

**Mina Cherapoo** – Medical Student Research Rotation – MCP- Hahnemann University – April-July 2001

### **Resident and Fellow Laboratory Internships**

**Anthony Magit, M.D.** - Pediatric Otolaryngology Fellow, Children's Hospital of Pittsburgh (1990-1992)

**J. Christopher Post, M.D.** - Pediatric Otolaryngology Fellow, Children's Hospital of Pittsburgh (1990-1992)

**Frank Rimmel, M.D.** - Pediatric Otolaryngology Fellow, Children's Hospital of Pittsburgh (1994)

**Andrew Shapiro, M.D.** - Pediatric Otolaryngology Fellow, Children's Hospital of Pittsburgh (1994)

**David Shoemaker, M.D.** - Otolaryngology Resident, Department of Otolaryngology, University of Pittsburgh (1994)

**Sean Houston, M.D.** - Otolaryngology Resident, Department of Otolaryngology, University of Pittsburgh (1994)

**Eric Leiderman, M.D.** - Otolaryngology Resident, Department of Otolaryngology, University of Pittsburgh (1994)

**Ana Pou, M.D.** - Otolaryngology Resident, Department of Otolaryngology, University of Pittsburgh (1994, 1995)

**Wasył Szerameta, M.D.** - Pediatric Otolaryngology Fellow, Children's Hospital of Pittsburgh (1995-1996).

**Suman Mishra, M.D.** - Pediatric Otolaryngology Fellow, Resident, Children's Hospital of Pittsburgh (1997).

**Daniel Herz, M.D.** – Urology Resident, Department of Urology, University of Pittsburgh, (1996-1997).

**Steven Krakora, D.M.D** – Oral maxillofacial Surgery Resident, Department of Oral maxillofacial surgery, Allegheny General Hospital (1999 - 2000)

**Sandeep Kathju, Ph.D., M.D.** – Plastic Surgery Fellow, Departments of Plastic Surgery University of Pittsburgh and Allegheny General Hospital, (2000-2001)

**Lise Roberts, M.D.** – Obstetrics/Gynecology Fellow, Department of OB/GYN, Allegheny General Hospital (2000-2001)

**Ernest Braxton, M.D.** – Neurosurgery Resident, Department of Neurosurgery, Allegheny General Hospital, NIH minority supplement winner (2004 - 2005)

#### **Undergraduate Internships**

**Adil Waheed** - Penn State University, Summer 1991 - Matriculated at medical school

**Soma Gupta** - University of Michigan, Summer 1991, 1993 - Matriculated at Pharm D. school

**Thomas Zavoral** - Grove City College, Summer 1992, 1994 - Matriculated at University of Pittsburgh Medical School – Gold Star Student 4 years.

**Sandra Mitre** - Dartmouth College, Summer 1993 - Matriculated at medical school

**Jennifer Barnes** - Chatham College, Summer 1993

**Pierre Barua** - Bucknell University, Summer 1994, Summer 1995, Summer 1996

**Mark Cardamone-Raynor** - University of Pittsburgh, Summer 1995 - Matriculated at University of Pittsburgh Medical School. Summer, 1996. ENT resident University of Minnesota; Attending Surgeon Mayo Clinic

**Ari Goldberg** - University of Pittsburgh, Summer 1995 - Spring 1997 – Matriculated University of Pennsylvania School of Medicine.

**Bobby Aichbhaumik** - Wayne State University, Summer 1995, Summer 1996 – Matriculated at Wayne State University Medical School 1997.

**Lexi Wong-Cheng** - McGill University, Summer 1995

**Devin Dressman** - Alfred University, Summer 1996 – Matriculated U of Pittsburgh Biomedical Ph.D. Program 1997 – Graduated with Ph.D. 2002, Post Doc w/ Bert Vogelstein

**Michael Bummer** – Cornell University, Summer 1998, Matriculated Medical School

**William Chong** – Penn State University, Summer 1998, Summer 2001 – Matriculated at Temple University School of Medicine 2001

**Samir Mehta** – Duke University, Summer 1998

**Scott Barcus** – Grove City College, Summer 1998

**Bernie Daigle** – Cornell University, Summer 1999, Summer 2000, Summer 2002; Matriculated as a Ph.D. Student in the Department of Genetics at Stanford University

**Michael Sweeny** – Ohio University, PTEI Fellowship Summer 1999, Summer 2000; University of Chicago Pritzker School of Medicine 2005 graduate

**Christine Chong** – Penn State University, Summer 1999, Summer 2000, Summer 2001

**Nathan Ehrlich** – Taylor Allderice High School, Summer 1999, University of Pittsburgh, Summer 2004, Academic year 2004-2005, Summer 2005, 2006

**Cara Rebeck** – Wellesley College, Summer 2000; matriculated in the MSTP Program at the Pritzker School of Medicine at the University of Chicago.

**Sandy McMann** – Edinboro University of PA., Summer 2000

**Angela Harter** – Penn State University, Summer 2001

**Megan Petrasek** – Penn State University, Summer 2001

**Terra Rupert** – Allegheny College, Summer 2001

**Adam Abdulally** – University of Pittsburgh, Summer 2002, Summer 2003, Summer 2004

**Laura Kropp** – Penn State University, Summer 2004, Summer 2005

**Jennifer Jocz** – Carnegie Mellon University, Summer 2004, Academic year 04-05, Summer 2005, Academic year -5-06, Summer 2006; Matriculated as a PhD student Harvard University 2006

**Josh Levinson** – Amherst College, PTEI fellowship, Summer 2004

**Justin Hogg** – University of Pittsburgh, Summer 2004

**Ross Popko** – University of Pittsburgh, Summer 2005



**Megan MaShea** – Allegheny College, PTEI intern, Summer 2005

**Candice Johnson** – University of Maryland Eastern Shore, Summer 2006

**Vikram Kedar** – Shadyside Academy, Summer 2006

**Rahul Kumar** – Columbia University, Summer 2006

**Ajeet Mehta** – University of Pittsburgh, Summer 2006

**Amar S. Mehta** – University of Pittsburgh, Summer 2006

**Mary Panahandeh** – Allegheny College, Summer 2006

**Jason Saunders** – Boston College, Summer 2006

**Senthil Selvaraj** – Northwestern University, Summer 2006

**Steven Chirieleison** – University of Pennsylvania, PTEI Fellowship , Summer 2006

**Jeremiah Escajeda** – Washington & Jefferson University, PTEI Fellowship , Summer 2006

Juergen Kloo – Summer 2007

Jing Yuen Koo – Summer 2007

Ian Paul Lin – Summer 2007

### **Graduate Student Internships**

**Georgia Kalliopi Thomas** – Penn State University, Hershey Medical College, Summer 2004

**Ian Ehrlich** – Montana State University, Department of Mathematics, Summer 2004

**Prathapan Thiru** – University of Texas, El Paso, Department of Bioinformatics, Summer 2004

**Robert Montgomery** – Carnegie Mellon University, M.S. student, bioinformatics, Summer 2005

**Scot Zundel** – University of Pittsburgh, M.S. bioengineering student (Steve Badylak – mentor), Summer 2006

### **Minority Student Internships**

**Margaret Larkins-Pettigrew** - medical student post-sophomore fellowship 1991-1992, Department of Otolaryngology and Pathology - Awarded 1st place for research at the National Medical Student Association Annual Meeting (1992).

**Monique Brown** - Westinghouse High School, Heritage Minority Student Internships, NIH Sponsored, Summer 1994.

## **International Guests**

**Stefan Emler, M.D.** - Laboratoire Central de Bactériologie, Hôpitaux Universitaires de Genève (November 1995, April 1997).

**Joseph Gluestein, M.D.** - Israel (1996-1998)

**Dai Xiaobin** - Sichuan Institute of Parasitic Disease - Sichuan, P.R. China – 1997-1998.

**Qinhua Liu** – Sichuan Institute of Parasitic Disease – Sichuan, P.R. China – 1997-1998.

**Maria Palmquist** – Medical Student – Genetics of Dupuytren Contracture - Linköping Sweden (August - October 2003)

**Armin Giescke, Ph.D.** – Research Associate – Bacterial 16S FISH; Microsensor environmental monitoring of biofilms - Max Planck Institute for Marine Microbiology, Bremen, Germany (January – April 2005)

**Christiane, D.D.S.** – Dentist - University of Tübingen, Germany (April – May 2005)

**Ruth Thornton, B.S.** – Graduate student – University of Western Australia, Perth, Australia, (May 2005)

**Lys Maria Allenstein Gondim Almeida, M.D.** - Brasil

## **TEACHING**

### **DREXEL UNIVERSITY COLLEGE OF MEDICINE**

**Graduate Program** (1997-1998) - Developed Ph.D./M.S. graduate programs in Molecular and Human Genetics at the Allegheny Campus of Allegheny University of the Health Sciences which consisted of a 10 hour 2 semester core course in Biochemistry, Molecular Genetics, Human Genetics, Cell Biology and Physiology.

#### *First Semester –*

Nucleic acid composition

Nucleic acid evolution

Nucleic acid 2° & 3° structures

Introduction to the Archaea

Nucleic acid 1° structure

Nucleic acid measurements

Primitive earth environments and  
evolution of life

The Burckner-Marshall Hypothesis  
 structure  
 Prokaryotic Genomics – Phage genetics  
 membranes  
 The synapse and signal propagation  
 cellular  
 Photosynthesis and the Calvin cycle  
 The electron transport chain  
 DNA replication history and theory  
 elements  
 RNA replication  
 determinants  
 RNA synthesis in vitro  
 transcription  
 Effects of environmental change on gene expression  
 Eukaryotic transcription – three systems

Prokaryotic Genomics – Gene  
 Methods of flux across  
 Saccharide biochemistry and  
 energy transduction schemes  
 Metabolic rates  
 Replication of episomal  
 RNA modification and structure

Operons and prokaryotic mRNA

Bacterial responses to stimuli

*Second Semester –*

The adaptor hypothesis – Crick  
 Lysogenic phage and stimuli  
 Protein classes and properties  
 Enzyme inhibition systems  
 Protein synthesis and sequence

Bacterial responses to stimuli  
 Protein structure analysis  
 Regulation of enzymes  
 Co-enzymes and metal ions  
 Protein structure determination

## TEACHING (cont)

Prions and prion diseases  
 Designed Mechanisms of Mutation/Bacterial Adaptation Theories  
 Evolution  
 Bacterial DNA transfer processes  
 Cancer Genetics – Oncogenes  
 Exon Trapping

Intro to Mutations and Evolution  
 Darwinian and NeoDarwinian  
 Eukaryotic Transposable Elements II  
 Tumor Suppressor Genes

### **Resident Teaching (1998)**

Organized didactic curriculum for pathology residents molecular diagnostics rotation – delivered 6 one hour lectures.

### **University of Pittsburgh** **Graduate Students**

University of Pittsburgh, Graduate School of Public Health, Department of Infectious Diseases and Microbiology; Course #2010 - Lectured and assisted with testing on human retroviral diagnostics and pathogenesis. (1991)

University of Pittsburgh, School of Medicine, Department of Pathology; Immunogenetics - Lectured and assisted with testing on molecular based approaches to studying immune system super gene families. (1992, 1993)

University of Pittsburgh, School of Medicine, Department of Pathology; Makeup and Administration of Ph.D. qualifying exams (1992, 1993, 1994, 1995).

University of Pittsburgh, School of Medicine, Department of Pathology; Cancer Biology Course - 2 lectures: 1) DNA Tumor Viruses; 2) RNA Tumor Viruses (Spring 1993; Spring 1994; Spring 1995; Spring 1996); and examiner for student presentations (1995, 1996).

University of Pittsburgh, School of Medicine, Department of Pathology; General Human Pathology Course – 2 lectures on Retroviral Pathogenesis and Molecular Diagnostics for Infectious Disease (Spring 1995; Spring, 1996).

University of Pittsburgh, Graduate School of Public Health, Department of Epidemiology, Methods in Infectious Disease Epidemiology Course, Lecture on use of Molecular Diagnostics to Develop new insights into chronic infectious processes (Spring 1999; Spring 2000)

### **Medical Students**

University of Pittsburgh, School of Medicine, Department of Pathology; PMSII Pathology Course - (1991-1992). Sponsored three student presentations: demyelinating diseases; prion protein diseases; human retroviral neoplasias.

University of Pittsburgh, School of Medicine, Department of Pathology; PMSII Pathology Course - (1992-1993). Sponsored four student presentations: demyelinating diseases; prion protein diseases; human retroviral neoplasias; development of methods to identify new microbial pathogens.

University of Pittsburgh, School of Medicine, Department of Pathology; Sophomore Pathology Course - lectured on "Diagnosis of Infectious Agents by Molecular Techniques" (Fall 1992).

University of Pittsburgh, School of Medicine, Clinical Epidemiology, Small Group Recitation.

### **Pathology Residents**

University of Pittsburgh, School of Medicine, Department of Pathology, Resident training program lecture in Molecular Diagnostics, September, 1992.

University of Pittsburgh, School of Medicine, Department of Pathology, Resident training program lecture in Molecular Diagnostics, January 1993. Coordinate Pathology residents lab rotations through PCR Core Facility.

Coordinated molecular microbiology and nucleic acid amplification strategies sections of the second year Pathology residents course in Molecular Diagnostics. Delivered seven 60-90 minute lectures and helped with preparation of final examination (1993, 1994, 1995).

Coordinated PCR-based detections strategies and molecular microbiology for the Molecular Diagnostics course taught in the School of Health and Rehabilitation Sciences (7 lectures). Delivered 2 - 75 minute lectures and prepared sections of midterm and final exam.

## **COMMITTEES**

**Allegheny University of the Health Sciences/MCP-Hahnemann School of Medicine/Allegheny General Hospital**

Institutional Animal Care and Use Committee (1998-Date; Vice Chairman- 2000-Date)  
Allegheny General Hospital Chair's Executive Committee (2000-Date)  
Allegheny Singer Research Institute, Research Committee (2000-Date)  
Drexel University College of Medicine - School of Medicine Research Committee (2001 – Date)

**Pittsburgh Tissue Engineering Initiative, Inc**

Summer Intern Selection Committee (2000, 2001)

**University of Pittsburgh (University-wide)**

Institutional Biosafety Committee (1992-1995; extended to 1997)

**University of Pittsburgh, Department of Pathology**

Graduate Education Committee (1990)  
Curriculum Subcommittee (1990)  
Speaker Selection Committee (1991)  
Cellular and Molecular Pathology Coordinating Committee (1991 - Date)  
Graduate Admissions and Education Committee (1991 - 1994)  
Faculty Search Committee - Molecular Biology Position, Magee Hospital  
Post Sophomore Fellowship Selection Committee (1992-1993)  
Graduate Evaluations Committee (1992-1997).  
Research Associate Search Committee (1994)  
Research Associate Search Committee Chairman (1995)  
Research Associate Search Committee Chairman (1996)

**University of Pittsburgh, Department of Infectious Diseases and Microbiology**

Research Associate Search Committee - Cellular Immunologist Position (1991)

## PUBLICATIONS

### D) -EDITORIALS, <sup>B</sup>INVITED REVIEWS, <sup>δ</sup>PERSPECTIVES & <sup>γ</sup>CITATIONS

- E-1<sup>B</sup> **Ehrlich, G.D.:** Caveats of PCR. Clinical Microbiology Newsletter **13**:149-151, 1991.
- E-2<sup>B</sup> **Ehrlich, G.D.:** Molecular Methods for Clinical Immunologists: Innovations and Interpretations. AMLI Newsletter **4**:6, 1992.
- E-3- **Ehrlich, G.D.:** Editorial requested by Journal of Craniofacial Surgery.
- E-4- **Ehrlich, G.D.:** Syndromic Illnesses Demand Multiplex PCR-Based Assays. Molecular Diagnosis **1**: 83-87, 1996.
- E-5- **Ehrlich, G.D.:** Otitis Media-Prospects for Management. International Clinical Practice Series, p7, 1996.
- E-6- **Ehrlich, G.D.:** What do new diagnostics tell us about the effectiveness of treatment of otitis media? International Clinical Practice Series, pp 9-13, 1996.
- E-7<sup>B</sup> Ryan, A.F, Diven, W.F., Bakaletz, L.O., **Ehrlich, G.D.**, Juhn, S.K., Jung, T.T.K., and Post, J.C. 5A Biochemistry. Recent Advances in Otitis Media: Report of the Sixth Research Conference. Annals of Otolaryngology, Rhinology and Laryngology. **107** (S174), 50-55, 1998.
- E-8<sup>B</sup> Ryan, A.F, Diven, W.F., Bakaletz, L.O., **Ehrlich, G.D.**, Juhn, S.K., Jung, T.T.K., and Post, J.C. 5B Molecular Biology. Recent Advances in Otitis Media: Report of the Sixth Research Conference. Annals of Otolaryngology, Rhinology and Laryngology. **107** (S174), 50-55, 1998.
- E-9<sup>γ</sup> Potera, C. Forging a Link Between Biofilms and Disease. Science **283**:1837-1839, 1999.
- E-10- **Ehrlich, G.D.\*** and Post, J.C. Susceptibility to Otitis Media: Strong Evidence that Genetics Plays a Role. JAMA **282**:2167-2169, 1999.
- E-11<sup>B</sup> Post, J.C. and **Ehrlich, G.D.\***. The Impact of the Polymerase Chain Reaction in Clinical Medicine. JAMA **283**:1544-1546 2000.
- E-12<sup>γ</sup> McCarthy, M. Breaking up the bacterial happy home. The Lancet **357**:2032, 2001.
- E-13<sup>δ</sup> Costerton, J.W., Veeh, R., Shirtliff, M., Pasmore, M., Post, J.C. and **Ehrlich, G.D.** The application of biofilm science to the study and control of chronic bacterial infections. Journal of Clinical Investigation 2003.
- E-14<sup>δ</sup> Post, J.C. Stoodley, P., Hall-Stoodley, L., and **Ehrlich, G.D.\***. The Role of Biofilms in Otolaryngologic Infections. Curr Opin Otolaryngol Head Neck Surg. **12**:185-190 2004.

## D) –EDITORIALS, <sup>b</sup>INVITED REVIEWS, <sup>y</sup>PERSPECTIVES & CITATIONS (cont)

- E-15<sup>δ</sup> \***Ehrlich, G.D.**, Hu, F.Z., Lin, Q., Costerton, J.W., and Post, J.C. Intelligent Implants to Battle Biofilms. *ASM News* 70:127-133, 2004.
- E-16<sup>y</sup> Parsek, M., and Fuqua C. Biofilms 2003: emerging themes and challenges in studies of surface-associated microbial life. *J Bacteriol.* 2004 Jul;186(14):4427-40.
- E-17<sup>b</sup> Post, J.C., Hu, F.Z., and **Ehrlich, G.D.** The Genetics of Pediatric Gastroesophageal Reflux Disease. *Current Opinion in Allergy and Clinical Immunology* 5:5-9, 2005.
- E-18<sup>b</sup> Braxton, E. E. Jr., **Ehrlich, G.D.**, Hall-Stoodley, L., Stoodley, P., Quigley, M., and Post, J.C. The Role of Biofilms in Neurosurgical Device-Related Infections. *Neurological Review* 28:249-55. 2005
- E-19<sup>b</sup> Ryan, A.F., Jung, T.T., Juhn, S.K., Li, J.D., Andalibi, A., Lin, J., Bakaletz, L.O., Post, C.J., and **Ehrlich, G.D.** Recent advances in otitis media. 4C. Interaction between middle ear and inner ear in otitis media. *Ann Otol Rhinol Laryngol Suppl.* 2005 Jan;194:56-9. Review.
- E-20<sup>b</sup> Ryan, A.F., Jung, T.T., Juhn, S.K., Li, J.D., Andalib, A., Lin, J., Bakaletz, L.O., Post, C.J., and **Ehrlich, G.D.** Recent advances in otitis media. 4B. Biochemistry. *Ann Otol Rhinol Laryngol Suppl.* 2005 Jan;194:50-5. Review.
- E-21<sup>b</sup> Ryan, A.F., Jung, T.T., Juhn, S.K., Li, J.D., Andalib, A., Lin, J., Bakaletz, L.O., Post, C.J., and **Ehrlich, G.D.** Recent advances in otitis media. 4A. Molecular biology. *Ann Otol Rhinol Laryngol Suppl.* 2005 Jan;194:42-9. Review.
- E-22<sup>δ</sup> Quigley, M.R., Post, J.C., and **Ehrlich, G.D.** Some Speculation on the Origin of Glioblastoma. *Neurosurgical Review* (In Press).
- E-23<sup>δ</sup> Donfack, J., Buchinsky, F.J., Post, J.C., and **Ehrlich, G.D.** Human Susceptibility To Viral Infection: The search for HIV-protective Alleles Amongst Africans by means of Genome-Wide Association Studies. *AIDS Research and Human Retroviruses* 70(7):1235-40, 2006. Epub Feb 17, 2006.
- E-24<sup>b,δ</sup> Hu, F.Z., Hogg, J., Janto, B., Boissy, R., Swerziek, N., Post, J.C., **Ehrlich, G.D.** The Use of 454-based DNA Sequencing to Estimate the Size of the NTHi Population-based Supragenome. (requested and submitted to *Biochemica*)
- E-25<sup>b</sup> **Ehrlich G.D.** et al. Do Pathogenic bacteria use horizontal gene transfer mechanisms as a population-based virulence factor? *Current Trends in Microbiology* (under preparation for 2007)
- E-26<sup>b,y</sup> Schaudinn, C., Stoodley, P., Kainovi\_, A., O’Keeffe, T., Costerton, J.W., Robinson, D., Baum, M., Ehrlich, G.D. and Webster, P. Bacterial Biofilms, Other Structures Seen as Mainstream

Concepts Get used to it: bacterial microcolonies form regular shapes, such as nanowires or honeycomb-like structures. *Microbe* May 2007

- E-27 Kerschner, J, Post, J.C. and Ehrlich. Biofilms in Otitis Media. ENT News 2007 (requested and submitted)

## II) -RAPID PUBLICATIONS AND -SPECIAL ARTICLES

- 1.<sup>+-</sup> Bhagavati, S., **Ehrlich, G.**, Kula, R., Sninsky, J., Kwok, S., Udani, O., and Poiesz, B.J.: Detection of human T-cell lymphotropic virus-Type I in the spinal fluid and blood of cases of chronic progressive myelopathy and a clinical, radiological and electrophysiological profile of HTLV-I associated myelopathy. N. Engl. J. Med 318:1141, 1988.
- 2.<sup>+-</sup> Abbott, M., Byrne, B., Kwok, S., Sninsky, J., Poiesz, B., and **Ehrlich, G.D.\***: Enzymatic gene amplification: Qualitative and quantitative methods for detecting proviral DNA amplified *in vitro*. J. Inf. Dis. 158:1158-1169, 1988.
- 3.- **Ehrlich, G.D.\***, Glaser, J., Abbott, M., Salmon, D.J., Keith, D., Slivkowski, M., Brandis, J., Keitelman, E., Teramoto, Y., Papsidero, L., Sninsky, J.J., and Poiesz, B.J.: Detection of Anti-HTLV-I tax antibodies in HTLV-I ELISA negative risk group members. Blood 74:1066-1072, 1989.
- 4.<sup>oS-</sup> **Ehrlich, G.D.\***, Glaser, J.B., Maese, J., Bryz-Gornia V., Waldmann, T.A., Poiesz, B.J., Greenberg, S.J. and the HTLV-I MS working group. Multiple Sclerosis, Retroviruses and PCR. Neurol. 41:335-343, 1991.
- 5.- Loughran, T.P., Coyle, T., Sherman, M.P., Starkebaum, G., **Ehrlich, G.D.**, Ruscetti, F.W., Poiesz, B.J. Detection of human T-cell leukemia/lymphoma virus Type II in a patient with LGL Leukemia. Blood 80:1116-1119, 1992.
- 6.- Boldt-Houle, D.M., Rinaldo, C.R., Jr., **Ehrlich, G.D.\***: Random depletion of T-cells that bear specific T-cell receptor V<sub>β</sub> sequences in AIDS patients. J. Leukoc. Biol. 54:486-491, 1993.
- 7.<sup>^</sup> Preston, R.A., Post, J.C., Keats, B.J.B., Aston, C.E., Ferrell, R.E., Priest, J., Nouri, N., Losken, H.W., Morris, C.A., Hurtt, M.R., Mulvihill, J.J., and **Ehrlich, G.D.** A gene for Crouzon craniofacial dysostosis maps to the long arm of chromosome 10. Nature Genetics 7:149-153, 1994.
- 8.- Gorry, M.C., Preston, R.A., White, G.J., Zhang Y., Singhal, V.K., Losken, H.W., Nwokoro, N.A., Post, J.C., and **Ehrlich, G.D.** Crouzon Syndrome: Mutations in two spliceoforms of FGFR2 and a common point mutation shared with Jackson-Weiss Syndrome. Hum. Mol. Gen. 4:1387-1390, 1995.
- 9.+ Whitcomb, D.C., Preston, R.A., Aston, C.E., Sossenheimer, M.J., Barua, P.S., Zhang, Y., Wong-Chong, A., White, G.J., Wood, P.G., Gates, L., Ulrich, C., Martin, S.P., Post, J.C., and



**Ehrlich, G.D.** A Gene for Hereditary Pancreatitis Maps to an 19 cM Locus on Chromosome 7q35. Gastroenterology 110:1975-1980, 1996.

- 10.+ Gemel, J., Gorry, M., Ehrlich, G.D., and MacArthur, Craig A. Structure and sequence of human FGF8 gene suggest that several protein isoforms are unimportant for vertebrate development. Genomics 35:253-257, 1996.
11. Whitcomb, D.C., Gorry, M.C., Preston, R.A., Furey, W.F., Sossenheimer, J.J., Ulrich, C.D., Martin, S.P., Gates, L.K. Jr., Amann, S.T., Toskes, P.P., Liddle, R., McGrath, K. Uomo, G., Post, J.C., and **Ehrlich, G.D.\*** Hereditary pancreatitis is caused by a mutation in the cationic trypsinogen gene. Nature Genetics 14:145, 1996.
12. Gorry, M.C., Gabbai-Zadeh, D., Furey, W., Gates, Jr., L.K., Preston, R.A., Aston, C.E., Zhang, Y., Ulrich, C., **Ehrlich, G.D.**, and Whitcomb, D.C. Multiple mutations in the cationic trypsinogen gene are associated with hereditary pancreatitis. Gastroenterology 113:1063-1068, 1997.
13. -Hall-Stoodley, L., Hu, F.Z., Stoodley, P., Nistico, L., Link, T.R., Burrows, A., Post, J.C. **\*Ehrlich, G.D.**, and Kerschner, K.E. Direct Evidence that Otitis Media with Effusion is a Biofilm Disease. JAMA 296:202-211, 2006.\*\*

\*\*Reported on by: Nature, Discover Magazine, Washington Post, USA Today, United Press International, Ruetters, MedPage, Pittsburgh Post Gazette, Pittsburgh Tribune Review, KDKA television, ASM's Microbe, NIH's web journal, Infection Control Today, CNN, BBC, CBC, CBS (WedMD) numerous international news wires and web sites

### III) PEER REVIEWED LITERATURE

14. Merl, S., Kloster, B., Moore, J., Hubbell, C., Tomar, R., Davey, F., Kalinowski, D., Planas, A., **Ehrlich, G.D.**, Clark, D., Comis, R., and Poiesz, B.: Efficient transformation of previously activated and dividing T-lymphocytes by human T-cell leukemia-lymphoma. Blood 64:967-974, 1984.
15. Moore, J.L., Poiesz, B.J., Tomar, R.H., Merl, S.A., and **Ehrlich, G.D.**: Gamma interferon and AIDS. N. Engl. J. Med 312:442-443, 1985 (letter).
16. Graziano, S.L., Lehr, B.M., Merl, S.A., **Ehrlich, G.D.**, Moore, J.L., Hallinan, E.J., Hubbell, C., Davey, F.R., Vournakis, J., and Poiesz, B.J.: Quantitative assay of human T-cell leukemia/lymphoma virus transformation. Cancer Research 47:2468-2473, 1987.
17. Kwok, S., Mack, D.H., Mullis, K.B., Poiesz, B., **Ehrlich, G.**, Blair, D., Friedman-Kien, A., and Sninsky J.J.: Identification of human immunodeficiency virus sequences by using in vitro enzymatic amplification and oligomer cleavage detection. J. Virology, 61:1690-1694, May 1987.

18. Krichbaum-Stenger, K., Poiesz, B.J., Keller, P., **Ehrlich, G.**, Gavalchin, J., Davis, B.H., and Moore, J.L.: Specific adsorption of HTLV-I to various target human and animal cells. Blood 70:1303-1311, 1987.
19. **Ehrlich, G.D.**, Han, T., Bettigole, R., Merl, S.A., Lehr, B., Tomar, R.H., and Poiesz, B.J.: HTLV-I associated benign transient immature T-cell lymphocytosis. Amer. J. Hemat. 27:49-55, 1988.
20. Duggan, D.B., **Ehrlich, G.D.**, Davey, F.P., Kwok, S., Sninsky, J., Goldberg J., Kirshner, J., Baltrucki, L., and Poiesz, B.J.: HTLV-I induced lymphoma mimicking Hodgkin's disease and Wegener's granulomatosis. Diagnosis by polymerase chain reaction amplification of specific HTLV-I sequences in tumor DNA. Blood 71:1027-1032, 1988.
21. Bustros, A., Nelkin, B.D., Silverman, A., **Ehrlich, G.**, Poiesz, B.J., Baylin, S.B.: Regional DNA de-hypermethylation: Implications for human neoplasia. Proc. Natl. Acad. Sci. USA. 85:5693-5697, 1988.
22. Graziano, S.L., Mark, G.E., Murray, C., Mann, D.L., **Ehrlich, G.D.**, Poiesz, B.J., Weston, A.: DNA restriction fragment length polymorphism at either end of the c-raf-1 locus at 3p25. Oncogene Res. 3:999-103, 1988.
23. Kwok, S., **Ehrlich, G.**, Poiesz, B., Kalish, R., and Sninsky, J.J.: Enzymatic amplification of HTLV-I viral sequences in peripheral blood mononuclear cells and infected tissues. Blood 72:1117-1123, 1988.
24. Kwok, S., **Ehrlich, G.**, Poiesz, B., Bhagavati, S., and Sninsky, J.J.: Characterization of a HTLV-I sequence from a patient with chronic progressive myelopathy. J. Infect. Dis., 158:1193-1197, 1988.
25. Rowley, A.H., Shulman, S.T., Preble, O.R., Poiesz, B.J., **Ehrlich, G.D.**, Sullivan, J.R.: Serum interferon levels and retroviral serology in Kawasaki Syndrome. Ped. Inf. Dis. J 7:663-665, Sept., 1988.
26. Glaser, J.B., Coleman, P., Salmon, D., Papsidero, L., **Ehrlich, G.D.**, Poiesz, B.J., Duggan, D.: Prevalence of HTLV-I and HIV infection among white parenteral drug abusers. Journal of Acquired Immunodeficiency syndrome, 1:415-417, 1988.
27. **Ehrlich, G.D.**, Davey, F., Kwok, S., Sninsky, J., Kirshner, J., Kalish, R., Planas, A., and Poiesz, B.: A polyclonal CD4+ and CD8+ lymphocytosis in a patient doubly infected with HTLV-I and HIV-1. Am. J. Hematol., 30:128-139, 1989.
28. Greenberg, S.J., **Ehrlich, G.D.**, Abbott, M.A., Hurwitz, B.J., Waldmann, T.A., Poiesz, B.J.: Detection of exogenous sequences homologous to human retroviral DNA in Multiple Sclerosis by gene amplification. Proc. Natl. Acad. Sci. (USA) 86:2878-2882, 1989.
29. **Ehrlich, G.D.\***, Glaser J., Lavigne, K., Quan, D., Mildvan, D., Sninsky, K., Papsidero, L., and Poiesz, B.J.: Prevalence of Human T-Cell Leukemia/Lymphoma Virus Type II Infection

- Among High Risk Individuals: Type-Specific Identification of HTLVs by Polymerase Chain Reaction. Blood 74:1658-1664, 1989.
30. Papsidero, L., Swartzwelder, F., Sheu, M., Montagna, R., **Ehrlich, G.D.** and Poiesz, B.J. Immunodetection of HTLV-I Core Protein in Biological Samples Using a Monoclonal Antibody Immunoassay. J. Clin. Microbiol. 28:949-955, 1990.
  31. Greenberg, S., Jaffe, E., **Ehrlich, G.D.**, Korman, N., Poiesz, B., Waldmann, T.: Kaposi's Sarcoma in human T-cell leukemia virus type I - associated adult T-cell leukemia. Blood 76:971-976, 1990.
  32. Gendelman, H.E., **Ehrlich, G.D.**, Bala, L.M., Conley, S., Ribas, J., Kahen, D.C., Meltzen, M.S., Poiesz, B.J., Nara, P.N.: Lack of evidence for protective human immunodeficiency virus infection in chimpanzee monocytes: a unique restricted tropism correlating with lack of disease. J. Virol. 65:3853-3863, 1991.
  33. Graziano, S.L., Pfeifer, A.M., Testa, J.R., Hallinan, E.J., Mark, G.E., Johnson, B.E., Pettersill, O.S., Tatum, A.H., Brauch, H., Zbar, B., Flejter, W.L., **Ehrlich, G.D.**, Poiesz, B.J.: Involvement of the c-Raf-1 locus, at band 3p25, in the detection of small cell lung cancer. Genes, Chromosomes and Cancer 3:283-293, 1991.
  34. Sullivan, M.T., Williams, A.E., Chyang, F.T., Grandinetti, T., Poiesz, B.J., **Ehrlich, G.D.**, and The American Red Cross HTLV-I/II Collaborative Study Group: Transmission of HTLV-I and HTLV-II to prior recipients of blood products from HTLV-I/II seropositive donors. Archives of Int. Med. 151:2043-2048, 1991.
  35. Shankarappa, B., Sirko, A., **Ehrlich, G.D.\***: A general method for the identification of regions suitable for site-directed silent mutagenesis. Biotechniques 12:382-384, 1992.
  36. **Ehrlich, G.D.\***, Andrews, J.S., Sherman, M.P., Greenberg, S.J., Poiesz, B.J. Analysis of the HTLV-I P21e transmembrane protein gene reveals inter and intra-isolate genetic heterogeneity. Virology 186:619-627, 1992.
  37. Sherman, M.P., **Ehrlich, G.D.**, Ferrer, J.F., Sninsky, J.J., Zandomeni, R., Dock, V.L., Poiesz, B.J.: Amplification and analysis of specific DNA and RNA sequences of the bovine leukemia virus from infected cows by the polymerase chain reaction. J. Clin. Microbiol. 30:185-191, 1992.
  38. Shankarappa, B., Balachandran, R., Gupta, P., and **Ehrlich, G.D.\***: Introduction of multiple restriction enzyme sites by in vitro mutagenesis using the polymerase chain reaction. PCR Methods and Applications 1:277-278, 1992.
  39. Shankarappa, B., Vijayananda, K., and **Ehrlich, G.D.\***: SILMUT: A computer program for the identification of regions suitable for silent mutagenesis to introduce restriction enzyme recognition sequences. Biotechniques 12:882-884, 1992.

40. Sullivan, M.T., Williams, A.E., Fang, C.T., Notari, E.P., Poiesz, B.J., **Ehrlich, G.D.**, and the American Red Cross HTLV-I/II Collaborative Study Group: HTLV-I and HTLV-II infection in sexual contacts and family members of sero positive blood donors who are seropositive for HTLV-I and II. Transfusion 33:585-590, 1993.
41. Mateo, R., Demetris, A., Sico, E., Frye, C., Wang, L.-F., El-Sakhawi, Y., Reilly, M., **Ehrlich, G.D.**, Cooper, D., and Fung, J. Early detection of denovo hepatitis C infection in patients after liver transplantation by reverse transcriptase polymerase chain reaction. Surgery 114:442-448, 1993.
42. Randhawa, P.S., Jaffe, R., Rinaldo, C., Jr., Ho, M., Demetris, A.J., Manez, R., Kusne, S., and **Ehrlich, G.D.\*** : Detection of cytomegalovirus in formalin fixed paraffin embedded donor, native and allograft liver tissue using a multiplex PCR-LH assay. Modern Pathology 7:125-128, 1994.
43. Wadowsky, R.M., Laus, S., Liebert, T., States, S.T., and **Ehrlich, G.D.**: Inhibition of a PCR-based assay for Bordatella pertussis by calcium alginate. Fiber and aluminum-shaft components of a naso-pharyngeal swab. J. Clin. Microbiol. 32:1054-1057, 1994.
44. Dosik, H., Goldstein, M.F., Poiesz, B.J., Williams, L., Fahnrich, B., **Ehrlich, G.D.**, Dunn, I., and Levine, P.H. Seroprevalence of human T-lymphotropic virus in blacks from a selected central Brooklyn population. Cancer Invest. 12:289-295, 1994.
45. Boldt-Houle, D.M., Nigida, S.M., Jr., Rinaldo, C.R., Jr., and **Ehrlich, G.D.** The T-cell receptor V<sub>γ</sub> repertoire in naive and human immunodeficiency virus-1 (HIV-1) infected chimpanzees. J. Med. Primatol. 23:241-250, 1994.
46. Randhawa, P.S., Manez, R., Frye, B., and **Ehrlich, G.D.** Circulating immediate early (IE) mRNA in patients with cytomegaloviral infections after solid organ transplantation. J. Infect. Dis. 170:1264-1267; 1994.
47. Bailer, R.T., Lazo, A., Harisdangkul, V., **Ehrlich, G.D.**, Gray, L.S., Whisler, R.L., and Blakeslee, J.R. Lack of evidence for human T-Cell Lymphotropic virus type I or II infection in systemic lupus erythematosus or rheumatoid arthritis patients. J. Rheumatol. 21:2217-2224; 1994.
48. Sherman, M.P., Dock, N.L., **Ehrlich, G.D.**, Sninsky, J.J., Brothers, C., Gilsdorf, J., Bryz-Gornia, V., and Poiesz, B.J. Evaluation of HIV-1 western blot indeterminate blood donors for the presence of human or bovine retroviruses. AIDS Res. Hum. Retrovirus 11:409-414; 1995.
49. Zhang Y., Issacman, D., Wadowsky, R.M., Rydquist-White, J., Post, J.C., **Ehrlich, G.D.\*** Detection of Streptococcus pneumoniae in whole blood by PCR. J. Clin. Microbiol. 33:546-601; 1995.
50. Post, J.C., Preston, R.A., Aul, J.J., Larkins-Pettigrew, M., Rydquist-White, J., Anderson, K.W., Wadowsky, R.M., Doyle, W.J., Reagan, D.R., Walker, E.S., Kingsley, L.A., Magit, A.E.,

- Ehrlich, G.D.\*** Molecular analysis of bacterial pathogens in otitis media with effusion. JAMA 273:1598-1604; 1995.
51. Laifer, S.A., **Ehrlich, G.D.**, Huff, D., Balsam, M., and Scantlebury, V. Congenital cytomegalovirus infection in offspring of liver transplant recipients. Clin. Infect. Dis. 20:52-55; 1995.
  52. Issacman, D.J., Zhang, Y., Rydquist-White, J., Wadowsky, R.M., Post, J.C., and **Ehrlich, G.D.** Identification of a patient with Streptococcus pneumoniae bacteremia and meningitis by the polymerase chain reaction. Cell. Molec. Probes 9:157-160; 1995.
  53. Pou, A.M., Rimell, F.L., Jordan, J.A., Shoemaker, D.L., Johnson, J.T., Barua, P., Post, J.C., **Ehrlich, G.D.** Adult respiratory papillomatosis: Human papilloma virus (HPV) type and viral coinfections as predictors of prognosis. Ann. Otol. Rhinol. & Laryngol 104: 758-762; 1995.
  54. Buchman, C.A., Doyle, W.J., Skoner, D.P., Post, J.C., Alper, C.M., Seroky, J.T., Anderson, K., Preston, R.A., Hayden, F., Fireman, P., and **Ehrlich, G.D.** Influenza A virus-induced acute otitis media. J. Infect. Dis. 172: 1348-1351; 1995.
  55. Post, J.C., Aul, J.J., White, G.J., Wadowsky, R.M., Zavoral, T., Tabari, R., Kerber, B., Doyle, W.J., and **Ehrlich, G.D.\*** PCR-based detection of bacterial DNA after antimicrobial treatment is indicative of persistent, viable bacteria in the chinchilla model of otitis media. Am. J. Otolaryngol. 7:1-7; 1996.
  56. Post, J.C., White, G.J., Aul, J.J., Zavoral, T., Wadowsky, R.M., Preston, R.M., **Ehrlich, G.D.\*** Development and validation of a multiplex PCR-based assay for the upper respiratory tract bacterial pathogens, *Hemophilus influenzae*, *Streptococcus pneumoniae*, and *Moraxella catarrhalis*. Mol. Diagnosis 1: 29-39; 1996.
  57. Mañez, R., Kusne, S., Aguado, J.M., St. George, K., Grossi, P., Frye, B., Rinaldo, C., **Ehrlich, G.** The time of infection after transplantation is the best predictor of disease progression in CMV-seronegative liver recipients of CMV-seropositive allograft. J. Infect. Dis. 173: 1072-6, 1996.
  58. Koehler, M., St. George, K., **Ehrlich, G.D.**, and Rinaldo, C. The utility of CMV DNA PCR in peripheral blood of BMT recipients at high risk for CMV disease. Bone Marrow Transplantation (letter) 17: 465-466, 1996.
  59. Post, J.C., Mulvihill, J.J., **Ehrlich, G.D.** A report on the International Genetic Workshop on Crouzon and other Craniofacial Disorders, March 10-11, 1995. Archives Otolaryngol 122: 576-578, 1996.
  60. **Ehrlich, G.D.\***, and Post, J.C. Bacterial DNA in middle-ear effusions. JAMA 275: 186, 1996.
  61. Sirko, D.A. and **Ehrlich, G.D.\*** Genotypic and Phenotypic Characterization of a Neutralization Resistant Breakthrough Population of HIV-1. Virology 218: 238-242, 1996.

62. Chen, Y. and **Ehrlich, G.D.\*** Comparative analysis of three nucleic acid-based detection systems for hepatitis C virus RNA in plasma from liver transplant recipients. Cellular and Molecular Probes 10: 331-336, 1996.
63. Moschones, N.K., Sporr, N.K., Mao, J., and the Chromosome 10 Workshop Participants. First International Workshop on Human Chromosome 10 Mapping. Cytogenet. Cell Genet. 72: 99-112, 1996.
64. Post, J.C., Aul, J.J., White, G.J., Wadowsky, R.D., Doyle, W.J., Fireman, P., Skoner, D.P., Buchman, C.A., and Ehrlich, G.D.\* PCR detection of *Streptococcus pneumoniae*, *Haemophilus influenzae*, and *Moraxella catarrhalis* via a multiplex assay following an influenza A virus challenge of the human nasopharynx. Proceedings of the 6th International Symposium on Recent Advances in Otitis Media B.C. Decker, Inc., pp. 421-422, 1996.
65. Ehrlich, G.D., Aul, J.J., White, G.J., Zaworal, T.W., Jr., Kerber, B., Tabari, R., Wadowsky, R.D., Doyle, W.J., and Post, J.C. Persistence of DNA in Middle-ear effusions of chinchillas as determined by the PCR. Proceedings of the 6th International Symposium on Recent Advances in Otitis Media B.C. Decker, Inc., pp. 253-256, 1996.
66. Kenna, M.A., White, G., Wadowsky, R.D., Post, J.C., and Ehrlich, G.D. Bacteriology of otorhea: polymerase chain reaction versus culture. Proceedings of the 6th International Symposium on Recent Advances in Otitis Media B.C. Decker, Inc., pp. 428-430, 1996.
67. Liederman, E.M., Post, J.C., Aul, J.J., Sirko, D.A., White, G.J., Buchman, C.A., and Ehrlich, G.D.\* Analysis of Adult Otitis Media: Polymerase Chain Reaction versus Culture for Bacteria and Viruses. Annals of Otology, Rhinology, and Laryngology 107:10-16, 1998.
68. Boldt-Houle, D.M., Jamieson, B.D., Aldrovandi, G.M., Rinaldo, C.R., Jr., Ehrlich, G.D., and Zack, J.A. Loss of T cell receptor V<sub>β</sub> repertoire in HIV-1 infected SCID-hu mice. AIDS Research and Human Retroviruses 13: 125-134, 1997.
69. Wadowsky, R.M., Michaels, R.H., Libert, T., Kingsley, L.A., and Ehrlich, G.D. Multiplex Polymerase Chain Reaction-Based Assay for the Detection of *Bordetella Pertussis* in Nasopharyngeal Swab Specimens. J. Clin. Microbiol. 34: 2645-2649, 1996.
70. Kusne, S., Mañez, R., Frye, B.L., St. George, K., Abu-Elmagd, K., Tabasco-Menguillon, J., Fung, J.J., Todo, S., Rinaldo, C. and Ehrlich, G.D.\* Use of DNA amplification for diagnosis of cytomegalovirus enteritis after intestinal transplantation. Gastroenterology 112: 1121-1128, 1997.
71. Koehler, M., St. George, Kirsten, Ehrlich, G.D., Mirro, J., Jr., Neudorf, S.M., and Rinaldo, C.R. Prevention of CMV Disease in Allogenic BMT Recipients by Cytomegalovirus Antigenemia-Guided Preemptive Ganciclovir Therapy. Journal of Pediatric Hematology Oncology 19(1):43-47, 1997.
72. Sossenheimer, M.J., Aston, C.E., Preston, R.A., Gates, L.K., Ulrich, C.D., Martin, S. P., Zhang Y., Gorry, M.C., and **Ehrlich, G.D.**, and Whitcomb, D.C. Clinical characteristics of

- hereditary pancreatitis in a large family based on high-risk haplotype. *American Journal of Gastroenterology* Vol. 92, No. 7, 1997.
73. Michael, M.G., Alcendor, D.J., St. George, K., Rinaldo, C.R., **Ehrlich, G.D.**, Becich, M.J., and Hayward, G.S. Distinguishing baboon cytomegalovirus from human cytomegalovirus importance for xenotransplantation. *Journal of Infectious Disease* 176:1476-83, 1997.
  74. Rimell, F.L., Shoemaker, D.L., Pou, A.M., Jordan, J.A., Post, J.C., and **Ehrlich, G.D.** Analysis of pediatric respiratory papillomatosis: prognostic role of viral typing and co-factors *Laryngoscope* 107:915-918, 1997.
  75. Marshall DJ, Heisler LM, Lyamichev V, Murvine C, Olive DM, **Ehrlich G.D.**, Neri BP, de Arruda M. Determination of hepatitis C virus genotypes in the United States by cleavage fragment length polymorphism analysis. *J Clin Microbiol* 35:3156-62. 1997
  76. Aul, J.J., Anderson, K.W., Kerber, B., Wadowsky, R., Doyle, W.J., Kingsley, L.A., Post, J.C., **Ehrlich, G.D.\*** A comparative evaluation of culture and PCR for the detection and determination of persistence of bacterial strains and DNAs in the Chinchilla laniger model of otitis media. *Annals of Otolaryngology, Rhinology and Laryngology* 107:508-513, 1998.
  77. Rayner, M.G., Zhang, Y., Gorry, M.C., Chen, Y., Post, J.C., and **Ehrlich, G.D.\*** Evidence of bacterial metabolic activity in culture-negative otitis media with effusion. *JAMA* 279:296-299, 1998. Abstracted in *Molecular Medicine* 4:141, 1998.
  78. Bakaletz, L.O., White, G.J., Post, J.C., and **Ehrlich, G.D.** Blinded multiplex PCR analyses of middle ear and nasopharyngeal fluids from chinchilla models of single and mixed pathogen induced otitis media. *Clinical and Diagnostic Laboratory Immunology* 5(2): 219-224, 1998.
  79. Isaacman, D.J., Zhang, Y., Reynolds, E.A., **Ehrlich, G.D.** Utility of a polymerase chain reaction-based assay for detection of Pneumococcal Bacteremia in children. *Pediatrics* 101, No.5:813-816, 1998.
  80. Shankarappa, B., Gupta, P., Learn, G.H., Jr., Rodrigo, A.G., Rinaldo, C.R., Jr., Gorry, M.C., Mullins, J.I., Nara, P.L., and **Ehrlich, G.D.\*** Evolution of Human Immunodeficiency Virus Type I Envelope Sequences in Infected Individuals with Differing Disease Progression Profiles. *Virology* 241:251-259, 1998.
  81. Rossi, L., Whitcomb, D.C., **Ehrlich, G.D.**, Gorry, M.C., Parvin, S., Sattar, S, Ali, L., Azad-Khan, A.K., Gyr, N. Lack of R117H mutation in the cationic trypsinogen gene in patients with tropical pancreatitis from Bangladesh. *Pancreas* 17:278-80. 1998
  82. Duerr, R.H., Barmada, M.M., Zhang, L., Davis, S., Preston, R.A., Chevany, L.J., Brown, I.L., **Ehrlich, G.D.**, Weeks, D.E., Aston, C.E. Linkage and association between inflammatory bowel disease and a locus on chromosome 12. *Am J Hum Genet.* 63:95-100. 1998.
  83. Walker, E.S., Post, J.C., Preston, R.A., and **Ehrlich, G.D.** Genetic diversity of *Moraxella catarrhalis* using multiple DNA probes and single-locus PCR-RFLP. *J. Clin. Microbiol.* 36, No. 7:1977-1983, 1998.

84. Dingman, J.R., Rayner, M.G., Mishra, S., Zhang, Y. Post, J.C., and **Ehrlich, G.D.\*** Correlation between presence of viable bacteria and presence of endotoxin in middle-ear effusions. *J. Clin Microbiol.* 36:3417-3419, 1998.
85. ¥Zhang, Y., Gorry, M.C., Post, J.C., and **Ehrlich, G.D.\*** Genomic Organization of the Human Fibroblast Growth Factor Receptor 2 (FGFR2) Gene and Comparative Analyses of the Human FGFR Gene Family. *Gene* 230:69-79, 1999.
86. Ozen, R.S., Baysal, B.E., Devlin, B., Farr, J.E., Gorry, M., **Ehrlich, G.D.**, Oour, G. and Richard, C.W. Fine mapping of the split hand-split foot (SHFM3) locus at 10q24: Evidence for anticipation and segregation distortion. *American Journal of Human Genetics* 64:1646-1654, 1999.
87. Glustein JZ, Zhang Y, Wadowsky RM, **Ehrlich GD.** 1999. Development of a simplex polymerase chain reaction-based assay for the detection of *Neisseria meningitidis*. *Mol Diagn* 4:233-40.
88. Poiesz, B.J., Papsidero, L.D., **Ehrlich, G.D.**, Sherman, M., Dillon, K., Ruscetti, F.W., Samon, D., Fang, C., Williams, A., Duggan D., Glaser, J., Gottlieb, A., Goldberg, J., Ratner, L., Phillips, P., Han, T., Friedman-Kien, A., Siegal, F., Rai, K., Sawitsky, A., Sninsky, J., Cunningham, C., and Montagna R. The prevalence of Human T-cell Leukemia Virus Types I and II in various patient populations, retroviral risk groups and healthy blood donors. *American Journal of Hematology* 66: 32-38, 2001.
89. Darden, D.L., Hu, Fen Ze, Gorry, M.C., Dressman, D., Li, H.S., Whitcomb, D.C., Dohar, J., **Ehrlich, G.D.\*** RNA differential display of scarless wound healing in fetal rabbit indicates downregulation of a CCT chaperonin subunit and upregulation of a glycophorin-like gene transcript. *Journal of Pediatric Surgery* 2000 35:406-19.
90. Dry, G.M., Yasinskaya Y.I., Williams, J.K., **Ehrlich, G.D.**, Preston, R.A., Hu, F.Z., Gruss, J.S., Ellenbogen, R., and Cunningham, M.L. Inhibition of apoptosis: a potential mechanism for syndromic craniosynostosis. *Plastic and Reconstructive Surgery* 107:425-32, 2001.
91. Ehrlich, G.D., Hoffman, H.J., Zielke, R., White, G.J., Hu, F.Z., Vigorito, R., Dingman, J., Libert, T., Smialek, J.E., and Post, J.C.,. Molecular epidemiological studies of common bacterial and viral respiratory pathogens in sudden infant death syndrome (SIDS). *Proceedings of the 7th International Symposium on Recent Advances in Otitis Media* 2002
92. + Hu, F.Z., Preston, R.A., Post, J.C., White, G.J., Kikuchi, L.W., Wang, X., Leal, S.M., Levenstien, M.A., Ott, J., Self, T.W., Allen, G., Stiffler, R.S., McGraw, C., Pulsifer-Anderson, E.A., **Ehrlich, G. D.\*** Mapping of a gene for severe pediatric gastroesophageal reflux to chromosome 13q14. *JAMA* 284: 325-334, 2000..
93. Li, H. S., Hebda, P.A., Kelly L.A., **Ehrlich, G.D.**, Whitcomb, D.C., and Dohar J.E. Prostaglandin EP4 receptor mRNA is upregulated in fetal rabbit skin wound. *Arch Otolaryngol Head Neck Surg.* 126:1337-43, 2000.



94. Ehrlich, G.D., Hu, F.Z., Preston, R. A., and Post, J.C. The spectrum of pediatric gastroesophageal reflux. *JAMA* 284: 3125, 2000 (letter).
95. Amann, S.T., Gates, L.K., Preston, R.A., Gorry, M.C., Aston, C.E., **Ehrlich, G.D.**, and Whitcomb, D.C. Nonpenetrance of the Hereditary Pancreatitis Phenotype may be Independent of Genotype: A Study of Monozygotic Twins. (In press).
96. Hu, F.Z., Post, J.C., Johnson, S., **Ehrlich, G.D.**, and Preston, R.A. Refined localization of a gene for pediatric gastroesophageal reflux makes HTR2A an unlikely candidate gene. *Human Genetics*. 107:519-25, 2000.
97. **Ehrlich, G.D.\***, Hu, F.Z., Preston, R.A., and Post, J.C. The Spectrum of Pediatric Gastroesophageal Reflux. (letter) *JAMA*. 284:3125. 2000.
98. Heike, C., Seto, M., **Ehrlich, G.D.**, Preston, R.A., Hu, F.Z., Hing, A., Jackson, C., Palidin, A., Cunningham, M. A Century of Jackson-Weiss Syndrome: Further Definition of Clinical and Radiographic Findings in 'Lost' Descendants of the Original JWS Kindred. *American Journal of Medical Genetics* . 100:315-324, 2001.
99. Sauer, K., Camper, A.K., **Ehrlich, G.D.**, Costerton, J.W., and Davies, D.G. *Pseudomonas aeruginosa* Displays Multiple Phenotypes during Development of a Biofilm. *Journal of Bacteriology* 184:1140-1154, 2002.
100. **Ehrlich, G.D.\***, Veeh, R., Wang, X., Costerton, J.W., Hayes, J.D., Hu, F.Z., Daigle, B.J., Ehrlich, M.D., Post, J.C. Mucosal Biofilm Formation on Middle-ear Mucosa in the Chinchilla Model of Otitis Media. *JAMA* 287:1710-1715, 2002.
101. Dunne, M.W., Khurana, C., Mohs, A.A., Rodriguez, A., Arrieta, A., McLinn, S., Krogsatd, J.A., Blattner, M., Schwartz, R., Varga, S., Emparanza, P., Fernandez, P., Gooch III, W., Aspin, M., Podgore, J., Roine, I., Blumer, **Ehrlich, G.D.** and Chow, J. Efficacy of Single Dose Azithromycin in the Treatment of Acute Otitis Media in Children Receiving a Baseline Tympanocentesis. *Antimicrob Agents Chemother*. 47:2663-5, 2003.
102. Erdos, G., Sayeed, S., Antalis, P., Hu, F.Z., Hayes, J., Goodwin, J., Dopico, R.J., Post, J.C., and **Ehrlich, G.D.** Development and Characterization of a Pooled Haemophilus influenzae Genomic Library for the Evaluation of Gene Expression Changes Associated with Mucosal Biofilm Formation in Otitis Media. *Int. J. Ped. Oto* 67:749-55, 2003.
103. Costerton W, Veeh R, Shirtliff M, Pasmore M, Post C, and **Ehrlich G**. The application of biofilm science to the study and control of chronic bacterial infections. *J Clin Invest*. 112:1466-77, 2003.
104. Buchinsky, F.J., Derkay, C.S., Leal, S.M., Donfack, J., Ehrlich, G.D., Post, J.C. Multicenter initiative seeking critical genes in respiratory papillomatosis. *Laryngoscope*. 114(2):349-57, 2004.
105. Jiang, S., Gatlin, J., Deng, F-M, Liang, F-X, Lee, A., Atala, A., Bauer, S.B., **Ehrlich, G.D.**, Feather, S.A., Goldberg, J.D., Goodship, J.A., Goodship, T.H.J., Hermanns, M., Jones, K.E.,

- Malcolm, S., Mendelsohn, C., Retik, A.B., Schneck, F.X, Wright, V., Ye, X.Y., Woolf, A.S., Ostrer, H., Shapiro, E., Yu, J., Sun, T-T. Lack of Major Involvement of Human Uroplakin Genes in Vesicoureteral Reflux: Implications for Disease Heterogeneity. *Kidney International* 66:1-19, 2004.
106. Hu, F.Z., Donfack, J., Ahmed, A., Dopico, R., Johnson, S., Post, J.C., **Ehrlich, G.D.**, and Preston, R.A. Fine Mapping A Gene For Pediatric Gastroesophageal Reflux On Human Chromosome 13q14. *Human Genetics* 114:562-72 (March 2004 epub)
  107. Borriello, G., Werner, E., Roe, F., Kim, A.M., **Ehrlich, G.D.** and Stewart, P.S. Oxygen limitation contributes to antibiotic tolerance of *Pseudomonas aeruginosa* in biofilms. *Antimicrob Agents Chemother.* 48:2659-64. 2004
  108. Shen, K., Antalis, P., Gladitz, J., Sayeed, S., Ahmed, A., Yu, S., Hayes, J., Johnson, S., Dice, B., Dopico, R., Keefe, R., Janto, B., Chong, W., Goodwin, J., Wadowsky, R.W., Erdos, G., Post, J.C., **\*Ehrlich, G.D.**, and Hu, F.Z. Identification, Distribution, and Expression of Novel (nonRd) Genes in Ten Clinical Isolates of Nontypeable *Haemophilus influenzae*. *Infection and Immunity* 73:3479-3491, 2005.
  109. Stoodley, P., Kathju, .S, Hu, F.Z., Erdos, G., Levenson, J.E., Mehta, N., Dice, B., Johnson, S., Hall-Stoodley, L., Nistico, L., Sotereanos, N., Sewecke, J., Post, J.C., **\*Ehrlich, G.D.** Molecular and Imaging Techniques for Bacterial Biofilms in Joint Arthroplasty Infections. *Clin Orthop Relat Res.* 437:31-40, 2005.
  110. **\*Ehrlich, G.D.**, Hu, F.Z., Shen, K., Stoodley, P., Post, J.C., Bacterial Plurality as a General Mechanism Driving Persistence in Chronic Infections. *Clin Orthop Relat Res.* 437:20-24, 2005
  111. **\*Ehrlich GD**, Stoodley P, Kathju S, Zhao Y, McLeod BR, Balaban N, Hu FZ, Sotereanos NG, Costerton JW, Stewart PS, Post JC, Lin Q. Engineering Approaches for the Detection and Control of Orthopaedic Biofilm Infections. *Clin Orthop Relat Res.* 437:59-66. 2005
  112. Gladitz, J., Antalis, P., Hu, F.Z. Post, J.C. and **\*Ehrlich, G.D.** Codon usage comparison of novel genes in clinical isolates of *Haemophilus influenzae*. *Nucleic Acids Research* 33:3644-58. 2005
  113. Dohar, J.E., Hebda, P.A., Veeh, R., Awad, M., Costerton, J.W., Hayes, J., Ehrlich, G.D. Mucosal biofilm formation on middle-ear mucosa in a non-human primate model of chronic suppurative otitis media. *Laryngoscope* 115:1469-72. 2005
  114. F.Z. Hu, A. Nyström, A. Ahmed, R. Dopico, I. Mossberg, M. Palmquist, J. Gladitz, M. Rayner, J.C. Post, R.A. Preston, and **\*Ehrlich, G.D.** Mapping a Gene for Dupuytren contracture to chromosome 16 in a Swedish family. *Clinical Genetics* 68:424-29. 2005
  115. Kathju, S., Satish, L., Rabik, C., Rupert, T., Oswald, D., Johnson, S., Hu, F.Z., Post, J.C., and Ehrlich, G.D. Identification of differentially expressed genes in scarless wound healing utilizing PCR suppression subtractive hybridization. *Wound Repair and Regeneration* 14(4):413-20. 2006

116. Shen, K., Antalis, P., Gladitz, J., Dice, B., Janto, B., Keefe, R., Hayes, J., Ahmed, A., Dopico, R., Ehrlich, N., Jocz, J., Kropp, J., Yu, S., Nistico, L., Greenberg, D. P., Barbadora, K., Post, J.C., \***Ehrlich, G.D.**, and Hu, F.Z. Characterization, Distribution and Expression of Novel Genes Among Eight Clinical Isolates of *Streptococcus pneumoniae*. *Infection and Immunity* 74(1):321-30. 2006
117. Borriello, G., Richards, L., **Ehrlich, G.D.**, and Stewart, P.S. Arginine or Nitrate Enhance Antibiotic Susceptibility of *Pseudomonas aeruginosa* in Biofilms. *Antimicrobial Agents and Chemotherapy* 50(1):382-4. 2006
118. Donfack, J., Buchinsky, F.J., Derkay, C.S., Steinberg, B.M., Choi, S.S., Conley, S.F., Meyer III, C.M., McClay, J.E., Campesi, P., Hu, F.Z., Preston, R.A., Abramson, A.L., **Ehrlich, G.D.**, and Post, J.C. Four Mutations in Epidermodysplasia Verruciformis 1 (EVER1) Gene Are Not Contributors to Susceptibility in RRP *Int. J. Ped Oto* 70(7):1235-40, 2006. Epub Feb 17, 2006.
119. Fux, C., Quigley, A.M., Worel, A. Post, J.C., Zimmerli, S., **Ehrlich, G.D.**, Veeh R.H.\* Biofilm-related infections of cerebro-spinal fluid shunts. *Clinical Microbiology and Infection* 12:326-332. 2006
120. Allegrucci, M., Hu, F.Z., Shen, K., Hayes, J., **Ehrlich, G.D.**, Post, J.C., and Sauer, K. Phenotypic Characterization of *Streptococcus pneumoniae* Biofilm Development. *J Bacteriol.* 188:2325-35. 2006.
121. Sherwood ML, Buchinsky FJ, Quigley MR, Donfack J, Choi SS, Conley SF, Derkay CS, Myer CM, Ehrlich GD and Post JC. Unique challenges of obtaining regulatory approval for a multicenter protocol to study the genetics of RRP and suggested remedies. *Otolaryngol Head Neck Surg.* 135(2):189-96. 2006
122. Kerschner, J.E., Meyers, T., Burrows, A., Ehrlich, G.D. and Post, J.C. Mucin gene cDNA sequence characterization from the chinchilla middle ear epithelium *Intl J. Pediatric Otolaryngol.* 70(8):1449-1456, 2006.
123. Shen, K., Sayeed, S., Antalis, P., Gladitz, J., Ahmed, A., Dice, B., Janto, B., Dopico, R., Keefe, R., Hayes, J., Johnson, S., Yu, S., Ehrlich, N., Jocz, J., Kropp, L., Tadique, E., Wong, R., Wadowsky, R.M., Slifkind, M., Preston, R.A., Erdos, G., Post, J.C., **Ehrlich, G.D.**, Hu F.Z. Extensive genomic plasticity in *Pseudomonas aeruginosa* revealed by identification and distribution studies of novel (nonPAO1) genes among clinical isolates. *Infection and Immunity.* 74(9):5272-83, 2006.
124. Erdos, G., Sayeed, S., Hu, F.Z., Antalis, P.T., Shen, K., Hayes, J., Dopico, R., Johnson, S., Post, J.C., and \***Ehrlich, G.D.** Construction and characterization of a highly redundant *Pseudomonas aeruginosa* genomic library prepared from 12 clinical isolates: application to studies of gene distribution among populations. *Int. J. Ped Oto* 70(11):1891-900, 2006. Epub Aug 8, 2006.

125. Singh, M.K., Scott, T. F., LaFramboise, W.A., Hu, F.Z., Post, J.C., and **Ehrlich, G.D.** Gene expression changes in peripheral blood mononuclear cells from Multiple Sclerosis patients undergoing  $\beta$ -Interferon therapy. (Accepted *Journal of Neurological Sciences*)
126. Hogg, J.S., \*Hu, F.Z., Janto, B., Boissy, R., Gladitz, J., Swierczek, N., Hayes, J., Keefe, R., Yu, S., Post, J.C., Hu, F.Z., and **Ehrlich, G.D.\***. Characterization and Modeling of the *Haemophilus influenzae* Core and Supra-Genome based on the Complete Genomic Sequences of Rd and 12 clinical Nontypeable 16 Strains. (Accepted: *Genome Biology*. In Press. Epub 06/11/2007 )
127. Mußmann, M.\*, <sup>♦</sup> Hu, F.Z., <sup>♦</sup> Richter, M., Marc Mußmann<sup>1 °\*</sup>, Fen Z. Hu<sup>2 °</sup>, Michael Richter<sup>1</sup>, Dirk de Beer, D., Preisler, A., Jørgensen<sup>1</sup>, André Preisler<sup>1</sup>, Bo B.B., Glöckner, F-O., Amann, R., Koopman, W.J.H., Janto, B., Hogg, J.S., Boissy, R., Lasken, R.S., Stoodley, P., and **Ehrlich, G.D.\***. Insights into the genome Jørgensen<sup>1</sup>, Frank Oliver Glöckner<sup>1,3\*</sup>, Rudolf Amann<sup>1</sup>, Werner J.H. Koopman<sup>4</sup>, Benjamin Janto<sup>2</sup>, Justin Hogg<sup>2</sup>, Robert Boissy<sup>2</sup>, Roger S. Lasken<sup>5</sup>, Paul Stoodley<sup>2</sup>, and Garth D. Ehrlich<sup>2\*</sup> The metabolism of large sulphur bacteria uncultured, nitrate-storing *Beggiatoa* revealed by genomic analysis of a single filaments. (Accepted: *PloS Biology*)
128. Hiller, N.L., Janto, B., Hogg, J.S., Boissy, R., Yu, S., Powell, E., Keefe, R., Ehrlich, N.E., Shen, K., Jayes, J., Barbadora, K., Klimke, W., Demovoy, D., Tatusova, T., Parkhill, J., Bentley, S.D., Post, J.C., Ehrlich, G.D., and Hu, F.Z. Comparative Genomic Analyses of Seventeen *Streptococcus pneumoniae* Strains: Insights into the Pneumococcal Supragenome 2 (Accepted pending minor revisions: *J. Bacteriol*)
129. Buchinsky, F. J., Forbes, M., Hayes, J., Hu, F.Z., Greenberg, P., Post J.C., and **Ehrlich, G.D.** Phenotypic Plurality among Clinical Strains of nontypeable *Haemophilus influenzae* determined by symptom severity in the Chinchilla model of Otitis Media. (accepted: **BMC Infectious Diseases**)

## MANUSCRIPTS REVISED, SUBMITTED AND IN PREPARATION

130. Schaudinn, C., Stoodley, P., Ehrlich, G.D., Hu, F.Z., Mehta, N., Dice, B., Auer, M., Remis, J.P., Costerton, J.W., Webster, P., and Robinson, D.H. . The Formation of Macroscopic Caserna by the Coalescence of Cells of *Staphylococcus epidermidis*. (submitted: *J. Bacteriol*)
131. Richards, L., Pitts, B., Roe, F., Ehrlich, G.D., and Stewart, P.S. Contributions of Oxygen and Glucose Limitation to *Pseudomonas aeruginosa* Biofilm Tolerance of Ciprofloxacin and Tobramycin. (submitted: *Journal of Antimicrobial Chemotherapy*)
132. Fux, C.A., Wilson, S., Kim, S., Nguyen, D., Nistico, L. Buchinsky, F., Ehrlich, G.D., Balaban, N., and Stoodley P. The role of the quorum-sensing “target of RNAIII activating protein” (TRAP) and “RNAIII-inhibiting peptide” (RIP) in *Staphylococcal* biofilm formation and control in vitro. (resubmitted: *PloS Pathogens*)

133. Kerschner, J.E., Erdos, G., Hu, F.Z., Burrows, A., Cioffi, J., Hayes, J., Keefe, R., Janto, B., Post, J.C., and **Ehrlich, G.D.** Characterization of normal and Haemophilus influenzae-infected mucosal cDNA libraries in chinchilla middle ear mucosa. (submitted: *submitted BMC Infectious Diseases*)
134. Forbes, M., Hayes, J., Hu, F.Z., Greenberg, P., Post J.C., and **\*Ehrlich, G.D.** Phenotypic Plurality among Clinical Strains of Streptococcus pneumoniae determined by symptom severity in the Chinchilla model of Otitis Media. (under revision for *Clinical Microbiology and Infection*)
135. Ahmed, A.I., Shen, K., Mehta, N., Singh, M., Dopico, R., Schleifman, E., Keefe, R., Janto, B., Hayes, J., Preston, R.A., Kathju, S., Redfield, R.J., Post, J.C., **Ehrlich, G.D.**, and Hu, F.Z. Investigating the role of the com Operon in Competence and Transformation in clinical isolates of nontypeable *Haemophilus influenzae* (in preparation for *J. Bacteriol*)
136. Shen, K., Preston, R.A., Hu, F.Z., Sayeed, S., Erdos, G., Hayes, J., Antalis, P. Hogg J., Post, J.C. and Ehrlich, G.D. Construction and analysis of a 250,000 clone macroarray for the comparison of planktonic and biofilm envirovars of *Pseudomonas aeruginosa*. (in preparation for *J Bacteriol*)
137. Krakora, S.M. Shen, K., Singh, M., Yasinskaya, Y., Seto, M.L., Williams, J.K., Wang, X., Cunningham, M., Ehrlich, G.D., and Post, J.C. Medical treatment of craniosynostosis: recombinant noggin inhibits coronal suture closure in the rat craniosynostosis model. (in preparation)
138. Post, J.C., Ehrlich, M., and Ehrlich, G.D. Otitis Media with Effusion as a Bacterial Biofilm Disease (in preparation)

#### IV) Peer-Reviewed Papers on Science Education

139. Toth, E.E., Post, J.C, & Ehrlich, G. D. Mentoring Science Teachers Through Pedagogical Content Knowledge Development: Collaborative Research to Improve Teacher Quality. Proceeding so of the 4<sup>th</sup> annual convention of the Hawaii International Conference on Education (HICE), Hawaii, 2006
140. Toth, E. E.; Post, J.C, & **Ehrlich, G. D.** Supporting Inquiry Learning with Representational Tools and Collaborative Learning (In preparation).
141. Toth, E. E.; Post, J.C, & **Ehrlich, G. D.** The development of Pedagogical Content Knowledge via Teacher mentoring by Biomedical Scientists (In preparation).

\* and + Corresponding author  
 Accompanied by highlighting editorial  
 # Selected for abstracting in [Abstracts International](#)

& Selected for electronic reproduction by Simstar Digital Media  
 o Indexed in DNA probes  
 \$ Abstracted in "Internal Medicine News" and "Family Practice News"  
 @ Selected by Quantum Chemistry Program Exchange for worldwide distribution; indexed in GIBCO/BLL catalog, indexed in New England Biology Catalogue.  
 ^ Accompanied by University of Pittsburgh Medical Center and Children's Hospital of Pittsburgh Press Release.  
 ! Lead Article  
 ¥ Indexed in Protein Research Database  
 ° Reviewed in Boston Globe, Pittsburgh Post Gazette, Pittsburgh Tribune Review, Pulmonary Reviews, and Biophotonic Intl Magazine etc  
 ~ Selected by the AA0-HNS for the 2005-2006 Home Study course in Congenital and Pediatric Problems

## GENBANK DNA SEQUENCE SUBMISSIONS

1. Whitcomb, D.C., Gorry, M.C., Preston, R.A., Furey, W., Sossenheimer, M.J., Ulrich, C.D., Martin, S.P., Cates, L., Amann, S.T., Toskes, P.P., Liddle R., McGrath, K., Uomo, G., Post, J.C., and **Ehrlich, G.D.** Hereditary pancreatitis is caused by a mutation in the cationic trypsinogen gene.
2. MCU73324 - Walker, E.S., Preston, R.A., Post, J.C., **Ehrlich, G.D.**, and Klingman, K.L. Moraxella catarrhalis glycyl-tRNA synthetase \_ subunit (GlyRS) and NAD repressive NMN transportor NADRp (NadR) genes, partial cds, and glycyl-tRNA synthetase \_ subunit (GlyRS) gene, complete cds (3725 bp) 11/4/96.
3. *Haemophilus influenzae* genes identified in clinical isolates that are absent from strain Rd: GenBank accession numbers AY599423-AY599486 (2004)
4. *Chinchilla Laniger* cDNAs obtained from a libraries prepared from normal and inflammed middle-ear mucosa AY462137 - AY462142 (11/2003), and AY533209 - AY533235 (1/2004)

(This section is not complete)

## PATENTS

- P-1 Garth D. Ehrlich, Joseph Z. Glustein, and Yingze Zhang.** PCR assay for bacterial and viral meningitis. US patent # 6258570 Issued on July 10, 2001
- P-2 Fen Z. Hu, Geza Erdos, John Gladitz, Patricia Antalis and Garth D. Ehrlich.** Selected nucleotide sequences isolated from pathogenic strains of *Haemophilus* US Patent Issued on November 29, 2005
- P-3 Fen Z. Hu, Geza Erdos, John Gladitz, Patricia Antalis and Garth D. Ehrlich.** Selected nucleotide sequences isolated from pathogenic strains of *Haemophilus influenzae*. US Patent Issued on October 3, 2006

## PUBLISHED SOFTWARE

- SW-1 Shankarappa, B., Vijayananda, K., and Ehrlich, G.D. SILMUT:** A computer program for the

identification of regions suitable for silent mutagenesis to introduce restriction enzyme recognition sequences, available at -

[Http://www.centerforgenomicsciences.org/doc\\_frame/index.html](http://www.centerforgenomicsciences.org/doc_frame/index.html)

- SW-2 Gladitz, J., Yu, S., and **Ehrlich, G.D.** **CodeSquare:** A computer program that looks at the evolutionary relatedness of sequences by comparing the codon usage of a gene against the average codon usages of many organisms, available at -  
[Http://www.centerforgenomicsciences.org/doc\\_frame/index.html](http://www.centerforgenomicsciences.org/doc_frame/index.html)

## BOOKS

- B-1 **Ehrlich, G.D.**, and Greenberg S.J.: **PCR-Based Diagnostics In Infectious Disease.** Boston: Blackwell Scientific Publications, 1994, 697 pages (Textbook and Laboratory Manual) - on Blackwell's Best Seller List.

## MONOGRAPHS EDITED

- J-1 Adams, D. and **Ehrlich, G.D.** International Clinical Practice Series. Otitis Media - Prospects for Management. Kent: Wells Medical Limited, 1996.

## INVITED AND CONTRIBUTED SCIENTIFIC CHAPTERS

- C-1 Poiesz, B.J., Moore, J.L., Merl, S.A., Tomar, R.H., Zamkoff, K.W., Davey, F.R., Planas, A.T., Gottlieb, A.J., Runge, L.A., Cowan, B.Y., Reeves, W.G., **Ehrlich, G.D.**, Ruscetti, F.W., Han, T., Cabradillo, C.D., and Comis, R.L. Biology and Epidemiology of Human T-cell Leukemia/Lymphoma Virus, 1984.
- C-2 **Ehrlich, G.D.**: Correlation of molecular and clinical parameters of human T-lymphotropic retroviral infections, Ph.D. Dissertation, University Microfilms, 1987.
- C-3 **Ehrlich, G.D.** and Poiesz, B.J. Clinical and molecular parameters of HTLV-I infection. In: Clinics in Laboratory Medicine (eds. Davey, F. and Saunders, W.B.) 8:65-84, 1988.
- C-4 Poiesz, B.J., **Ehrlich, G.D.**, Papsidero, L., and Shinsky, J.J. Detection of Human Retroviruses. In: AIDS: Etiology, Diagnosis, Treatment and Prevention 2nd edition, (eds. Devita, V., Hellman, S., Rosenberg, S., Lippincott) 137-154, 1988.
- C-5 Kwok, S., Mack, D., **Ehrlich, G.D.**, Poiesz, B., Dock, N., Alter, H., Mildvan, D., Grieco, M., and Shinsky, J. Enzymatic amplification of HIV viral sequences in peripheral blood

mononuclear cells: HIV detection by genetic engineering methods, (eds. Luciw, P.A. and Steimer, K.S., Marcel Dekker, Inc. New York) 243-255, 1988.

- C-6 **Ehrlich, G.D.** The biology and spectrum of disease associated with human retroviruses. (Requested Seminars in Neurology).
- C-7 Poiesz, B.J., **Ehrlich, G.D.**, Byrne, B.C., Abbott, M., Kwok, S., and Sninsky, J.J. Use of PCR in the detection, quantification and characterization of human retroviruses. In: Current Communications in Molecular Biology: Polymerase Chain Reaction. Cold Spring Harbor Press, Cold Spring Harbor; pp 159-164, 1989.
- C-8 **Ehrlich, G.D.**, Greenberg, S. and Abbott, M. Detection of human T-cell lymphoma/leukemia viruses (HTLV). Chapter 39, In: PCR Protocols: A Guide to Methods and Applications (eds. Innis, M.A., Gelfand, D.H., Sninsky, J.J., White, T.J.). Academic Press, San Diego; 325-336, 1990.
- C-9 **Ehrlich, G.D.**, Abbott, M.A., Hurwitz, B.J., Waldman, T.A., Poiesz, B.J., Greenberg, S.J. Evidence for homologous retroviral sequences in multiple sclerosis by enzymatic gene amplification. In: UCLA Symposia on Molecular and Cellular Biology: Early Human Retroviruses. New Series, Vol. 119: (eds. Groopman, J.E., Chen, I., Essex, M., and Weiss, R. New York: Alan R. Liss, Inc.) 1990; pp. 373-382.
- C-10 Poiesz, B.J., **Ehrlich, G.D.**, Byrne, B., Wells, K., Kwok, S., Sninsky, J.: The Use of the PCR in the Detection, Quantification and Characterization of Human Retroviruses. In: Medical Virology IX (eds. Delamaza, I.M. and Peterson, E.M.). Plenum Press, New York, NY; pp. 47-75, 1990.
- C-11 **Ehrlich, G.D.**: Utilization of PCR-Based Technology: Retroviral Pathogenesis Studies. In: Clinical Chemistry 37:609-610, 1991.
- C-12 **Ehrlich, G.D.**, and Sirko, D.A.: The Polymerase Chain Reaction and its role in Clinical Diagnostics. In: PCR-Based Diagnostics in Infectious Disease (eds. Ehrlich, G.D. and Greenberg, S.J.). Blackwell Scientific Publications, Boston; 3-18, 1994.
- C-13 Sirko, D.A. and **Ehrlich, G.D.**: PCR Laboratory Facilities, Protocols and Operations. In: PCR-Based Diagnostics in Infectious Disease (eds. Ehrlich, G.D. and Greenberg, S.J.). Blackwell Scientific Publications, Boston; 19-44, 1994.
- C-14 **Ehrlich, G.D.** and Sirko, D.A.: Parameters for Maximizing the Sensitivity and Specificity of the Polymerase Chain Reaction. In: PCR-Based Diagnostics in Infectious Disease (eds. Ehrlich, G.D. and Greenberg, S.J.). Blackwell Scientific Publications, Boston; 45-56, 1994.
- C-15 Greenberg, S.J., and **Ehrlich, G.D.**: Introduction to PCR for Pathogenic Organisms for Specific Organ Systems. In: PCR-Based Diagnostics in Infectious Disease (eds. Ehrlich, G.D. and Greenberg, S.J.). Blackwell Scientific Publications, Boston; 133-136, 1994.



- C-16 Magit, A., **Ehrlich, G.D.**, Post, J.C.: Applications of the Polymerase Chain Reaction to the Diseases of the Ear, Nose and Throat. In: PCR-Based Diagnostics in Infectious Disease (eds. Ehrlich, G.D. and Greenberg, S.J.). Blackwell Scientific Publications, Boston; 193-212, 1994.
- C-17 **Ehrlich, G.D.**: Laboratory Protocols for the PCR-based Detection of Infectious Disease Agents. In: PCR-Based Diagnostics in Infectious Disease (eds. Ehrlich, G.D. and Greenberg, S.J.). Blackwell Scientific Publications, Boston; 335-340, 1994.
- C-18 Mateo, R., Faruki, H., Cooper, D., Demetris, A.J., **Ehrlich, G.D.**: Detection of Hepatitis C Virus RNA in Liver and Plasma by RT-PCR-Liquid Hybridization. In: PCR-Based Diagnostics in Infectious Disease (eds. Ehrlich, G.D. and Greenberg, S.J.). Blackwell Scientific Publications, Boston; 375-398, 1994.
- C-19 **Ehrlich, G.D.**: PCR-Based Laboratory Methods for the Detection of the Human Retroviridae and Hepadnaviridae. In: PCR-Based Diagnostics in Infectious Disease (eds. Ehrlich, G.D. and Greenberg, S.J.). Blackwell Scientific Publications, Boston; 415-446, 1994.
- C-20 Post, J.C., Pettigrew, M., Magit, A.E., **Ehrlich, G.D.**, Bernstein, J., Greenberg, S.J., Glenister, N., and Evans, M.J.: PCR-based Strategies for the Detection of Hemophilus influenzae and Streptococcus pneumoniae DNA Associated with Diseases of the Ears, Nose and Throat. In: PCR-Based Diagnostics in Infectious Disease (eds. Ehrlich, G.D. and Greenberg, S.J.). Blackwell Scientific Publications, Boston; 593-608.
- C-21 Wadowsky, R.M., Libert, T., **Ehrlich, G.D.**: Detection of Bordetella pertussis by PCR. In: PCR-Based Diagnostics in Infectious Disease (eds. Ehrlich, G.D. and Greenberg, S.J.). Blackwell Scientific Publications, Boston; 621-632, 1994.
- C-22 Chen, Y., and **Ehrlich, G.D.**: Organization and Structure y a Modern Molecular Diagnostics Lab Orienting. In: Clinical Diagnostic Immunology (eds Nakarmua, R.M., Burek, C.L., Cook, L., Folds, J.D., and Sever, J.L.) Blackwell Science: Boston (1998).
- C-23 Zhang Y., and **Ehrlich, G.D.**: Molecular Assays for Infectious Diseases and Syndromes. In: Clinical Diagnostic Immunology (eds Nakarmua, R.M., Burek, C.L., Cooh, L., Folds, J.D., and Sever, J.L.) Blackwell Science: Boston (1998).
- C-24 Post, J.C. and **Ehrlich, G.D.**: Otologic disorders in the HIV-Positive Child. In: Grundfast K, Lalwani AK (eds). Pediatric Otology & Neurotology. Philadelphia: Lippicott, Raven, pp. 479-485, 1998.
- C-25 Shen, K., Wang, X., Post, J.C., and **Ehrlich, G.D.**: Molecular and Translational Research Approaches for the study of Bacterial Pathogenesis in Otitis Media. In: Rosenfeld, R., and Bluestone, C.D. (eds). Evidence-based Otitis Media, 2<sup>nd</sup> Edition. Hamilton: B.C. Decker Inc. pp91-119, (2003).
- C-26 Ehrlich, G.D., Hu, Z.F., and Post, J.C. Role for Biofilms in Infectious Disease. In: Ghannoum, M., and O'Toole, G.A. (eds). Microbial Biofilms. Washington, DC: ASM Press, pp332-358. (2004)

- C-27 Post, J.C. and Ehrlich, G.D. Biofilms in Otolaryngologic Infections. In: Snow, J. and Ballenger, J.J. (eds). Ballenger's Otorhinolaryngology: Head and Neck Surgery. B.C. Decker 16th Ed (2007)

## II) INVITED AND CONTRIBUTED CHAPTERS ON SCIENCE EDUCATION

- C-27 Toth, E. E.; Antalis, P.; Post, J.C, and **Ehrlich, G.D.** Teachers' Content Knowledge and Associated Confidence during Professional Development in an Authentic Research Environment. Poster presented at the AERA convention, San Diego, 2004.
- C-28 Toth, E. E.; Post, J.C, and **Ehrlich, G. D.** At the "Elbows of Scientists": Changes in Content Knowledge and Confidence during Teacher Professional Development. Proceedings of the 3rd annual convention of Hawaii International Conference on Education (HICE), Hawaii, 2005.
- C-29 Toth, E. E.; Post, J.C, and **Ehrlich, G.D.** Students' Reasoning about Genetic Technologies: Prior Beliefs, Peers and Knowledge Representations. NARST Annual Convention, Dallas, TX. April 2005.
- C-30 Toth, E. E.; Post, J.C, and **Ehrlich, G.D.** Supporting Inquiry with Representational Tools: How inner city students learn to design scientific experiments to isolate DNA. NARST Annual Convention, San Francisco. March, 2006.
- C-31 Toth, E. E.; Post, J.C, and **Ehrlich, G.D.** Preparing Students to Participate in Society with the use of Scientific Advances for Health-Care Decisions. Proceedings of the 4th Annual Convention of Hawaii International Conference on Education (HICE), Hawaii, 2006
- C-32 Toth, E. E.; Post, J.C, and **Ehrlich, G.D.** Mentoring Science Teachers Through Pedagogical Content Knowledge Development: Collaborative Research to Improve Teacher Quality.. Proceedings of the 4th Annual Convention of Hawaii International Conference on Education (HICE), Hawaii, 2006

## ABSTRACTS

(SUBMITTED POSTERS AND SLIDE PRESENTATIONS)

- A-1. Poiesz, B., Moore, J., Merl, S., Tomar, R., Zamkoff, K., Davey, F., Planas, A., Gottlieb, A., Runge, L., Cowan, B., Reeves, W., Ruscetti, F., Han, T., Cabradillo, C., **Ehrlich, G.D.**, and Comis, R.: Biology and epidemiology of HTLV. Cold Spring Harbor Laboratory Press, 237-247, 1984. (Oral Presentation)
- A-2. Poiesz, B., Zamkoff, K., Merl, S., Moore, J., Davey F., Tomar, R., **Ehrlich, G.D.**, Comis, R., Gottlieb, A., and Goldberg, J. Detection of anti-HTLV antibodies and HTLV proteins in patients with myelomonocytic leukemia. Blood 62:108a, 1983.
- A-3. **Ehrlich, G.D.**, Moore, J., Tomar, R. et. al.: Integrated HTLV proviral DNA in the splenocyte of a patient with AIDS. J. Cell. Biochem. (Suppl). 8A:1, 1984).
- A-4. Poiesz, B., Tomar, R., Merl, S., Moore, J., Kloster, B., Planas, A., Han, T., Cabradillo, C., **Ehrlich, G.D.**, Comis, R., and Gottlieb, A.: Detection of human T-cell lymphoma/leukemia virus (HTLV) in patients with acquired immunodeficiency (AIDS) or generalized lymphadenopathy syndrome (GLS). Blood 62:1151, 1983.
- A-5. **Ehrlich, G.D.**, Blair, D., Kloster, B., et. al.: HTLV-I homologous sequences in fresh and cultured cells from AIDS and ARC patients. Cold Spring Harbor RNA Tumor Virus Meeting. 1984.
- A-6. Poiesz, B., Tomar R., **Ehrlich, G.D.**, Merl, S., Moore, J., Planas, A., Han, T., Kloster, B., Cabradilla, C., Blair, D., Zamkoff, K., and Comis, R.: Association of HTLV with AIDS Proc. Amer. Soc. Clin. Onc. 3:13, 1984. (Oral Presentation)
- A-7. Merl, S., Cowan, B., Graziano, S., **Ehrlich, G.D.**, Hubbell, C., Planas, A., Tomar, R., Davey, F., Moore, J., Comis, R., and Poiesz, B.: A quantitative assay for HTLV transformation. Proc. Amer. Soc. Clin. Onc. 3:5, 1984. (Oral Presentation)
- A-8. Lehr, B., **Ehrlich, G.D.**, Davey, F., et. al.: HTLV-I associated benign T-cell lymphocytosis. Amer. Soc. Clin. Onc. 4:12, March, 1985.
- A-9. **Ehrlich, G.D.**, Lehr, B., Davey, F., Planas, A., Kershner, J., Moore, J., Johnston, L., Davis, B., Halinan, E., Vournakis, J., and Poiesz, B.: Genomic characterization of an HTLV-I subtype isolated from a patient with a benign lymphocytosis. Cold Spring Harbor Laboratory Conference on AIDS. Cold Spring Harbor, NY, May 21-26, 1985.
- A-10. Poiesz, B., **Ehrlich, G.D.**, Moore, J.L., Friedman-Kien, A., LaFleur, F., Montagna, R., and Papsidero, L.: Incidence of HTLV-III infection in the semen of AIDS and ARC patients. Clinical Research, 34(2): 529A, April, 1986. (Oral Presentation)
- A-11. Poiesz, B., **Ehrlich, G.D.**, Moore, J., et. al.: HTLV-III detection in blood and semen. New York Academy of Sciences Meeting, 1986. (Oral Presentation)

- A-12. Kwok, S., Mack, D., Poiesz, B., **Ehrlich, G.D.**, Blair, D., Friedman-Kien, A., and Sninsky, J.: Detection of AIDS viral nucleic acid sequences by enzymatic amplification. International Conference of AIDS, Paris, France, 1986.
- A-13. LaFleur, F.L., Friedman-Kien, A.E., Hennessey, N.P., Wernz, J.C., Montagna, R., **Ehrlich, G.D.**, and Poiesz, B.J.: Prevalence of HTLV-III infection in peripheral blood (PB), seminal mononuclear and cell-free semen of ARC and AIDS-associated Kaposi's Sarcoma (KS) patients: Preliminary analysis. International Conference on AIDS. Paris, France, 1986.
- A-14. Poiesz, B.J., **Ehrlich, G.D.**, Papsidero, L., Montagna, R., Kwok, S., Mack, D., and Sninsky, J.J.: Methods for the detection of HIV antibodies, antigens and nucleic acids. (Presented at WHO meeting, October 1986, Paris, France).
- A-15. Poiesz, B.J., **Ehrlich, G.D.**, Kwok, S. and Sninsky, J.J.: Gene amplification as a tool for detection and analysis of human retroviruses. Amer. Assoc. for Cancer Res. Proceedings, 1987.
- A-16. Poiesz, B.J., **Ehrlich, G.D.**, Papsidero, L., Montagna, R., Kwok, S., Sninsky, J., et. al.: Incidence of seronegativity to HIV and HTLV-I in individuals infected with either virus. III International Conference on Acquired Immunodeficiency Syndrome (AIDS), June 1-5, 1987, p. 114.
- A-17. Sninsky, J.J., Kwok, S., Mack, D., **Ehrlich, G.D.**, Ullrich, P., Poiesz, B., et. al.: Identification of HIV sequence in DNA extracted directly from peripheral blood lymphocytes and bone marrow using in vitro DNA amplification. III International Conference on Acquired Immunodeficiency Syndrome (AIDS), Washington, D.C., June 1-5, 1987, p 207. (Oral Presentation)
- A-18. Mildvan, D., Desjarlais, D., Sotharan, J., Dawson, G., Shonekan, D., Allain, J.P., Kouzi, A.C., Lee, H., Weber, J., Stoneburner, R., **Ehrlich, G.D.**, Poiesz, B.: Prevalence and significance of HTLV-I in a cohort of IV drug users in New York [abstract #4517]. IV International Conference on AIDS, Amsterdam, The Netherlands, June 12-16, 1988.
- A-19. Abbott, M.A., Poiesz, B.J., Byrne, B.C., Kwok, S., Sninsky, J.J., **Ehrlich, G.D.**: Methods for detecting proviral DNA amplified in vitro and their use for analysis of retroviral variants. 21st Adirondacks Molecular Biology and Genetics Conference, Blue Mountain Lake, NY, Sept. 30 - Oct. 2, 1988.
- A-20. **Ehrlich, G.D.**, Abbott, M.A., Greenberg, S., Bhagavati, S., Sninsky, J.J., Kwok, S., Poiesz, B.J.: Association of human retroviruses with neurological diseases. 21st Adirondacks Molecular Biology and Genetics Conference, Blue Mountain Lake, NY, Sept. 30 - Oct. 2, 1988. (Oral Presentation)
- A-21. **Ehrlich, G.D.**, Quan, D., Lavigne, K., Sninsky, J.J., Poiesz, B.J.: Simultaneous screening for multiple human retroviruses in risk group individuals via the polymerase chain reaction and liquid hybridization. AAAS Annual Meeting, San Francisco, Jan. 14-19, 1989. (Oral Presentation)

- A-22. **Ehrlich, G.D.**, Abbott, M.A., Bhagavati, S., Glaser, J.B., Siwkowski, M., Sninsky, J.J., Poiesz, B.J.: Detection of anti-HTLV-I Tax antibodies in HTLV-I ELISA negative individuals and TSP/HAM patients: Confirmation of infection by PCR. UCLA Meeting Human Retroviruses, Tamarron CO., Feb. 4-11, 1989.
- A-23. Greenberg, S.J., Jacobson, S., Abbott, M.A., Bhagavati, S., McFarlin, D.E., Poiesz, B.J., Waldman, J.A., **Ehrlich, G.D.**\*: Variability of provirus from HTLV-I associated tropical spastic paraparesis and adult T-cell leukemia detected by gene amplification. UCLA Meeting on Human Retroviruses. Tamarron, CO., Feb. 4-11, 1989.
- A-24. Greenberg, S.J., **Ehrlich, G.D.**, Abbott, M.A., Hurwitz, B.J., Waldman, T.A., Poiesz, B.J.: Demonstration of retroviral sequences related to human T-cell leukemia/lymphoma virus, Type I in Multiple Sclerosis by gene amplification. 41st Annual Meeting of American Academy of Neurology, Chicago, April 13-14, 1989. (Oral Presentation)
- A-25. Poiesz, B.J., Abbott, M.A., Glaser, J.B., Greenberg, S.J., Bhagavati, S., Sninsky, J.J., Kwok, S. and **Ehrlich, G.D.** Polymerase chain reaction and the detection of human retroviruses. UCLA Meeting, Keystone CO, April 1989.
- A-26. Abbott, M.A., Poiesz, B.J., Byrne, B.C., Kwok, S., Sninsky, J.J. and **Ehrlich, G.D.**: Methods for detecting proviral DNA amplified in vitro and their use for analysis of retroviral variants. UCLA Meeting Human Retroviruses, Tamarron, CO, Feb. 4-11, 1989.
- A-27. Poiesz, B.J., **Ehrlich, G.D.**, Papsidero, L., Montagna, R. and the HTLV-I working group: Seroprevalence of HTLV-I in various patient populations. UCLA Meeting Human Retroviruses, Tamarron, CO, Feb. 4-11, 1989.
- A-28. Glaser, J., Monnier, J., D'Angelo, K., Drakatos, A., Poiesz, B., **Ehrlich, G.D.**, et al. Prevalence of syphilis, HTLV-I, HTLV-II and HIV-1 among crack and other drug users. 5th International Conference on AIDS, Montreal, Quebec, CANADA; June 4-9, 1989.
- A-29. Glaser, J.B., Poiesz, B.J., Siwkowski, M., Smpkins, H., J.J., **Ehrlich, G.D.**, et al. Anti-HTLV-I Tax ELISA for detection of infection in standard HTLV-I ELISA negative intravenous drug users. 5th International Conference on AIDS, Montreal, Quebec, CANADA; June 4-9, 1989.
- A-30. Brew, B.J., Hardy, W., Poiesz, B., **Ehrlich, G.D.**, Larimore, M., Gold, J., Bhalla, R., Schwartz, M., Price R.W. Transfusion-related HTLV-I neurological disease: A putative marker of disease activity and response to therapy. 5th International Conference on AIDS, Montreal, Quebec, CANADA; June 4-9, 1989.
- A-31. Nara, P.L., Hatch, W., Kessler, J., Kelliher, J., **Ehrlich, G.D.**, Gendelman, H., et al. Macrophages simultaneously derived from virus-containing peripheral blood mononuclear cells in HIV-1 IIIB infected chimpanzees do not contain virus. 5th International Conference on AIDS, Montreal, Quebec, CANADA; June 4-9, 1989. (Oral Presentation)
- A-32. Nara, P., Hatch, W., **Ehrlich, G.D.**, Ward, J., Conley, S., Merges, M., Kelliher, J., Gendelman, H. The biology of HIV-1 in the chimpanzee: A unique state of in vivo and in vitro monocyte/macrophage resistance to infection, compartmentalization and controlled viral

- replication. Cold Spring Harbor Symposia on Retroviruses and Oncogenes, 1989. (Oral Presentation)
- A-33. Paolozzi, F.P., **Ehrlich, G.D.**, Bacha, P., Nichols, J.C., Bhagavati, S., Ratner, L., Poiesz, B.J.: Effect of recombinant interleukin-2-diphtheria toxin fusion protein on fresh and cultured HTLV-I infected T-lymphocytes: Inhibition of viral load as assessed by polymerase chain reaction. 3rd Annual Retrovirology Conference, Maui, Hawaii. Feb. 12-14, 1990. (Oral Presentation)
  - A-34. Levine, P.H., Dosik, H., Goldstein, M., Sedjo, R., Poiesz, B.J., **Ehrlich, G.D.**, Williams, C.: The American adult T-cell leukemia/lymphoma repository (ATLR): Recent observations. 3rd Annual Retrovirology Conference, Maui, Hawaii. Feb. 12-14, 1990.
  - A-35. Williams, A.E., Sullivan, M.T., Fang, C.T., **Ehrlich, G.D.**, Poiesz, B.J., Sandler, S.G., and the American Red Cross HTLV-I/II Study Group.: Characterization of demography and risk in blood donors infected with HTLV-I/II. 3rd Annual Retrovirology conference, Maui, Hawaii. Feb. 12-14, 1990.
  - A-36. Sherman, M., **Ehrlich, G.D.**, Poiesz, B.J.: Applications of inverse PCR to the amplification of sequences flanking the LTR of HTLV-I. 3rd Annual Retrovirology Conference, Maui, Hawaii. Feb. 12-14, 1990. (Oral Presentation)
  - A-37. **Ehrlich, G.D.**, Lapinski, D., Glaser, J.D., Abbott, M.A., Poiesz, B.J.: Type-specific HTLV diagnosis from stored plasma or serum by reverse transcriptase-PCR. 3rd Annual Retrovirology Conference, Maui, Hawaii. Feb. 12-14, 1990. (Oral Presentation)
  - A-38. **Ehrlich, G.D.**, Waldmann, T.A., Poiesz, B.J., et al. Retroviral-associated genetic sequences in multiple sclerosis and other diseases: A second-phase large scale population appraisal. American Academy of Neurology, Annual Meeting May 1990. (Oral Presentation)
  - A-39. Glaser, J.B., Jacobs, F., Greifinger, R., Poiesz, B., **Ehrlich, G.D.**, Type-specific detection of HTLV-I/II viral DNA by polymerase chain reaction (PCR) & viral RNA in plasma by reverse transcriptase (RT) PCR among prison inmates. Sixth International Conference on AIDS, San Francisco, CA, June 20-24, 1990.
  - A-40. Dosik, H., Goldstein, M., Dunn, I., Williams, L., Fahnrich, B., Maloof, R., Levine, P., **Ehrlich, G.D.**, and Poiesz, B. Prevalence of HTLV-I in blacks from Central Brooklyn. ASCO Annual Meeting, Washington, DC, May 20-22, 1990.
  - A-41. Sullivan, M.T., Williams, A.E., Fang, C., Grandinetti, T., Poiesz, B., **Ehrlich, G.D.**, and The HTLV-I/II Study Group. Transmission of HTLV-I and HTLV-II to prior recipients of blood products from seropositive donors. American Association of Blood Bankers, 1990 Annual Meeting.
  - A-42. Sherman, M.P., **Ehrlich, G.D.**, and Poiesz, B.J. Application of inverse PCR and ligation mediated PCR to the amplification of sequences flanking the LTR of HTLV-1. Annual Meeting of American Society of Hematology, November, 1990.

- A-43. Sherman, M.P., **Ehrlich, G.D.**, Sninsky, J.J., Kwok, S., Ferrer, J.F., and Poiesz, B.J. Amplification of gene sequences of the bovine leukemia virus by the polymerase chain reaction. Annual Meeting of American Society of Hematology, November, 1990.
- A-44. Williams, A.E., Sullivan, M.T., Fang, C.T., Sandler, S.G., Poiesz, B.J. and **Ehrlich, G.D.** and the American Red Cross Collaborative HTLV study group. Differential characterization of HTLV-I and HTLV-II infection in U.S blood donors. 4th International Retrovirus Conference, Montego Bay, Jamaica, February 10-14, 1991. (Oral Presentation)
- A-45. Sherman, M.P., **Ehrlich, G.D.**, Sninsky, J.J., Ferrer, J.F., Zandomeni, R., and Poiesz, B.J. Amplification and analysis of specific gene sequences of the bovine leukemia virus from infected cows by the polymerase chain reaction. 4th International Retrovirus Conference, Montego Bay, Jamaica, February 10-14, 1991.
- A-46. Sherman, M.P., **Ehrlich, G.D.**, and Poiesz, B.J. Application of inverse PCR and ligation mediated PCR to the amplification of sequences flanking the LTR of HTLV-I. 4th International Retrovirus Conference, Montego Bay, Jamaica, February 10-14, 1991.
- A-47. Post, J.C., Magit, A.E., Eagle, L.R., Bluestone, C.D., **Ehrlich, G.D.** The polymerase chain reaction for identification of bacterial DNA in Middle-Ear effusions. Association for Research in Otolaryngology, Midwinter Meeting. St. Petersburg Beach, Florida, February 2-6, 1992. (Oral Presentation)
- A-48. Post, J.C., Magit, A.E., **Ehrlich, G.D.** The polymerase chain reaction (PCR): Applications in pediatric otolaryngology. Association of Pediatric Otolaryngology. Palm Desert, California, April 13-15, 1992. (Oral Presentation)
- A-49. **Ehrlich, G.D.**, Pettigrew, M., Magit, A.E., Post, J.C. Development of PCR-based technologies for the detection of bacteria in middle-ear effusion. The Molecular Biology of Hearing and Deafness. La Jolla, California, May 1-4, 1992. (Oral Presentation)
- A-50. **Ehrlich, G.D.**, Andrews, J., Sherman, M.P., Greenberg, S.J., Poiesz, B.J.: HTLV-I is present in vivo as a quasispecies. Fifth International Conference on Human Retrovirology HTLV, Kumamoto, Japan, May 11-13, 1992. (Selected for oral presentation, but could not attend).
- A-51. **Ehrlich, G.D.**, Hamilton, P., Faruki, H., Malone, M., Chen, Y., Sirko, D.A., Stringos, L., Nguyen, M., Uhrin, M. Development and analysis of a multiplex PCR-liquid hybridization (LH) assay for the detection of Borrelia burgdorferi in clinical samples. Fifth International Conference on Lyme Borreliosis. Arlington, Virginia, May 30 - June 2, 1992.
- A-52. Faruki, H., Hamilton, P.J., Malone, M., Nguyen, M., **Ehrlich, G.D.** A multiplex polymerase chain-reaction-based assay to detect Borrelia burgdorferi in blood, synovial fluid and cerebrospinal fluid. 32nd ICAAC Meeting, Anaheim, CA, October 11-14, 1992.
- A-53. Isaacman, D.J., Wadowsky, R.M., Post, J.C., Wald, E.R., Hamilton, P.J., Libert, T.A., **Ehrlich, G.D.** Utility of the polymerase chain reaction for detecting *S. pneumoniae* in blood. American Academy of Pediatrics Annual Meeting San Francisco, CA, October 9-11, 1992 (Oral Presentation).

- A-54. Post, J.C., Larkins-Pettigrew, M., Ryndquist-White, J., Chen, Y., **Ehrlich, G.D.** Detection of Hemophilus influenzae DNA in culturally sterile middle-ear effusions by PCR utilizing two primer sets. Association for Research in Otolaryngology. St. Petersburg Beach, FL, February 7-11, 1993. (Oral Presentation).
- A-55. Mateo, R., Demetris, A.J., **Ehrlich, G.D.**, Cooper, D., Frye, B., Sco, E., El-Sakherri, Y., and Fung, J.J. Clinical assay for Hepatitis C virus (HCV) detection in liver biopsies using the polymerase chain reaction (PCR). The Society of University Surgeons. 54th Annual Meeting, Seattle, Washington, February 11-13, 1993.
- A-56. Boldt-Houle, D.M., Zavoral, T., Huang, X.-L., Rinaldo, C.R., **Ehrlich, G.D.** Analyses of the TCR repertoire in CD4+ and CD8+ lymphocyte populations of HIV-1 infected subjects. Keystone Meeting on HIV Pathogenesis. Albuquerque, NM, March 21-April 4, 1993.
- A-57. Kusne, S., Manez, R., Abu-El Magd, K., Furu Kawa, H., Rinaldo, C.R., St. George, K., Demetris, A.J., Fung, J.J., Todo, S., Starzl, T.E., **Ehrlich, G.D.** Value of CMV DNA detection by polymerase chain reaction in early diagnosis of CMV disease in small bowel allograft samples. American Society of Transplant Physicians. Houston, TX, May 1993.
- A-58. Wadowsky, R.M., Laus, S., Libert, T., States, S.J., and **Ehrlich, G.D.** Inhibition of a polymerase chain reaction-based assay for Bordetella pertussis by a calcium alginate swab. ASM Conference on Molecular Diagnostics and Therapeutics. Jackson Lake Lodge, Moran, WY, September 26-30, 1993.
- A-59. Post, J.C., Preston, R.A., Reagan, D.R., Walker, E.S., and **Ehrlich, G.D.** PCR identification of M. catarrhalis DNA in chronic otitis media with effusion. Minneapolis, MN, September, 1993 (Oral Presentation).
- A-60. Boldt-Houle, D.M., Nigida, S., Rinaldo, C.R., and Ehrlich, G.D. Analyses of the TCR V repertoire in the PBMCs of naive and HIV-1 infected chimpanzees. The First National Conference on Human Retroviruses and Related Infections. Washington, DC, December 12-16, 1993.
- A-61. Laifer, S.A., **Ehrlich, G.D.**, Huff, D.S., Balsan, M.J., and Scantlebury, V.P. Cytomegalovirus infection in offspring of liver transplant recipients. Society of Perinatal Obstetricians Annual Meeting, Las Vegas, NV, January 24-29, 1994.
- A-62. **Ehrlich, G.D.**, Anderson, K.W., Riera, A., Wadowsky, R.M., Preston, Post, J.C. Development of a multiplex-PCR assay for respiratory viruses. Association for Research in Otolaryngology, Midwinter Meeting, St. Petersburg, FL, February, 1994 (Oral Presentation).
- A-63. **Ehrlich, G.D.**, Aul, J.J., Anderson, K.W., Doyle, W.J., Kerber, B., Post, J.C. Time course comparison of Hemophilus Influenzae persistence by culture and PCR in the *chinchilla laniger* middle ear following infection and treatment. Association for Research in Otolaryngology, St. Petersburg, FL, February, 1994 (Oral Presentation).



- A-64. Wadowsky, R.M., Libert, T., Lang, S., and **Ehrlich, G.D.** Multiplex polymerase chain reaction for the detection of *Bordetella pertussis* in nasopharyngeal swab specimen. ASM Annual Meeting, Las Vegas, NV, May, 1994.
- A-65. HIsaacman, D.J., Zhang, Y., Weld, E.R., Wadowsky, R.M., and **Ehrlich, G.D.** A sensitive and specific assay utilizing the polymerase chain reaction for the detection of a *Streptococcus pneumoniae* in blood. The Society for Pediatric Research Annual Meeting, Seattle, WA, May, 1994.
- A-66. Isaacman, D.J., Zhang, Y., Wald, E.R., Reynolds, E.A., and **Ehrlich, G.D.**, Evaluation of a polymerase chain reaction (PCR) based assay for the detection of pneumococcal bacteremia in children. Society of Academic Emergency Medicine, Washington, D.C., May, 1994 (Oral Presentation).
- A-67. Anderson, K.W., Aul, J.J., Wadowsky, R.M., Riera, A., Post, J.C., and **Ehrlich, G.D.** Molecular analysis of pathogens in otitis media with effusion. Pennsylvania Academy of Otolaryngology Head and Neck Surgery Annual Meeting, Harrisburg, PA, June, 1994.
- A-68. Preston, R.A., Post, J.C., Keats, B.J.B., Aston, C.E., Ferrell, R.E., Priest, J., Nouri, N., Losken, H.W., Morris, C.A., Hurtt, M.R., Mulvihill, J.J., and **Ehrlich, G.D.** A gene for Crouzon craniofacial dysostosis maps to the long arm of chromosome 10. European Society of Human Genetics, Late Breaking Science Session, Paris, France, June 4, 1994. (Oral Presentation)
- A-69. Shankarappa, B., Sirko, D.A., Gorry, M., Gupta, P., Rinaldo C.R., and **Ehrlich, G.D.** Amplifying gene sequences using primers with ambiguous termini. Second annual Conference on New Horizons in Gene Amplification Technologies: New Techniques and Applications, San Francisco, CA, June 8-10, 1994.
- A-70. Preston, R.A., Post, J.C., Keats, B.J.B., Aston, C.E., Ferrell, R.E., Priest, J., Nouri, N., Losken, H.W., Morris, C.A., Hurtt, M.R., Mulvihill, J.J., and **Ehrlich, G.D.** The gene for Crouzon craniofacial dysostosis maps to Chromosome 10q25-q26. American Society of Plastic and Reconstructive Surgeons Annual Meeting, San Diego, CA, September 26, 1994. (Oral Presentation)
- A-71. Losken, H.W., Preston, R.A., Post, J.C., Keats, B.J.B., Aston, C.E., Ferrell, R.E., Mulvihill, J.J., and **Ehrlich, G.D.** The gene for Crouzon craniofacial dysostosis maps to Chromosome 10q25-q26. Northeastern Society of Plastic Surgery, October 14, 1994. (Oral Presentation)
- A-72. **Ehrlich, G.D.**, Waman, M. and the Boston Craniosynostosis Group, Preston, R.A., Keats, B.J.B., Aston, C.A., White, G.J., Ferrell, R.E., Losken, H.W., Mulvihill, J.J., Post, J.C. The gene for Crouzon craniofacial dysostosis maps to a 7 centiMorgan region on chromosome 10q in three unrelated kindreds. American Society of Human Genetics Annual Meeting, Montreal, Quebec, CANADA, October 18-22, 1994.
- A-73. Preston, R.A., Warman, M., Gorry, M.C., White, G.J., Hurtt, M.R., Ferrell, R.E., Post, J.C., **Ehrlich, G.D.**, Exclusion of the *PAX2* gene as a candidate gene for Crouzon Craniofacial Dysostosis. American Society of Human Genetics Annual Meeting, Montreal, Quebec, CANADA, October 18-22, 1994.

- A-74. Whitcomb, D.C., Puccion, A.M., Leifer, J.M., Finley, G., **Ehrlich, G.D.**, and Sved, A.F. Pancreatic polypeptide (PP) and peptide YY (PYY) mRNA in the brainstem of rats detected by reverse-transcriptase PCR (RT-PCR). Society for Neuroscience Annual Meeting, Miami Beach, FL, November 13-18, 1994. (Side Presentation)
- A-75. Shankarappa, B., Nichols, H.B., Jr., Gupta, P., Rinaldo, C.R., Jr., Gorry, M.C., Nara, P.L., and **Ehrlich, G.D.** Genotypic clustering of the infecting quasispecies and increased variability at later time points are associated with a more rapid decline of CD4+ cell numbers in HIV-1 Infection. ASM Retrovirology Meeting, Washington, DC, January 16, 1995.
- A-76. Sirko, D.A., Mellors, J.W., and **Ehrlich, G.D.** Hotspots for amino acid changes distant from the V3 loop that confer escape from neutralization by a V3-specific neutralizing antibody. The Second National Conference on Human Retroviruses and Related Infections. Washington, DC, January 29 - February 2, 1995. (Slide Presentation)
- A-77. Boldt-Houle, D.M., Jamieson, B.D., Aldrovandi, G.M., Rinaldo, C.R., Jr., **Ehrlich, G.D.**, and Zack, J.A. T cell receptor V<sub>γ</sub> repertoires in HIV-1 infected SCID-hu mice. The Second National Conference on Human Retroviruses and Related Infections. Washington, DC, January 29 - February 2, 1995. (Side Presentation)
- A-78. Preston, R.A., Zhang, Y., Post, J.C., **Ehrlich, G.D.**, Analyzing candidate genes by long PCR to identify single strand conformational polymorphism for linkage analyses. Association for Research in Otolaryngology, Midwinter Meeting February 5-9, 1995. (Slide Presentation)
- A-79. **Ehrlich, G.D.**, Aul, J.J., White, G.J., Zavoral, T.W., Kerber, B., Tarbari, R., Wadowsky, R.D., Doyle, W.J., Post, J.C. Persistence of DNA in middle-ear effusions of chinchillas as determined by the PCR. Association for Research in Otolaryngology, Midwinter Meeting, February 5-9, 1995. (Slide Presentation)
- A-80. \*\*Post, J.C., Aul, J.J., White, G.J., Wadowsky, R.D., Doyle, W.J., Fireman, P., Skoner, D.P., Buchman, C., **Ehrlich, G.D.** Differential colonization of the human nasopharynx by *Streptococcus pneumoniae* and *Hemophilus influenzae* following Influenza A virus challenge. Association for Research in Otolaryngology, Midwinter Meeting, February 5-9, 1995. (Slide Presentation)
- A-81. Preston, R.A., Armfield, D.R., Zhang, Y., White, G.J., Busslinger, M., Warman, M.L., Post, J.C., **Ehrlich, G.D.** PCR-based screening of a chromosome 10q25-q26 YAC contig for Crouzon syndrome candidate genes. Association for Research in Otolaryngology, Midwinter Meeting, February 5-9, 1995. (Poster)
- A-82. Shoemaker, D.L., Rimmell, F.L., **Ehrlich, G.D.** HPV type predicts prognosis of pediatric laryngeal papillomatosis. American Academy of Otolaryngology Head and Neck Surgery, April, 1995.
- A-83. Post, J.C., Preston, R.A., Warman, M.L., Gorry, M.C., Marazita, M., Walker, N., **Ehrlich, G.D.** Mutational analysis of the fibroblast growth factor receptor type 2 (FGFR2) gene in multiple Crouzon families. American Society for Pediatric Otolaryngology Annual Meeting, Tamarron, CO, May 1995. (Slide Presentation)

- A-84. Post, J.C., Mulvihill, J.J., Ferrell, R., **Ehrlich, G.D.** Report of the international genetic workshop on Crouzon syndrome and other craniofacial syndromes. American Society for Pediatric Otolaryngology Annual Meeting, Tamarron, CO, May 1995. (Slide Presentation)
- A-85. Koehler, M., **Ehrlich, G.D.**, St. George, K., Mirro, S., Rinaldo, C. CMV antigenemia and PCR as indicators for preemptive therapy in bone marrow transplant (BMT) recipients. The 5th International Cytomegalovirus Conference: A Multidisciplinary approach towards controlling CMV Disease. Stockholm, Sweden, May 21-24, 1995. (Poster)
- A-86. Buchman, C.A., Liederman, E., Sirko, D.A., White, G., **Ehrlich, G.D.**, and Post, J.C. Molecular microbiologic analysis of otitis media in adults. Sixth International Symposium on Recent Advances in Otitis Media, Fort Lauderdale, FL, June 4-8, 1995. (Slide Presentation)
- A-87. **Ehrlich, G.D.**, Aul, J.J., White, G.J., Zavoral, T.W., Jr., Kerber, B., Tarbari, R., Wadowsky, R.D., Doyle, W.J., Post, J.C. Persistence of DNA in middle-ear effusions of chinchillas as determined by the PCR. Sixth International Symposium on Recent Advances in Otitis Media, Fort Lauderdale, FL, June 4-8, 1995. (Slide Presentation)
- A-88. Post, J.C., Aul, J.J., White, Wadowsky, R.D., Doyle, W.J., Fireman, P., Skoner, D.P., Buchman, C., **Ehrlich, G.D.** PCR detection of *Streptococcus pneumoniae*, *Hemophilus influenzae* and *Moraxella catarrhalis* via a multiplex assay following Influenza A virus challenge of the human nasopharynx. Sixth International Symposium on Recent Advances in Otitis Media, Fort Lauderdale, FL, June 4-8, 1995. (Slide Presentation)
- A-89. Kenna, M.A., White, G., Wadowsky, R., Post, J.C., **Ehrlich, G.D.** Bacteriology of otorrhea: PCR versus cultures. 6th International Symposium on Recent Advances in Otitis Media, Fort Lauderdale, FL, June 4-8, 1995.
- A-90. **Ehrlich, G.D.** Assignment of developmental genes to specific YACs within contigs spanning a 30cM region of chromosome 10q25-26. First International Workshop on Human Chromosome 10 Mapping. Heraklion CRETE, GREECE. September 29 - October 1, 1995.
- A-91. Losken, H.W., Meunke, M., Post, J.C., and **Ehrlich, G.D.** Gene mutations in craniosynostotic syndromes. VI International Congress of Craniofacial Surgery, Saint Tropez, French Riviera, FRANCE, October 21-24, 1995.
- A-92. St. George, K., Rinaldo, C.R., Jr., **Ehrlich, G.D.**, Mirro, J., Jr., and Koehler, M. Cytomegalovirus (CMV) antigenemia and polymerase chain reaction (PCR) indicators for preemptive therapy in bone marrow transplant recipients. 11th Annual Clinical Virology Symposium and Annual Meeting of the Pan American Group for Rapid Viral Diagnosis, Clearwater, FL.
- A-93. Whitcomb, D.C., Wong-Chong, A., Gates, L., Zhang, Y., White, G.J., Martin, S.P., Ulrich, C.D., Preston, R.A., and **Ehrlich, G.D.** Hereditary pancreatitis (HP): Exclusion of an association with the immunohistocompatibility groups, immune system modulators, complement system and detoxifying enzymes on chromosome 6 by genetic linkage analysis. National Pancreas Meeting. Chicago, IL, November 2, 1995.

- A-94. Stanley, J.J., Robinson, R.A., Post, J.C., **Ehrlich, G.D.**, and Smith, R.J.H. Viral coinfections in pediatric respiratory papillomatosis. The American Laryngological Association.
- A-95. Dolor, M., Beyer, A., **Ehrlich, G.**, Gupta, P., Libert, T., and Wadowsky R.M. Comparison of Multiplex PCR-Based Assay and Culture for the Detection of *Mycoplasma pneumoniae* in Seeded Pleural Fluid Specimens. Annual American Society for Microbiology Meeting, November 13, 1996.
- A-96. Strom, S.C., Cooper, D.L., and **Ehrlich, G.D.** Isolation, culture and infection of human hepatocytes with hepatitis C. Keystone Symposia on Hepatitis C and Beyond, Burlington, VT, January 23-29, 1996.
- A-97. Wadowsky, Robert M., Liberts, Therese., Kingsley, Larry., Michaels, Richard H., and **Ehrlich, G.D.** Multiplex polymerase chain reaction-based assay for the detection of bordetella pertussis in nasopharyngeal swab specimens. 1996 Society for Pediatric Research. Washington D.C., May 10, 1996.
- A-98. Sossenheimer, M., Wood, P., Gates, L., Martin, S., Ulrich, C., **Ehrlich, G.D.**, Whitcomb, D. Report of the clinical characteristics of the largest to date known kindred with hereditary pancreatitis (HP). ACG National Fellows' Forum, April 11-14, 1996.
- A-99. Szeremeta, W., Post, J.C., White G.J., and **Ehrlich, G.D.** The molecular biology of chronic sinusitis and adenoiditis. Association for Research in Otolaryngology, Mid-Winter Meeting, St. Petersburg Beach, FL, February 4-8, 1996.
- A-100. Rabinovitz, M. and **Ehrlich, G.D.** HCV-RNA in peripheral blood mononuclear cells (PBM) predicts outcome after  $\alpha$ -interferon (IFN) treatment of chronic hepatitis C. American Association for the Study of Liver Diseases. Chicago, IL, November 8-12, 1996.
- A-101 Kane, J.M. III, Shears, L.L., Hierholzer, C., **Ehrlich, G.D.**, Billiar, T.R., Mitchell, C., and Posner, M.C. Nitric oxide synthase induction as a potential mechanism for carcinogenesis in human hepatitis. Society of Surgical Oncology, Atlanta, Ga 1996.
- A-102. Aul, J.J., and **Ehrlich, G.D.** Molecular Analysis of Bacterial Pathogens in Otitis Media. Fifth Annual Pathology Research Presentation. Pittsburgh, PA, 1994.
- A-103. Aul, J.J., and **Ehrlich, G.D.** Differential Colonization of the Human Nasopharynx Following Influenzae Virus Challenge. The Sixth Annual Pathology Research Presentation. Pittsburgh, PA, 1995.
- A-104. Raynor, M., Zhang, Y., Gorry, M.C., Post, J.C., and **Ehrlich, G.D.** Evidence of bacterial metabolic activity in culture-negative pediatric effusions from chronic and recurrent otitis media. ARO Midwinter Meeting, St. Petersburg Beach, Florida, February 1-6, 1997. (Slide Presentation).
- A-105. Zhang Y., Gorry, M.C., Post, J.C., and **Ehrlich, G.D.** Genomic structure of the Fibroblast Growth Factor Receptor 2 (FGFR2) human gene and characterization of its promoter. ARO Midwinter Meeting, St. Petersburg Beach, Florida, February 1-6, 1997. (Slide Presentation).

- A-106. Achkar, J.P., Li, H.S., Whitcomb, D.C., Wood, P.G., Lee, R.G., **Ehrlich, G.D.** Luketich, J.D., Kim, R. Identification of differentially expressed genes in the progression of Barrett's Epithelium to Esophageal Adenocarcinoma. Annual Meeting of the American Gastroenterological Association and American Association for the Study of Liver Diseases, May 11-14, 1997.

- A-107. Li, H.S., Achkar, J.P., Kim, R., Wood, P.G., Lee, R.G., **Ehrlich, G.D.**, Luketich, J.D., Whitcomb, D.C. Altered gene expression in the metaplastic change to Barrett's Epithelium. Annual Meeting of American Gastroenterological Association and American Association for the Study of Liver Disease, May 11-14, 1997.
- A-108. Duerr, R.H., Zhang, L., Preston, R.A., Davis, S., Weeks, D.E., Chensny, L.J., Brown, J.L., Aston, C.E., Barmada, M.M., and **Ehrlich, G.D.** Further evidence for an Inflammatory Bowel Disease susceptibility locus on Chromosome 12. Annual Meeting of American Gastroenterological Association and American Association for the Study of Liver Diseases, May 11-14, 1996.
- A-109. Gabbaiadeh, D., Gates, L., Ulrich, C.D., Sossenheimer, M., Gorrry, M., Zhang, Y., Preston, R., **Ehrlich, G.D.**, and Whitcomb, D.C. Clinical Features of Hereditary Pancreatitis in a Family with a New Genotype. Annual Meeting of American Gastroenterological Association and American Association for the Study of Liver Diseases, May 11-14, 1997.
- A-110. Michael, M.G., Alcendor, D., St. George, K., Hayward, G., **Ehrlich, G.D.**, Becich, M., and Rinaldo, C. Distinguishing Baboon CMV from Human CMV: Importance for Xenotransplantation. The American Society of Transplant Physicians' Fifteenth Annual Meeting, May 10-14, 1997.
- A-111. Marshall, D.J., Heisler, L., Olive, M., Voelkerding, K.V., Sabatini, L.M., **Ehrlich, G.D.**, Neri, B., and de Arudra, M. Evaluation of Cleavase7 Fragment Length Polymorphism for Hepatitis C Genotyping using 5'UTR cDNAs Derived from Seropositive Patients. The American Society of Microbiology, May, 1997.
- A-112. Amann, S.T., Gates, L.K., **Ehrlich, G.D.**, and Whitcomb, D.C. Nonpenetrance of the Hereditary Pancreatitis Phenotype may be Independent of Genotype: A Study of Monozygotic Twins. The First International Symposium on Hereditary Pancreatitis, Pittsburgh, PA, April 5-6, 1997.
- A-113. Li, H.S., Deng, X., Wood, P.G., Guarrita, D.R., **Ehrlich, G.D.**, and Whitcomb, D.C. Alcohol Ingestion Leads to Changes in Gene Expression in the Pancreas and Key Secretory Control Sites in Rats. Annual Meeting of American Gastroenterological Association and American Association for the Study of Liver Diseases, May 11-14, 1997.
- A-114. Gorrry, M.C., Whitcomb, D.C., Gates, L.K. Jr., Ulrich II, C.D., Zhang, Y., Preston, R., and **Ehrlich, G.D.** Hereditary Pancreatitis is Association with Multiple Mutations in the Cationic Trypsinogen Gene. Annual Meeting of American Gastroenterological Association and American Association for the Study of Liver Diseases, May 11-14, 1997.
- A-115. Dingman, J., Rayner, M., Aul, J., Costerton, W., Gorrry, M., Stutz, J., Laddis, D., Post, J.C., and **Ehrlich, G.D.** Otitis Media with Effusion as a Biofilm Disease. Allegheny University of the Health Sciences Second Annual Research Conference, October 8-9, 1997, King of Prussia, Pennsylvania.

- A-116. Hu, F.Z., Darden, D.L., Gorry, M.C., Dressman, D., Li, H., Whitcomb, D.C., Dohar, J., and **Ehrlich, G.D.** Identification of genes differentially expressed in a scarless model of wound healing. Allegheny University of the Health Sciences Second Annual Research Conference, October 8-9, 1997, King of Prussia, Pennsylvania.
- A-117. Dingman, J., Rayner, M., Aul, J., Costerton, W., Gorry, M., Stutz, J., Laddis, D., Post, J.C., and **Ehrlich, G.D.** Otitis Media with Effusion as a Biofilm Disease. ARO Midwinter Meeting, St. Petersburg Beach, Florida, February 15-19, 1998
- A-118. Hu, F.Z., Darden, D.L., Gorry, M.C., Dressman, D., Li, H., Whitcomb, D.C., Dohar, J., and **Ehrlich, G.D.** Identification of genes differentially expressed in a scarless model of wound healing. ARO Midwinter Meeting, St. Petersburg Beach, Florida, February 15-19, 1998
- A-119. Post, J.C., and **Ehrlich, G.D.**: Biofilms and infectious disease. Presented at the Bioengineering: Building the Future of Biology and Medicine, The Bioengineering Consortium of the National Institutes of Health (BECON) – *Poster Presentation*, Bethesda, Maryland, February 27-28, 1998.
- A-120. Hu, F.Z., Preston, R.A., White, G.J., Kikuchi, L., Allen, G., Neiswanger, K., Stiffler, R., Self, T., PAGER, **Ehrlich, G.D.**, and Post, J.C. Gene mapping of severe pediatric gastroesophageal reflux. Annual Mid-winter Meeting of the Association for Research in Otolaryngology, St. Petersburg Beach, Florida, February 14, 1999.
- A-121. **Garth D. Ehrlich**, Howard Hoffman, Ronald Zilkie, Gregory White, Fen Ze Hu, Robert Vigarido, J. Christopher Post Molecular Epidemiological Studies Of Common Bacterial And Viral Respiratory Pathogens In SIDS & the International Symposium on Recent Advances in Otitis Media. Ft. Lauderdale, FL, June 1999.
- A-122. Sweeney, M., Hayes, J.D., and **Ehrlich, G.D.** Wounds that heal without scars – An Investigation with differential display. Pittsburgh Tissue Engineering Initiative 1999 Summer Internship Program. Pittsburgh, PA August 11, 1999.
- A-123. Hayes, D., Veeh, R., Wang, X., Costerton, W.J., Post, J.C. and **Ehrlich, G.D.** Bacterial biofilms in otitis media: direct imaging of biofilm on middle-ear mucosa and tympanostomy tube. Biofilms 2000 (ASM) Big Sky, Montana, July 16-20, 2000.
- A-124. Wang, X., Hu, Z.F., Daigle, B., Post, J.C., and **Ehrlich, G.D.** Evidence of de novo bacterial biosynthesis in culture-negative OME. Biofilms 2000 (ASM) Big Sky, Montana, July 16-20, 2000
- A-125^ Francis X. Schneck, Robert A. Preston, Fen Z. Hu, Daniel Herz, Michael Barmada, Christopher Aston, J. Christopher Post, and **Garth D. Ehrlich Putative Mapping of a Gene for Vesicoureteral Reflux to Chromosome 11.** American Academy of Pediatrics Annual Meeting – Urology Section. Chicago, IL October 31, 2000.
- A-126 J. H. Chow, F. P. Duncanson, Sandra Johnson, Jay Hayes, J.C. Post, M. W. Dunne. Polymerase Chain Reaction Testing of Middle Ear Fluid in Pediatric Patients with Acute Otitis Media Treated with Single Dose Azithromycin ICAAC, 2000.

- A-127 **G. D. Ehrlich**, J Hayes, R. Veeh, F. Z. Hu, X. Wang, and J. W. Costerton. Direct Electronmicrographic Imaging of Biofilms on the Middle-ear Mucosa. Annual Mid-winter Meeting of the Association for Research in Otolaryngology, St. Petersburg Beach, Florida, February 6, 2001.
- A-128 S. Kathju, C. Rabik, X. Wang, J. Hayes, G. J. White, S. Johnson, F. Z. Hu, J. ., and **G. D. Ehrlich**. Molecular Analysis of Scarless Fetal Wound Healing. Annual Mid-winter Meeting of the Association for Research in Otolaryngology, St. Petersburg Beach, Florida, February 6, 2001
- A-129 Hu, F.Z., Preston, R.A., Johnson, S., Ahmed, A., Gladitz, J., Post, J.C., and **Ehrlich, G.D.** Post-Genomic Strategy for the Positional Cloning of the Gene for Severe Pediatric GERD. American College of Gastroenterology, Las Vegas, Nevada, October 20-24, 2001
- A-130 Erdos, G., P. Antalis, S. Sayeed, J. Hayes, J.C. Post, **G.D. Ehrlich**. Changing Gene Expression Patterns in Biofilm-Forming *P. aeruginosa*, a Major Pathogen of Otorrhea., Annual Mid-winter Meeting of the Association for Research in Otolaryngology, St. Petersburg Beach, Florida, January , 2002
- A-131 Kathju, S. et al. Annual Mid-winter Meeting of the Association for Research in Otolaryngology, St. Petersburg Beach, Florida, January 2002
- A-132 F.Z. Hu, A. Nyström, A. Ahmed, R. Dopico, I. Mossberg, M. Palmquist, J. Gladitz, M. Rayner, J.C. Post, R.A. Preston, and **G.D. Ehrlich**. Mapping a Gene for Dupuytren Contracture in Two Swedish Families. American Society for Human Genetics Annual Meeting, Baltimore, MD, October 15-19, 2002
- A-134 Nystrom, A., and **Ehrlich G.D.** Goteburg, Sweden November 2002
- A-135 Nystrom, A., and **Ehrlich, G.D.** Goteburg, Sweden November 2002
- A-136 G. Erdos, S. Sayeed, K. Shen, P. Antalis, J. Hayes, J. Goodwin, F. Hu, J.C. Post, and **G.D. Ehrlich**. Genomic Plasticity and Shifting Gene Expression Patterns in Biofilm Forming *Pseudomonas aeruginosa*, a Pathogen of Otorrhea. ARO Midwinter Meeting, Daytona Beach Florida, February 22-27, 2003.
- A-137 Dohar JE, Hebda PA, Veeh R, Banks J, Hake H, Hayes JD, Costerton JW, **Ehrlich GD**: Biofilm Formation in Chronic Suppurative Otitis Media (CSOM)-a Primate Model . American Society of Pediatric Otolaryngology 2003 Annual Meeting
- A-138 **G. D. Ehrlich**, V. Weedn, S. Kathju, J. Peterson, N. Balaban, M. Shirtliff, C. Post, Q. Lin, P. Leduc, F. Z. Hu, T. Kaiser, J. Becker, N. Sotereanos, W. Costerton. Development of Intelligent Implants for Biofilm Prevention in Orthopedic Prostheses. ASM Conference on Bio-, Micro-, and Nanosystems, New York, New York July 7-10, 2003.



- A-139 Neft E., Abdulally, A, Post J.C., **Ehrlich, G.D.**, and Kathju, S. Identification of a novel gene product expressed during scarless healing in a rabbit wound model. Pittsburgh Tissue Engineering Initiative Summer Intern Symposium, Pittsburgh, PA August 8, 2003.
- A140 **Ehrlich, G.D.** The distributed genome hypothesis explains many facets of persistence in chronic infections. ASM Conferences: Biofilms 2003, Victoria, BC CANADA, November 1-6, 2003, p20
- A-140 Donfack J., Hu Z.F., Amed A., Dopico R., Post J.C., **Ehrlich G.D.**, Preston R.A. Fine Mapping a Gene For Severe Pediatric Gastroesophageal Reflux On Human Chromosome 13q14. 53rd Annual Meeting of the American Society of Human Genetics. Poster # 1874/T. Los Angeles, California, November 4 - 8, 2003
- A-141 Antalis, P., Gladitz, J., Shen, K., Hu, F.Z., Sayeed, S., Hayes, J., Ahmed, A., Johnson, S., Dopico, R., Chong, W., Goodwim, J., Singh, M., Post, J.C., **Ehrlich, G.D.**, and Erdos, G. Demonstration of Extensive Genomic Plasticity among Clinical Isolates of Haemophilus influenzae and Evidence for a Population-based Supra-Genome. ASM Biofilms 2003 Victoria Island, BC CANADA, Oct 31-Nov 2, 2003
- A-142 Gladitz, J. Antalis, P., Erdos, G., and **Ehrlich G.** Least Squares Fitting Approach To Codon Analysis. ASM Biofilms 2003 Victoria Island, BC CANADA, Oct 31-Nov 2, 2003.
- A-143 Erdos, G., Donfack, J., Hayes, J., Ahmed, A., Keefe, R., Hu, F.Z., Post, J.C., **Ehrlich, G.D.** Expression of Leukotriene signalling Pathways Genes in Normal and Inflamed Middle-Ear Mucosa in the Chinchilla Model of Otitis Media. ARO Midwinter Research Meeting, Daytona Beach, FL., February 21-26, 2004 (Abs# 294).
- A-144 Kathju, S., Oswald, D., Erdos, G., Singh, M., Post, J.C., and **Ehrlich, G.D.** Construction, Characterization, and Interrogation of a Microarray Specific to Healing Fetal Wounds. ARO Midwinter Research Meeting, Daytona Beach, FL., February 21-26, 2004 (Abs# 1048).
- A-145 Singh, M. K., LaFramboise, W.A., Hu, F.Z., Scott, T.F., Post, J.C., **Ehrlich, G.D.** Gene Expression changes in peripheral blood mononuclear cells from Multiple Sclerosis patients undergoing  $\beta$ -interferon. 56th Annual Meeting of the American Academy of Neurology. April 2004.
- A-146 Magee C. Allegrucci1, Christopher J. Post, **Garth D. Ehrlich**, Karin Sauer Characterization of Streptococcus pneumoniae Biofilm Formation. American Society of Microbiology Annual Meeting May 23-27, 2004.
- A-147 Levenson, J.E., Erdos, G.E., Post, J.C., and **Ehrlich, G.D.** Bacterial Biofilms Represent a Unique Tissue. Pittsburgh Tissue Engineering Initiative Summer Intern Symposium, Pittsburgh, PA August 6, 2004.
- A-148 **Ehrlich, G.D.** Bacterial Plurality: New Paradigms In Chronic Infection Explain Past Treatment Failures. NIDCD Council Meeting, September 10, 2004, Bethesda, MD.
- A-149 Erdosne-Toth, E., Post, J.C. and **Ehrlich, G.D.** At the "Elbows of Scientists": Changes in

Content Knowledge and Confidence during Teacher Professional Development. 3rd Annual Hawaii International Conference on Education, 2005, Honolulu, Hawaii.

- A-150 Erdosne-Toth, E., Post, J.C. and **Ehrlich, G.D.** Students' Reasoning about Genetic Technologies: Prior Beliefs, Peers and Knowledge Representations. Proceedings of the NARST 2005 Annual Meeting, Dallas, TX.
- A-151 Azad I Ahmed, Kai Shen, **Garth D. Ehrlich**, Mandal Singh, Richard Dopico, Erica Schleifman, Robert A. Preston, Sandeep Kathju, Rosemary J. Redfield, J. Christopher Post, Fen Ze Hu. Investigating the role of the com Operon in Competence and Transformation in *Hemophilus influenzae*. Association for Research in Otolaryngology Annual Midwinter Meeting, New Orleans, LA, February 19-14, 2005.
- A-152 Luanne Hall-Stoodley, Joshua Levenson, Bethany Dice, Paul Stoodley, Fen Ze Hu, Laura Nistico, Patricia Antalis, Nathan Ehrlich, Jay Hayes, J. Christopher Post, **Garth D. Ehrlich** and Geza Erdos. *Pseudomonas aeruginosa* Fluorescent Protein Reporter Vectors and the Investigation of Biofilm Formation. Association for Research in Otolaryngology Annual Midwinter Meeting, New Orleans, LA, February 19-14, 2005.
- A-153 Farrel J. Buchinsky, Joseph Donfack, J. Christopher Post, Craig S. Derkay, Suzanne M. Leal, Stephen Conley, Sukgui Choi, **Garth Ehrlich**: Two mutations in *Epidermodysplasia Verruciformis* 1 (EVER1) gene are not contributors to the susceptibility to RRP. Association for Research in Otolaryngology Annual Midwinter Meeting, New Orleans, LA, February 19-14, 2005.
- A-154 Fen Hu et al. *Pneumococcal Biofilms and the Bacterial Plurality*. Association for Research in Otolaryngology Annual Midwinter Meeting, New Orleans, LA, February 19-14, 2005.
- A-155 Forbes ML, Hayes J, Buchinsky F, Hu FZ, Post JC **Ehrlich GD**. Association between pathogenicity and genic diversity in *Hemophilus influenzae* and *Streptococcus pneumoniae*. Association for Research in Otolaryngology Annual Midwinter Meeting, New Orleans, LA, February 19-14, 2005.
- A-156 Kai Shen, Patricia Antalis, Azad Ahmed, John Gladitz, Shujun Yu, Sameera Sayeed, Jay Hayes, Bethany Dice, Richard Dopico, Benjamin Janto, Sandra Johnson, Randy Keefe, Geza Erdos, Robert A. Preston, Robert W. Wadowsky, J. Christopher Post, **Garth D. Ehrlich**, and Fen Z. Hu. Distribution of Novel (nonRd) Genes in 10 Clinical Isolates of *Haemophilus influenzae* and Novel (nonPA01) Genes in 12 Isolates of *Pseudomonas aeruginosa* from Pediatric Chronic Otitis Media Specimens. Association for Research in Otolaryngology Annual Midwinter Meeting, New Orleans, LA, February 19-14, 2005.
- A-157 Kathju, S., et al. Association for Research in Otolaryngology Annual Midwinter Meeting, New Orleans, LA, February 19-14, 2005.
- A-158 Joseph E. Kerschner, M.D.(1, 2), T. Roxanne Link, A.P.N.P.(1, 2), Amy Burrows, M.S. (2). Otitis Media as a Biofilm Disease in Humans. American Society for Pediatric Otolaryngology Annual Meeting Las Vegas Nevada, April 2005.
- A-159 Stoodley, P., Hall-Stoodley, L., Hu, F.Z., Kerschner, J.E., Post, J.C., and **Ehrlich, G.D.** Bacterial Biofilms: From the Environment to Infectious Disease. Fifth Extraordinary

International Meeting on Otitis Media, Amsterdam, The NETHERLANDS, April 24-27, 2005.

- A-160 Roger S. Lasken<sup>1</sup>, Arumugham Raghunathan, Luanne Stoodley, Paul Stoodley, Laura Nistico, Jay Hayes, **Garth D. Ehrlich**. Whole genome amplification from individual *H. influenzae* cells by the Multiple Displacement Amplification reaction. Fifth Extraordinary International Meeting on Otitis Media, Amsterdam, The NETHERLANDS, April 24-27, 2005.
- A-161 Kerschner, K.E., Link, T.R., Burrows, A., Hu, F.Z., Hall-Stoodley, L., Nistico, L., Stoodley, P., **Ehrlich, G.D.**, Post, J.C. Otitis Media as a Biofilm Disease in Humans. Fifth Extraordinary International Meeting on Otitis Media, Amsterdam, The NETHERLANDS, April 24-27, 2005.
- A-162 Forbes M, Hayes J, Post C, and **Ehrlich G**. Stratification of *S. pneumoniae* Virulence Patterns in a Chinchilla Model of Otitis Media. 2005 PAS and Eastern SPR Annual Meetings
- A-163 Allegrucci, M.C., Post, C.J., **Ehrlich, G.D.**, Sauer, K. Analysis of *Streptococcus pneumoniae* Capsule Serotypes on Biofilm Development. American Society for Microbiology Annual Meeting, Atlanta GA June 2005.
- A-164 Stoodley, P, **Ehrlich, G.D.**, Costerton, J.W. Evidence for a short-range signaling system involved in active seeding dispersal from *Pseudomonas aeruginosa* biofilms. 2nd ASM Conference on Prokaryotic Development
- A-165 Stoodley, P., Hall-Stoodley, L., Gieseke, A., Hu, F.Z., Kathju, S., Kerschner, J., Post, J.C., and **Ehrlich, G.D.** Imaging and diagnosing bacterial biofilm infections associated with host tissue and foreign bodies. Bugs and BioMaterials: Bacteria and the Interface, UWEB 2005 Summer Symposium. Seattle, WA August 24-26, 2005.
- A-166 Kerschner, J., et al. Mucin gene exploration and identification in middle ear epithelium. Association for Research in Otolaryngology Annual Midwinter Meeting, 2006.
- A-167 Shen, K., Gladitz, J., Antalis, P., Yu, S., Ahmed, A., Dice, B., Janto, B., Keefe, R., Dopico, R., Sayeed, S., Montgomery, R., Hogg, J., Swierczek, N., Ehrlich, N., Jocz, J., Kropp, L., Wong, R., Hayes, J., Johnson, S., Preston, R.A., Post, J.C., **Ehrlich, G.D.**, AND Hu, F.Z. Differential Expression of Genes in *in vitro* Biofilm and Planktonic *Pseudomonas aeruginosa* Strains Isolated from Pediatric Chronic Otitis Media Specimens. American Society for Microbiology Annual Meeting, Orlando FL, May 2006
- A-168 Hu, F.Z., Hogg, J., Janto, B., Gladitz, J., Shen, K., Swierczek, N., Forbes, M., Hayes, J., Dice, B., Keefe, R., Ahmed, A., Yu, S., Nistico, L., Boissy, R., Buchinsky, F., Post, J.C., and **Ehrlich, G.D.** Evidence of A Pneumococcal Supragenome: Complete Genomic Sequencing and Virulence Phenotyping of Eight Low-Passage Clinical Isolates. American Society for Microbiology Annual Meeting, Orlando FL, May 2006
- A-169 Hall-Stoodley, L., Mehta, A., Mehta, A., Nistico, L., Costerton, J.W., **Ehrlich, G.D.**, Stoodley, P. 3D visualization and quantification of the biofilm EPS matrix and the formation of complex tertiary structures.

- A-170 Kerschner JE, Burrows A, Cioffi JA, Erdos G, Hu FZ, Hayes J, Keefe R, Janto B, Post JC, **Ehrlich GD**. Chinchilla Middle Ear cDNA Library Investigation. Association for Research in Otolaryngology – 30th Annual Midwinter Meeting, Denver Colorado, February 10-15, 2007
- A-171 Stoodley P, Kathju S, Nistico L, Hall-Stoodley L, Gieseke A, Coticchia JM, Baratz M, Kerschner JE, Liu Y, Post JC, and **Ehrlich GD**. Bacterial Biofilms: Standards for Clinical Diagnostics. Are we there Yet? Plenary Session Talk. 4<sup>th</sup> ASM Conference on Biofilms, March 26, 2007, Quebec, QC, CANADA.
- A-172 Richards LA, Grau BL, Ehrlich GD, and Stewart PS. Investigations of Dormant Cells in *Pseudomonas aeruginosa* Biofilms. Poster. 4<sup>th</sup> ASM Conference on Biofilms, March 25-29, 2007, Quebec, QC, CANADA
- A-173 Nistico L, Hall-Stoodley L, Stoodley P, Gieseke A, Coticchia JM, Baratz M, Kathju S, Kerschner JE, Liu Y, Post JC, and **Ehrlich GD**. Poster. Imaging Biofilms in Clinical Samples. 4<sup>th</sup> ASM Conference on Biofilms, March 25-29, 2007, Quebec, QC, CANADA
- A-174 von Ohle C, Gieseke A, Nistico L, Nguyen D, Decker L, **Ehrlich G**, and Stoodley P. Microsensor Measurements of Local Metabolic Activity in *ex vivo* Dental Biofilms Treated with Chlorhexidine. 4<sup>th</sup> ASM Conference on Biofilms, March 25-29, 2007, Quebec, QC, CANADA
- A-175 Mehta, N.S., Dice, B., Hillman, T., Hiller, L., Ahmed, A., Hogg, J., Buchinsky, F., Eutsey, R., Longwell, M., Post, J.C., Ehrlich, G.D. and Hu, F.Z. Augmentation of Virulence in Two Oxidoreductase Mutants of *Streptococcus pneumoniae*. 107th General Meeting of the American Society for Microbiology, May 21-25, 2007, Toronto CANADA.
- A-176 Janto, B., Hiller, N.L., Hogg, J., Boissy, R., Gladitz, J., Swierczek, N., Ahmed, A., Keefe, R., Hu, F.Z., and Ehrlich G.D. Whole Genome Sequencing and Comparison of Two Strains of Pathogenic NTHi. 107th General Meeting of the American Society for Microbiology, May 21-25, 2007, Toronto CANADA.
- A-177 Hall-Stoodley, L., Nistico, L., Nguyen, D., Hayes, J., Hu, F.Z., Post, J.C., Ehrlich, G.D., and Stoodley, P. Clinically Relevant Strains of *Streptococcus pneumoniae* Form Biofilms and Exhibit Variability in the Extent of Polysaccharide Matrix Production and Resistance to Antibiotics. 107th General Meeting of the American Society for Microbiology, May 21-25, 2007, Toronto CANADA.
- A-178 Hiller, N.L., Hogg, J.S., Janto, B., Bennett, J., Eutsey, R., Horsey, E., Ahmed, A., Ehrlich, G.D., and Hu, F.Z. Identification of a Host-Interacting Protein Family in *Haemophilus influenzae*. 107th General Meeting of the American Society for Microbiology, May 21-25, 2007, Toronto CANADA.
- A-179 Nistico, L., Gieseke, A., Coticchia, J.M., Burrows, A., Khampang, **P.**, Kerschner, J.E., Post, J.C. Ehrlich, G.D., Stoodley, P., and Hall-Stoodley, L. Localization of upper respiratory pathogens in pediatric adenoids exhibits biofilm formation. 107th General Meeting of the American Society for Microbiology, May 21-25, 2007, Toronto CANADA.

A-180 Ehrlich N, Janto B, Hayes J, Hu F, Stothard P, Post JC, Ehrlich GD, Singh P, Greenberg P, Boissy RJ. Comparative Genomics of *Pseudomonas aeruginosa* PKS6, a Mutant Derivative of PA01 that Displays a Hyper-Dispersive Phenotype after Biofilm Formation. 107th General Meeting of the American Society for Microbiology, Toronto, Canada, May 21-25, 2007.

- A-181 Ahmed A., Shen K., Mehta N., Dice B., Hiller L., Hillman T., Keefe R., Janto B., Hayes J., Kathju S., Post J.C., Ehrlich G.D., and Hu F.Z. Identification of NTHi Barrier Strains for the Prevention of Otitis Media 107th General Meeting of the American Society for Microbiology, May 21-25, 2007, Toronto CANADA.
- A-182 Hall-Stoodley L, Mehta A, Mehta A, Nistico L, Nguyen D, Ehrlich GD, Stoodley P. A Novel Method for 3D Visualization and Quantification of the Biofilm Slime Matrix Reveals Complex Tertiary Structures. 107th General Meeting of the American Society for Microbiology, Toronto, Canada, May 21-25, 2007.
- A-183 Ehrlich, G.D. The Biofilm Paradigm and the Distributed Genome Hypothesis Provide a useful Rubric for the Study of Chronic Bacterial Infections such as Otitis Media with Effusion, Abstract MS10, 9th International Symposium on Recent Advances in Otitis Media, scheduled to take place June 3 – 7, 2007, in St. Pete Beach, Florida, USA.
- A-184 Hu, F.Z., Hogg, J., Hiller, N.L., Janto, B., Boissy R., Post, J.C., and Ehrlich, G.D. Biofilms as Bacterial Breeding Grounds: A Counterpoint to the Adaptive Host Response. Abstract MS15 9th International Symposium on Recent Advances in Otitis Media, scheduled to take place June 3 – 7, 2007, in St. Pete Beach, Florida, USA.

\*Awarded best presentation of meeting

HSelected for press release

\*\*Selected for highlight presentation

^First Prize Research Award

## MEETINGS ORGANIZED

**Molecular Pathology: A workshop in Molecular Diagnostics-sponsored by UAREP (for the creation of the Association for Molecular Pathology).** November 11-13, 1994, Bethesda, MD. **Garth D. Ehrlich** - organizing committee member.

**International Genetic Workshop on Crouzon and other Craniofacial Disorders.** March 10 - 11, 1995, Sheraton Hotel at Station Square, Pittsburgh, PA. **Garth D. Ehrlich**, J. Christopher Post, and John J. Mulvihill - Directors.

**First International Symposium on Hereditary Pancreatitis.** April 5-6, 1997, Sheraton Hotel at Station Square, Pittsburgh, PA. Course Directors: David C. Whitcomb, **Garth D. Ehrlich**, J. Christopher Post.

**New Paradigms in Infectious Disease: Applications to Otitis Media.** October 13-15, 2000, Marriott City Center, Pittsburgh, PA. Course Directors: **Garth D. Ehrlich**, J. Christopher Post, and J. William Costerton

**Dean's Symposium on Genetic Testing in Medicine.** March 26, 2001, Allegheny General Hospital/MCP-Hahnemann University School of Medicine. Allegheny General Hospital, Pittsburgh PA. Symposium Director: **Garth D. Ehrlich.**

**Medical Biofilms 2002.** March 17-19 2002, Keio Plaza Hotel, Tokyo Japan . Member Scientific Advisory Committee

**Intelligent Implants – Designing a Self-Monitoring and Dosing Orthopedic Prosthesis.** April 11-12, 2003, Big Sky Conference Center, Big Sky Montana. Conference Organizers: **Garth D. Ehrlich** and J. William Costerton.

**New Paradigms in Chronic Infectious Disease II.** Spring 2009 Sao Paulo Brazil



## SPEAKING ENGAGEMENTS

### KEYNOTE ADDRESSES

- K-1 **Ehrlich, G.D.** Transferring DNA probe-based assays from the research laboratory to the medical clinic. American Society for Microbiology, Arizona Chapter, April 6, 1991.
- K-2# **Ehrlich, G.D.** The Technology and Application of PCR-based Gene Diagnostics in the Clinical Laboratory, Xian, CHINA, May 28, 1998.
- K-3# **Ehrlich, G.D.** The Biofilm Paradigm Explains many Features of Chronic Bacterial Infections. Twenty fifth Silver Jubilee Annual Conference of Indian Association of Medical Microbiologists. New Delhi, INDIA November 24, 2001.
- K-4# **Ehrlich, G.D.** The Genetics of Craniofacial Development. World ENT Congress (IFOS 2002), Cairo, EGYPT. October 1, 2002.
- K-5# **Ehrlich, G.D.** Strategies to Identify Tissue-Specific Virulence Genes among the Nontypeable *Haemophilus influenzae* using the Rubric of Bacterial Plurality. Symposium on Functional Genomics of Infectious Disease and Inflammation, Giessen, GERMANY, June 20-July2, 2006.
- K-6# **Ehrlich, G.D.** *Lettura Magistale* - Bacterial Plurality: Development of a New Rubric for Understanding chronic infections and incorporating anti-biofilm strategies into implantable devices - *Infezioni in ortopedia e traumatologia: Biofilm e Nuave Strategie di Prevenzione, Diagnosi e Trattamento*. Naples ITALY, September 30, 2006.

### # INTERNATIONAL PRESENTATION

### SESSION CONVENER/CHAIRMAN

- SC-1 **Ehrlich, G.D.:** American Society of Microbiology Conference on biotechnology. Session on Human Retroviruses and AIDS - June 27-30, 1991.
- SC-2 **Ehrlich, G.D.** Association of Medical Laboratory Immunologists. Plenary Session on Molecular Methods for Clinical Immunologists. Arlington, VA, August 15, 1992.
- SC-3 **Ehrlich, G.D.** International Genetics workshop on Crouzon and other Craniofacial Disorders. Plenary Session I and Keynote Address, Pittsburgh, PA, March 10, 1995.
- SC-4 **Ehrlich, G.D.,** Voelkerding, K., and Dummler, S. Association for Molecular Pathology. Plenary Session on Infectious Diseases. Minneapolis, MN, November 10, 1995.
- SC-5# **Ehrlich, G.D.,** and Adam, D.: Biennial Conference on Anti-infective agents and chemotherapy otitis media: GlaxoWellcome Symposium. Treatment of Otitis Media, Congress Centre Leipzig, GERMANY. May 3, 1996.

- SC-6# **Ehrlich, G.D.**, and Poole, M.: First World Congress of Pediatric Infectious Disease, GlaxoWellcome Symposium. "Otitis Media: Prospects for Management". Acapulco, MEXICO. December 5, 1996.
- SC-7 **Ehrlich, G.D.**, First International Symposium on Hereditary Pancreatitis. Keynote Speaker, April 5, 1997, Pittsburgh, PA.
- SC-8 **Ehrlich, G.D.**, New Paradigms in Infectious Disease: Applications to Otitis Media. Welcome, Opening Remarks, and Introduction of Keynote Speaker, October 13, 2000, Pittsburgh, PA.
- SC-9 **Ehrlich, G.D. Intelligent Implants – Designing a Self-Monitoring and Dosing Orthopedic Prosthesis.** Welcome, Opening Remarks, and Mission Statement for Meeting. April 11, 2003, Big Sky, Montana.
- SC-10# **Ehrlich, G.D.** and Ford, T. *Environmental Biofilms as a Reservoir for Pathogens*, Biofilms 2003 ASM Conferences, November 3, 2003, Victoria British Columbia, CANADA.
- SC-11# Post, J.C., and **Ehrlich, G.D.** Innovative OM Research – Biofilms and Beyond. 5th Extraordinary International Symposium on Recent Advances in Otitis Media. Grand Hotel Krasnapolsky, 24-27 April 2005, Amsterdam, The Netherlands.
- SC-12 Costerton, J.W. and **Ehrlich, G.D.** Symposium: What bacterial genomes actually exist in real ecosystems, and which genes are actually expressed in natural and pathogenic processes? 106<sup>th</sup> ASM General Meeting, Orlando FL May 21-25, 2006.
- SC-13# **Ehrlich, G.D.** and Kjelleberg, S. Evening Session 3 – Genetic Diversity and Evolution. 4<sup>th</sup> ASM Conference on Biofilms, March 27, 2007, Quebec, QC, CANADA.
- SC-14# **Ehrlich, G.D.** and Kerschner J. Mini Symposium 3: Biofilms in Otitis Media - Thursday, June 7, 8:00 am – 10:00 AM. 9th International Symposium on Recent Advances in Otitis Media, June 3 – 7, 2007, St. Pete Beach, Florida, USA.

#### #INTERNATIONAL PRESENTATION

#### INVITED TALKS

- I-1 **Ehrlich, G.D.:** Strategies for detection and characterization of HTLV-I and related viruses by PCR. PCR Workshop NIAID Bethesda, MD, June 30, 1988.
- I-2 **Ehrlich, G.D.:** Application of DNA probe technology to Medical Science. Medical Grand Rounds, SUNY HSC at Syracuse, Nov. 3, 1988.
- I-3 **Ehrlich, G.D.:** The spectrum of disease associated with human retroviruses: the quest for novel infectious agents. Triton Biosciences, Alameda, CA, January 17, 1989.

- I-4     **Ehrlich, G.D.:** The Use of PCR in the Detection, Characterization, and Quantitation of Human Retrovirus. AACR. San Francisco, May 27, 1989.
- I-5     **Ehrlich, G.D.:** PCR-Based Molecular Diagnostics and Epidemiology of Human Retroviruses. University of Pittsburgh, June 26, 1989.
- I-6     **Ehrlich, G.D.:** Current Topics in AIDS Research: Diagnostics, Epidemiology and Therapeutics. State University of New York, Oswego, August 24, 1989.
- I-7     **Ehrlich, G.D.:** PCR-Based Molecular Diagnostics and Epidemiology of Human Retroviruses. Hoffman LaRoche, Nutley, NJ, September 7, 1989.
- I-8     **Ehrlich, G.D.:** PCR-Based Molecular Diagnostics and Epidemiology of Human Retroviruses. National Institutes of Health, National Cancer Institute, FCRF, Frederick, MD, September 27, 1989.
- I-9     **Ehrlich, G.D.:** Applications of PCR to Identification of Infectious Organisms, Food Pathogens, and Forensic Testing. Syracuse Research Corporation, November 17, 1989.
- I-10    Ehrlich, G.D.: Towards development of Automatable Nonisotopic Detection Strategies for PCR Amplified DNAs. Lifecodes Corporation, April 25, 1990.
- I-11    **Ehrlich, G.D.:** Use of PCR in Diagnosing Retroviral Infection. American Society for Microbiology, Immunology Division Symposia, ASM Annual Meeting, Anaheim, CA, May 16, 1990.
- I-12    **Ehrlich, G.D.:** The Coupling of PCR with Sensitive, Specific, Detection Strategies for Use in the Clinical Laboratory. American Association of Cancer Research Annual Meeting, Washington, D.C. May 26, 1990.
- I-13    **Ehrlich, G.D.:** Towards Development of PCR-based Methodologies for Examination of Retroviral Pathogenesis. American Society for Microbiology Conference on Biotechnology. Chicago, Illinois. June 8, 1990.
- I-14    **Ehrlich, G.D.:** Utilization of PCR-based diagnostics in the Clinical laboratory. Department of Oral Biology, School of Dentistry SUNY at Buffalo, Buffalo, NY Aug. 8, 1990.
- I-15    **Ehrlich, G.D.:** Utilization of PCR-based Technologies: Retroviral Pathogenesis Studies. The Fifth San Diego Conference on Nucleic Acids - New Frontiers, San Diego, CA. Nov. 14-16, 1990.
- I-16    **Ehrlich, G.D.:** PCR-based Clinical Diagnostics. Kodak Corporation, Rochester, NY February 22, 1991
- I-17    **Ehrlich, G.D.:** Using Lessons Learned from Molecular Epidemiology for the Development of PCR-based Clinical Diagnostics. Ohio State University, March 20, 1991.

- I-18    **Ehrlich, G.D.:** PCR-based Approaches to the study of Retroviral Pathogenesis. Transfusion Research Program, Department of Laboratory Medicine, UCSF. April 16, 1991.
- I-19    **Ehrlich, G.D.:** Caveats of the PCR technology for Clinical Diagnosis American Society for Microbiology, Annual Meeting Dallas, TX Group C Symposia May 5, 1991.
- I-20    **Ehrlich, G.D.:** PCR based Molecular Epidemiology of HTLV-I and II. Roswell Park Cancer Institute, Buffalo, NY. July 23, 1991.
- I-21    **Ehrlich, G.D.:** PCR-based Approaches to analyzing HIV pathogenesis. Frederick Cancer Research & Development Center, National Cancer Institute, Frederick, MD. August 7, 1991.
- I-22    **Ehrlich, G.D.:** Establishment of a PCR-based Clinical Diagnostic Facility. Allegheny Singer Institute, Allegheny General Hospital, Pittsburgh, PA. September 23, 1991.
- I-23    **Ehrlich, G.D.:** Designing and conducting PCR-based clinical trials. Cleveland Clinic, Cleveland, Ohio, February 18, 1992.
- I-24    **Ehrlich, G.D.:** Cross sectional examination of TCR V<sub>γ</sub> repertoire in normal and HIV-1 infected subjects. MACS Meeting, Los Angeles, CA. February 23-24, 1992.
- I-25    **Ehrlich, G.D.:** Polymerase Chain Reaction - Processes and Applications. Society for Analytical Chemists of Pittsburgh Symposium: The Role of Analytical Chemistry in Biotechnology, Pittsburgh, PA, April 4, 1992.
- I-26    **Ehrlich, G.D.** Designing and Implementing PCR-based Clinical Trials for the Detection of Infectious Organisms. Association of Medical Laboratory Immunologists, Arlington, VA, August 15, 1992.
- I-27    **Ehrlich, G.D.** Designing and Developing a PCR Facility for Diagnostics and Research. NeMours Children's Hospital, Jacksonville, FL, September, 1992.
- I-28    **Ehrlich, G.D.** Longitudinal examination of TCR V<sub>γ</sub> repertoires in normal and HIV-1 infected subjects. Multicenter AIDS Cohort Study Meeting, Baltimore, MD. October 30, 1992.
- I-29    **Ehrlich, G.D.** Establishing a PCR-based Diagnostic Facility. Oncogenetics, Phoenix, AZ, January 4, 1993.
- I-30    **Ehrlich, G.D.** Design and Implementation of PCR-based Clinical Diagnostics Assays. Becton Dickinson Advanced Diagnostics, Research Triangle, NC. March 10, 1993.
- I-31    **Ehrlich, G.D.** Development of Multiplex PCR-Based Assays for Syndromic Illnesses. TM Technologies, Boston, MA. November 16, 1993.
- I-32    **Ehrlich, G.D.** Basic Strategies Involved in Nucleic Acid Amplification Technologies and their Applications to Molecular Microbiology Laboratories. Molecular Diagnostics Symposia, Pittsburgh, PA. April 20, 1994.

- I-33# **Ehrlich, G.D.** Mapping the Gene for Crouzon Craniofacial Dysostosis and General Methods for the Development of Tightly Linked Markers. Heritage Foundation Lecture, Cross Cancer Institute, Edmonton, Alberta CANADA, June 23, 1994.
- I-34 **Ehrlich, G.D.** Teaching Molecular Pathology to Medical Students. Group for Research in Pathology Education, Annual National Meeting, University of Pittsburgh Medical Center. Pittsburgh, PA. June 30, 1994.
- I-35 **Ehrlich, G.D.** Fine Structure Mapping of the CFD Locus on 10q and assignment of the FGFR2 Gene to a YAC Contig Spanning the CFD Locus. International Genetic Workshop for Crouzon and other Craniofacial Disorders, Pittsburgh, PA, March 10, 1995.
- I-36 **Ehrlich, G.D.** PCR-based Panel Testing for Syndromic Infectious Diseases. Cambridge Healthtech Institute's *Advances in Genetic Diagnostics for Infectious Diseases*. Washington, D.C., April 19, 1995.
- I-37 **Ehrlich, G.D.** Design and Implementation of a PCR-based Diagnostic Facility for Infectious Agents. New York State Department of Health Labs, Albany, NY, May 11, 1995.
- I-38 **Ehrlich, G.D.** Molecular Analyses for Infectious Disease Pathogens in Otitis Media. NIH NIDCD Council Meeting, Bethesda, MD, May 18, 1995.
- I-39 **Ehrlich, G.D.** Utility of PCR-based Diagnostics for CMV in solid organ transplant patients. Association for Molecular Pathology Annual Meeting, Minneapolis, MN, November 10, 1995.
- I-30# **Ehrlich, G.D.** Molecular Diagnostics as a Tool for Understanding Infectious Processes. Hopitaux Universitaires de Geneve, Geneve, SWITZERLAND. April 30, 1996.
- I-41# **Ehrlich, G.D.** Causative Pathogens: Will new diagnostics benefit patients: 6th Bicon Biennial Conference on Anti-infective agents and chemotherapy. Congress Centre Leipzig, GERMANY. May 2-4, 1996.
- I-42 **Ehrlich, G.D.** Is Otitis Media a Biofilm Disease. Center for Biofilm Engineering, Montana State University, November 21, 1996.
- I-43# **Ehrlich, G.D.** How Molecular Microbiology created a new paradigm for understanding Otitis Media, First World Congress of Pediatric Infectious Disease, Acapulco, MEXICO. December 5 1996.
- I-44# **Ehrlich, G.D.** Designing a PCR-based clinical reference lab - Xian, PEOPLES REPUBLIC OF CHINA, April 1, 1997.
- I-45 **Ehrlich, G.D.,** Positional Cloning of the Hereditary Pancreatitis Gene. First International Symposium on Hereditary Pancreatitis, Pittsburgh, PA. April 5, 1997,
- I-46 **Ehrlich, G.D.** Mapping and Cloning of the Gene for Hereditary Pancreatitis, Department of Genetics, Case Western Reserve University, Cleveland, Ohio. April 14, 1997.

- I-47# **Ehrlich, G.D.** Practical Genomics, Agents for Change – Glaxo Wellcome, Verona, ITALY, June 27, 1998.
- I-48 **Ehrlich, G.D.** Discovering the Molecular Basis of Congenital Disorders: FGFR-2 and Craniofacial Syndromes, Children's Hospital Medical Center, Cincinnati, Ohio, November 11, 1998.
- I-49 **Ehrlich, G.D.** The Development of a new Paradigm in Chronic Infectious Diseases through the application of Molecular Diagnostics, Cleveland Clinic, Cleveland Ohio, May 27, 1999.
- I-50# **Ehrlich, G.D.** The Genetics and Physiology of Hereditary Pancreatitis, The Chinese University of Hong Kong, HONG KONG, China, October 5, 1999.
- I-51# **Ehrlich, G.D.** The Genetics and Physiology of Craniosynostotic Syndromes and Hereditary Pancreatitis, West China University of Medical Sciences, Chengdu, Sichuan, CHINA, October 11, 1999.
- I-52# **Ehrlich, G.D.** Functional Promoter Studies of the Human FGFR2 Gene, West China University of Medical Sciences, Chengdu, Sichuan, CHINA, October 12, 1999.
- I-53 **Ehrlich, G.D.** Demonstration of the biofilm phenotype in middle ear infections, *BIOFILMS 2000 – ASM SYMPOSIUM*, Big Sky Montana, July 16-21, 2000.
- I-54 **Ehrlich, G.D.** Molecular Genetics of Pediatric Gastroesophageal Reflux, Sequenom, San Diego, CA, September 25, 2000
- I-55 **Ehrlich, G.D.** Biofilms in Otitis Media, *New Paradigms in Infectious Disease: Applications to Otitis Media*, October 14, 2000, Pittsburgh, PA
- I-56# **Ehrlich, G.D.** Strategies for Positional Cloning of the pediatric GER gene. AstraZeneca, Muldon, SWEDEN. November 6, 2000
- I-57 **Ehrlich, G.D.** Biofilms in Otitis Media. NIDCD Workshop. Otitis Media: New Approaches for Analysis, Treatment, and Prevention. Rockville, MD. November 29, 2000.
- I-58 **Ehrlich, G.D.** Molecular Diagnostics as a Measure of Antimicrobial Efficacy. Pfizer Investigators Meeting. West Palm Beach, FL. December 4, 2000.
- I-59# **Ehrlich, G.D.** Differential Gene Expression Analyses as a Means to Understand Scarless Fetal Wound Healing. Kunming Medical College, Kunming, Yunan, CHINA. January 8, 2001
- I-60 **Ehrlich, G.D.** The Genetics of GERD and the Bacterial Biofilm Paradigm of Chronic Infectious Diseases. MCP-Hahnemann University School of Medicine February 13, 2001.
- I-61 **Ehrlich, G.D.** The Use of Global Gene Expression Technologies to Identify Targets in Bacterial Biofilms for Vaccines and Anti-infectives. Wyeth-Lederle, Bacterial Vaccines Research Group Meeting. Rochester, NY. March 7, 2001.

- I-62    **Ehrlich, G.D.** Molecular Diagnostics of Chronic Infections. Dean's Symposium. Allegheny General Hospital/MCP-Hahnemann University School of Medicine. Pittsburgh, PA, March 26, 2001.
- I-63    **Ehrlich, G.D.** Using Gene Array Technology to Test the Biofilm Hypothesis of Chronic Bacterial Disease. Coriell Institute for Medical Research. Camden, NJ March 27, 2000
- I-64    **Ehrlich, G.D.** The Development of a New Paradigm in Chronic Bacterial Infections through the Application of Molecular Diagnostics. Pfizer Global Research and Development, Antibacterials Department, Groton CT, April 27, 2001.
- I-65    **Ehrlich, G.D.** Approaches for The Identification of New Targets for Anti-infectives. Pfizer Global Research and Development, Antibacterials Department, Groton CT, April 27, 2001.
- I-66\*    **Ehrlich, G.D.** The Biofilm Phenotype in Otitis Media, *Colloquium of Biofilms in Chronic Bacterial Infections*, American Society for Microbiology Annual Meeting, Orlando FL, May 23, 2001.
- I-67    **Ehrlich, G.D.** Direct Micrographic Imaging of Biofilms on the Middle-Ear Mucosa of Experimentally Infected Chinchillas, *Special Symposium on Biofilms*, BioElectro Magnetic Society Annual Meeting, St. Paul MN, June 11, 2001.
- I-68    **Ehrlich, G.D.** Demonstration of the Biofilm Phenotype in Otitis Media and Salpingitis. Microbia, Cambridge, MA, July 27, 2001
- I-69#    **Ehrlich, G.D.** Direct Imaging and Gene Expression Analyses of a Mucosal Biofilm in Otitis Media. *Bacterial Interactions with Mucus and Mucosa*, a EURESCO Conference. Canterbury, Kent, ENGLAND September 1-6, 2001.
- I-70    **Ehrlich, G.D.** "The Role of Biofilms and Genomic Plasticity in Otitis Media" Department of Microbiology University of Buffalo, Buffalo NY, November 9, 2001
- I-71    **Ehrlich, G.D.** The Biofilm and Distributed Genome Paradigms provide a new Theoretical Structure for Understanding Chronic Bacterial Infections. Interscience Conference on Antimicrobials Agents and Chemotherapy (ICAAC) Chicago, Illinois, September 2001 (Postponed to December 18, 2001)
- I-72#    **Ehrlich, G.D.** Do Bacterial Pathogens Utilize a Distributed Genome? Results from Genomic Plasticity Studies of *Pseudomonas Aeruginosa*. Twenty fifth Silver Jubilee Annual Conference of Indian Association of Medical Microbiologists. New Delhi, INDIA November 22, 2001.
- I-73#    **Ehrlich, G.D.** The Biofilm Paradigm in Chronic Bacterial Infections. Center for Biochemical Technology, New Delhi, INDIA. November 23, 2001.
- I-74#    **Ehrlich, G.D.** The Genetics of Pediatric Gastroesophageal Reflux Disease. Center for Biochemical Technology, New Delhi, INDIA. November 23, 2001.

- I-75# **Ehrlich, G.D.** The Biofilm and Distributed Genome Paradigms provide a new Theoretical Structure for Understanding Chronic Bacterial Infections. Department of Human Genetics and Genomics, Indian Institute of Chemical Biology, Kolkatta, INDIA, November 26, 2001.
- I-76# **Ehrlich, G.D.** The Genetics of Pediatric Gastroesophageal Reflux Disease and a Post-Genomic Strategy for the Positional Cloning of the GERD Gene at Chromosome 13q14. Indian Institute of Science, Bangalore, INDIA, November 27, 2001.
- I-77# **Ehrlich, G.D.** The Biofilm and Distributed Genome Paradigms provide a new Theoretical Structure for Understanding Chronic Bacterial Infections. Indian Institute of Science, Bangalore, INDIA, November 26, 2001.
- I-78# **Ehrlich, G.D.** The Mucosal Biofilm Paradigm explains many features of Otitis Media with Effusion. Medical Biofilms 2002, Tokyo JAPAN, March 19, 2002.
- I-79# **Ehrlich, G.D.** Bacterial Supra-genomes and the Distributed Genome Hypothesis. Medical Biofilms 2002, Tokyo JAPAN, March 19, 2002.
- I-80# **Ehrlich, G.D.** Toward the Development of a new Theoretical Framework for Understanding Chronic Bacterial Pathogenesis, National University of Singapore, SINGAPORE, March 26, 2002.
- I-81 **Ehrlich, G.D.** Towards the Development of a New Theoretical Framework for the Understanding of Chronic Bacterial Infections. John A. Burns School of Medicine, University of Hawaii at Manoa, Honolulu, Hawaii July 24, 2002.
- I-82 **Ehrlich, G.D.** Biofilms and Genomic Plasticity: Development of a New Theoretical Framework for Understanding Chronic Bacterial Infections. University of Nebraska School of Medicine, Department of Orthopedic Surgery, Omaha, Nebraska, August 16, 2002.
- I-83 **Ehrlich, G.D.** Bacterial Plurality Explains Many Features of Chronic Pathogenesis. Grand Rounds, Department of Otolaryngology Head and Neck Surgery, Eye and Ear Institute, University of Pittsburgh, Pittsburgh, PA November 13, 2002.
- I-84 **Ehrlich, G.D.** Chronic Bacterial Pathogenesis and the Distributed Genome Hypothesis. University of Rochester, Department of Biology Seminar Series, Rochester, NY. December 9, 2002.
- I-85 **Ehrlich, G.D.** Bacterial Genotypic Plurality: The Distributed Genome Hypothesis Explains Many Features of Bacterial Persistence. VIIIth International Meeting on Otitis Media, Fort Lauderdale FL, June 5, 2003.
- I-86 **Post, J.C., and Ehrlich, G.D.** Bacterial Phenotypic Plurality: The Mucosal Biofilm Paradigm Explains Many Features of Chronic Pathogenesis. VIIIth International Meeting on Otitis Media, Fort Lauderdale FL, June 5, 2003.
- I-87# **Ehrlich, G.D.** Bacterial Genotypic Plurality: The Distributed Genome Hypotheses Explains many Features of Bacterial Persistence. Shantou University, Shantou CHINA, October 9, 2003



- I-88    **Ehrlich, G.D.** Clinical Correlates of the Distributed Genome Hypothesis. The 18<sup>th</sup> San Diego Conference on Nucleic Acids, Baltimore, MD. October 30-November 1, 2003
  
- I-89#   **Ehrlich, G.D.** Population-based Supra-virulence Factors and The Distributed Genome Hypothesis. Biofilms 2003 ASM Symposium, Victoria Island, BC CANADA November 1-3 2003
  
- I-90    **Ehrlich, G.D.** Testing the Distributed Genome Hypothesis as a Model of Chronic Bacterial Pathogenesis. Columbus Children's Research Foundation/Ohio State University Department of Microbiology. Columbus, OH. January 21-22, 2004.
  
- I-91    **Ehrlich, G.D.** A Systems Approach to BioMedical Research. Southern Illinois University School of Medicine, Springfield Illinois February 10, 2004.
  
- I-92    **Ehrlich, G.D.** Development of a Multidisciplinary Strategy for Biological Research in the 21<sup>st</sup> Century. Southern Illinois University, Carbondale Illinois, February 11, 2004
  
- I-93    **Ehrlich, G.D.** Genomic Plasticity and Horizontal Gene Transfer in Middle-ear Pathogens. 454 Life Sciences, Branford Connecticut, April 1, 2004
  
- I-94    **Ehrlich, G.D.** Bacterial Plurality: New Paradigms in Chronic Infection Explain Past Treatment Failures. National Institute of Deafness and Other Communication Disorders, National Institutes of Health, Bethesda, Maryland, September 10, 2004.
  
- I-95    **Ehrlich, G.D.** Conceptualization and Development of an Intelligent Artificial Joint. Association of Bone and Joint Surgeons Workshop on Musculoskeletal Infection, Tampa, Florida, November 11th-14th, 2004.
  
- I-96    **Ehrlich, G.D. & Fen Ze Hu.** The Distributed Genome Hypothesis Provides an Evolutionary Mechanisms to explain Persistent Bacterial Infections. Association of Bone and Joint Surgeons Workshop on Musculoskeletal Infection, Tampa, Florida, November 11th-14th, 2004.
  
- I-97    **Ehrlich, G.D.** The role of Bacterial Phenotypic and Genotypic Diversity in Maintaining Chronic Infections. Department of Chemistry and Chemical Biology, Stevens Institute of Technology, March 30, 2005.
  
- I-98    **Ehrlich, G.D.** Biological and Engineering Approaches to the Control of Chronic Bacterial Infections. Department of Bioscience and BioTechnology Weekly Seminar Series, Drexel University, March 31, 2005.
  
- I-99    **Ehrlich, G.D.** Developing Experimental Systems to Test Predictions of Bacterial Plurality with respect to Chronic Infections. Center for Biofilm Engineering Seminar Series, Montana State University, April 14, 2005.

- I-100# **Ehrlich, G.D.** The Role of Genomic Diversity and Horizontal Gene Transfer Among Pathogens in Chronic OM. 5th Extraordinary International Symposium on Recent Advances in Otitis Media, Amsterdam, The NETHERLANDS, April 24-27, 2005
- I-101# **Ehrlich, G.D.** Bacterial Genomic Plasticity and Strategies for Rapidly Obtaining the Complete Genomic Sequence of Unculturable Micro-organisms. The Max Planck Institute for Marine Biology, Bremen, GERMANY, April 28, 2005.
- I-102 **Ehrlich, G.D.** Strategies for Rapidly Obtaining the Complete Genomic Sequence of Unculturable Micro-organisms. Cambridge Healthtech Institute's Nucleic Acid-based Technologies Meeting, Baltimore MD, June 27-28, 2005
- I-103# **Ehrlich, G.D.** The Distributed Genome Hypothesis explains the Genomic Plasticity among the NTHi. 13<sup>th</sup> Annual International Conference on Microbial Genomes. Madison, WI, September 11-14, 2005.
- I-104 **Ehrlich, G.D.** Bacterial Plurality: How studying the microbial ecology of otitis media led to the development of a new rubric for understanding chronic bacterial infections. Phillips Oral Health Care MICROBIAL BIOFILMS SYMPOSIUM of the **Big Biofilm Bash: Systems Biology Affecting Humans and the Environment**. October 24th & 25<sup>th</sup> 2005, University of Southern California.
- I-105# **Ehrlich, G.D.** The Origins of Genomic Plasticity: is Horizontal Gene transfer a population-based virulence factor? National Institute of Microbiology at the Chinese Academy of Science, Beijing, CHINA, November 2, 2005.
- I-106 **Ehrlich, G.D.** Scarless Wound Healing. McGowan Institute for Regenerative Medicine, Fifth Annual Retreat. Workshop on Gene Therapy. Nemacolin Woodlands, PA March 7, 2006
- I-107# **Ehrlich, G.D.** GPRWMF Research Meeting, Perth, AUSTRALIA, 2006 (scheduled unable to attend)
- I-108 **Ehrlich, G.D.** The Distributed Genome Hypothesis and the selection of strains for sequencing. Symposium: *What bacterial genomes actually exist in real ecosystems, and which genes are actually expressed in natural and pathogenic processes?* 106th ASM General Meeting, Orlando FL May 21-25, 2006.
- I-109 **Ehrlich, G.D.** Biofilms and the Distributed Genome Hypothesis, or how Chronic Bacterial Pathogens Utilize Phenotypic and Genotypic Diversity Mechanisms to Overcome Host Defenses. Ibis, San Diego, CA August 7, 2006.
- I-110# **Ehrlich, G.D.** The Distributed Genome Hypothesis and Modeling the *H. influenzae* Supragenome. La Sapienza (University of Rome) Rome, ITALY October 5, 2006.
- I-111 **Ehrlich, G.D.** The Yak Gut Microbiome Project. Penn State Biomass Energy Center and Agricultural and Biological Engineering Department, Pennsylvania State University, State College, PA, November 27, 2006

- I-112 **Ehrlich, G.D.** Diagnostic and Treatment Strategies for Arthroplastic Biofilms Infections. Stryker Corporation's Infectious Diseases Panel, Mahwah, NJ, January 11, 2007
- I-113 **Ehrlich, G.D.** Characterization of Pathogenic Bacterial Supragenomes via 454-based sequence analysis. Cornell University School of Medicine, New York, NY, January 23, 2007
- I-114# **Ehrlich, G.D.** Characterizing the NTHi and Pneumococcal Supragenomes in Light of the Distributed Genome Hypothesis. Evening Session 3 – Genetic Diversity and Evolution. 4<sup>th</sup> ASM Conference on Biofilms, March 27, 2007, Quebec, QC, CANADA.
- I-115 **Ehrlich, G.D.** Genetic Diversity & Evolution among Respiratory Mucosal Bacterial Pathogens. Ibis Division/Isis Corporation, Carlsbad, CA May 7, 2007.
- I-116 **Ehrlich, G.D.** The Distributed Genome Hypothesis Provides a Basis for Understanding Chronic Bacterial Pathogenesis. University of Southern California, School of Dentistry, Los Angeles, CA May 14, 2007
- I-117 **Ehrlich, G.D.** Applications from the Study of Craniofacial Genetics to Warfighter Wound Healing. University of Southern California, School of Medicine, Los Angeles, CA May 14, 2007
- I-118# **Ehrlich, G.D.** Polyclonal Infections, Biofilms, and the Distributed Genome Hypothesis Explain Bacterial Persistence in Chronic Infections. BioCentrum-Danish Technical University Copenhagen (Lyngby), DENMARK

\* reviewed in *The Lancet* 357:2032, 2001

# INTERNATIONAL

## **SHORTCOURSES AND WORKSHOPS**

- S-1# **Ehrlich, G.D.:** Workshop on Multiple Sclerosis and Human Retroviruses, sponsored by the National Multiple Sclerosis Society. Montreal, Quebec, CANADA, June 10, 1989.
- S-2 **Ehrlich, G.D.:** PCR Workshop at NIH, Bethesda, MD. June 30, 1988.
- S-3 Poiesz, B.J., Saiki, R., Mark, George, E., III, **Ehrlich, G. D.** The Polymerase Chain Reaction: Its Subtleties and Application. 81st Annual Meeting of the American Association for Cancer Research, May 23-26, 1990, Washington, D.C.
- S-4 **Ehrlich, G.D.:** I: Development of Procedural and Physical Safeguards for Utilization of PCR-based Clinical Diagnostic Procedures; and II: Use of gene amplification for studies of human retroviral pathogenesis. PCR short course: Department of Biochemical Pharmacology SUNY at Buffalo, Buffalo, NY - August 12-15, 1990

- S-5 **Ehrlich, G.D.:** I: Design of Laboratory Operations for PCR-based Clinical Diagnostics; and, II: PCR-based Strategies for Research Applications. PCR Workshop of the Pan American Group for Rapid Viral Diagnosis, State University of Arizona, Phoenix, Arizona. Oct. 8-11, 1990.
- S-6 **Ehrlich, G.D.:** Molecular Biology of Hepatitis C Virus, presented at the Central Blood Bank Conference, Current Issues in HCV, Hyatt Regency, Pittsburgh, PA. Feb. 22, 1992.
- S-7 **Ehrlich, G.D.:** Faculty member: PCR and Sequencing Course, given at the Symposium on Molecular Biology of Hearing and Deafness. La Jolla, CA, May 1-4, 1992.
- S-8 **Ehrlich, G.D.** and Cooper, D.L.: Establishment and Integration of an Infectious Disease Molecular Diagnostic Lab within a University Hospital. Universities Associated for Research and Education in Pathology. Bethesda, MD, November 13, 1993.
- S-9 **Ehrlich, G.D.** A workshop in Molecular Diagnostics, Molecular Pathology. Bethesda, MD, November 11-13, 1994.
- S-10 **Ehrlich, G.D.:** Antimicrobial Resistance: Mechanisms and clinical relevance. Antimicrobial resistance: A Growing Crisis; Symposium held in conjunction with AGO-HVS Annual Meeting. New Orleans, LA, September 19, 1995.
- S-11 **Ehrlich, G.D.:** Organizer and speaker - Molecular Medicine Workshop. Alfred University, Alfred, NY, October 21, 1995. Speakers include G.D. Ehrlich, J.C. Post, and D. Whitcomb.
- S-12 **Ehrlich, G.D.,** Voelkerding, K., and Dummer, S. (Organizers): Workshop on Molecular Diagnosis for Infectious Disease. Association for Molecular Pathology Annual Meeting Minneapolis, MN, Nov 10-12, 1995.
- S-13 **Ehrlich, G.D.** Association for Research in Otolaryngology's Mid-Winter Meeting Workshop on Molecular Genetics, St. Petersburg Beach, Florida, February 2, 1997.
- S-14# **Ehrlich, G.D.** Agents for Change, Glaxo Wellcome, Verona, ITALY, June 27, 1998.
- S-15# **Ehrlich, G.D.** Experimental Design in Molecular Biological Analyses, Department of Medical Genetics, West China University of Medical Sciences, Chengdu, Sichuan, CHINA, October 12, 17, 19, and 26, 1999.
- S-16 **Ehrlich, G.D.** Bacterial Biofilms in Middle-ear Disease @ Research Advances in Otolaryngology. Department of Otolaryngology, Case Western Reserve University School of Medicine, and the Research Institute, University Hospitals of Cleveland, Cleveland Ohio, June 28, 2002.
- S-17 **Ehrlich, G.D.** Genomic Plasticity of Bacterial Pathogens @ Pittsburgh, Tools and Techniques for Functional Genomics. Beckman Advanced Technology Seminar Series. Pittsburgh, PA, August 28, 2002.
- S-18 **Ehrlich, G.D.** Invited participant: Post-Symposium Otitis Media Research Conference (Panel 4: Molecular Biology And Biochemistry). Fort Lauderdale, FL June 7-8, 2003.

- S-19 **Ehrlich, G.D.** Correlation between Genomic Diversity and Pathogenicity Indices among HTHI Strains. “Beyond Bugs and Drugs”: The Infectious Disease Committee Seminar at the AAO-HNS Annual National Meeting, Orlando, FL, September 24, 2003.
- S-20# Singh, P., and **Ehrlich, G.D.** Evening Workshop and Discussion Session on **Biofilms in Human Organ Systems**, Biofilms 2003, Vancouver, BC CANADA, November 2, 2003
- S-21# **Ehrlich, G.D.**, and Ford, T. Evening Workshop and Discussion Session on **Reservoirs for Biofilms in the Environment**, Biofilms 2003, Vancouver, BC CANADA, November 2, 2003.
- S-22 Costerton, J.W., et al. Retreat on Santa Catalina Island to plan a series of biofilm books, October 27-28, 2005
- S-23 **Ehrlich, G.D.** (rapporteur) McGowan Institute for Regenerative Medicine, Fifth Annual Retreat. Workshop on Gene Therapy. Nemacolin Woodlands, PA March 7, 2006
- S-24 **Ehrlich, G.D.** (Member and discussant) Infectious Diseases Panel. Stryker Orthopedics, Mahwah, NJ, January 11, 2007.
- S-25 **Ehrlich, G.D.** (member – presenter) *Haemophilus influenzae* is a professional pathogen. Medtronics Mini-Round Table on *Haemophilus influenzae* Mucosal Biofilms Relating to Otitis Media and Chronic Rhinosinusitis. Jacksonville, FL, Feb 4-5, 2007
- S-26 **Ehrlich, G.D.** (panel member) Microbiology and Immunology Panel at the Ninth Research Conference on Recent Advances in Otitis Media. St. Petersburg Beach, FL June 7-8, 2007.

#### # INTERNATIONAL PRESENTATION

#### CONTINUING MEDICAL EDUCATION SERIES

**Ehrlich, G.D.:** Associate Senior Researcher in Otolaryngology Annual Mid-Winter Meeting, St. Petersburg, FL, 1996.

**Ehrlich, G.D.:** Director, Infectious Diseases Section Monthly Seminar - Division of Molecular Diagnostics, Department of Pathology, UPMC. 1994 – 1997.

**Ehrlich, G.D.**, J. C. Post, and M. Roh – Course Directors: Surgical Research Conference – joint monthly case-based interactive molecular medicine research conference sponsored jointly by the Center for Genomic Sciences and the Department of Surgery, Allegheny General Hospital, 9/99 – 2000.

**Ehrlich, G.D.**, Center for Genomic Sciences Journal Club, Allegheny General Hospital 2001 – Date.

**Ehrlich, G.D.**, Center for Genomic Sciences Seminar Series, Allegheny General Hospital 2001 – Date.

## **INTRAMURAL SEMINARS**

### **University of Pittsburgh:**

- IS-1- Division of Neuropathology. HTLV-I Associated Myelopathies vs. Multiple Sclerosis. October 24, 1990.
- IS-2- Department of Neurology. HTLV-I Associated Chronic Demyelinating Disease: Clinical Epidemiological and Molecular Approaches to Diagnosis. November 12, 1990.
- IS-3- Department of Infectious Diseases and Microbiology. Pitt Men's Study, In Service training. New approaches to the study of HIV pathogenesis.
- IS-4- Department of Human Genetics. Development of Clinical Molecular Diagnostics. March 28, 1991.
- IS-5- Infectious Disease/Transplantation Surgery. Grand Rounds. July 18, 1991.
- IS-6- Department of Pathology Seminar Series. Approaches for evaluating the ability of the host's CTL response to adapt to HIV-1's high rate of mutation. October 16, 1991.
- IS-7- Department of Infectious Diseases and Microbiology Research Seminar Series. Approaches for evaluating the ability of the host's CTL response to adapt to HIV-1's high rate of mutation. December 9, 1991.
- IS-8- Sc of Pharmacy - Research Seminar Series. PCR Methodology and Diagnostic Applications. May 12, 1992.
- IS-9- Division of Hematology - Bone Marrow Transplantation - Research Seminar Series. Diagnostic and Research Applications of the Polymerase Chain Reaction, September 14, 1992.
- IS-10- Department of Pathology Seminar Series, Detection of bacterial DNA in culture negative chronic middle-ear effusions. September 27, 1993.
- IS-11- Children's Hospital of Pittsburgh, Division of Rheumatology - Multiplex PCR-based assays for respiratory pathogens, January 31, 1995.
- IS-12- University of Pittsburgh CFAR Organizational Symposia. HIV Viral-Host Interactions. March 1, 1994.
- IS-13- Division of Gastroenterology Molecular Diagnostic Approaches for the detection of Infectious Diseases of the Gastrointestinal system. April 27, 1994.
- IS-14- Pediatric ENT Retreat. Molecular Otolaryngology 1994, Concordia Club, Pittsburgh, PA. September 4, 1994.

- IS-15- Division of Gastroenterology. Results of Two Longitudinal Comparative Studies of CMV Detection in Solid Organ Transplant patients by PCR and other methods. October 20, 1994.
- IS-16- University of Pittsburgh Monthly HIV Research Meeting - Experimental Evidence Supporting the Deceptive Imprinting Model of HIV-1 pathogenesis and how the SCID-Hu-HIV mouse fulfills Koch's postulates for HIV-1. November 11, 1994.
- IS-17- Pittsburgh Committee for Virology - Towards a model of HIV Immunopathogenesis: Quantitation of HIV Variability as a Predictor of Disease Progression. December 2, 1994.
- IS-18- Children's Hospital of Pittsburgh, Department of Pediatric Otolaryngology - Modeling of Crouzon Syndrome Using Transgenic Mice for FGFR2. February 2, 1995.
- IS-19- Liver Transplant Case Conference - Comparative Analysis of Three Nucleic Acid-based Methods for the Detection of Hepatitis C Virus. May 25, 1995.
- IS-20- Human Genetics Case Conference - Mutational Analysis of the FGFR2 Gene in Crouzon Syndrome. June 1, 1995.
- IS-21- HCV's Discovery and Molecular Diagnostics - MAX Continuing Medical Education Series. July 13, 1995.
- IS-22- Clinical Molecular Microbiological testing at the University of Pittsburgh Med Cen. September 26, 15, 1995.
- IS-23- Department of Pathology Seminar Series - Genetics of Human Craniofacial Development. November 19, 1995.
- IS-24- Department of Pathology Seminar Series - Positional Cloning of the Hereditary Pancreatitis Gene. March, 1997.

Allegheny General Hospital/Allegheny Singer Research Institute/Drexel University College of Medicine

- IS-25- Department of Pathology Seminars, Molecular Diagnostics Lecture Series – **DNA-based Amplification Strategies.** October 14, 1998.
- IS-26- Department of Pathology Seminars, Molecular Diagnostics Lecture Series – **RNA-based Amplification Strategies.** October 21, 1998.
- IS-27- Department of Pathology Seminars, Molecular Diagnostics Lecture Series – **Optimization of Nucleic Acid Amplification Assays.** October 28, 1998.
- IS-28- Department of Pathology Seminars, Molecular Diagnostics Lecture Series – **Designing a Molecular Diagnostics Facility.** November 4, 1998.

- IS-29 - Department of Pathology Seminars, Molecular Diagnostics Lecture Series – Development and Evaluation of PCR-based Diagnostic Assays. November 4, 1998. (Combined with IS-28)
- IS-30- Department of Pathology Seminars, Molecular Diagnostics Lecture Series – **Integrating Molecular Diagnostics into a Medical Center Setting** November 18, 1998.
- IS-31- Neuroscience Grand Rounds, Allegheny General Hospital – **Molecular Biology of Fetal Scarless Wound Healing**. March 14, 2001.
- IS-32 – Gastroenterology Fellows Research Conference – **A Short Primer on Gene Mapping and Positional Cloning: Identification of the Gene for Hereditary Pancreatitis**. January 8, 2002.
- IS-33 – Department of Pathology Grand Rounds, **The Distributed Genome Hypothesis and Bacterial Plurality: Development of a New Theoretical Framework for the Understanding of Bacterial Survival**. January 23, 2002.
- IS-34 – ASRI Research Seminar Series – **Development and Analysis of a Small Animal Model of Craniosynostosis**. September 9, 2002.
- IS-35 – Gastroenterology Fellows Research Conference – **Craniofacial Genetics: a Model System for the Study of Functional Genomics**. January 7, 2003

## **GRANT REVIEW COMMITTEES**

- Member (ad hoc) technical review group for NCI/NIH contract: NCI-CM87264-19 (1989).
- Member (ad hoc) NIH NIAID Study Section - AIDS and Related Research SS3 (1991).
- Veterans Administration Merit Review Consultant for Grant Nos. 151/INDI/24 (1990); 151/INDI/12; 151/INDI/20; 151/INDI/37 (1992); 151/INDI/10 (1992); 151/INDI/16 (1995).
- Member NIH NIAID Study Section - Centers for AIDS Research - RFA A1-93-14 (December, 1993)
- North Carolina Biotechnology Center, Academic Research Initiation - Grants Program Consultant (1992).
- Member Aaron Diamond Foundation Fellowship Grants Review Committee (1992)
- International Science Foundation Grant Reviewer (1993)
- Department of Health, The Executive Yuan, Taiwan Grant Reviews Program Project, "Infections in Immunocompromised Patients" (1994)
- Member (ad hoc) NIDA - SCRD - AO1 Study Section (1994)



Member (ad hoc) NIDA - Special Review Committee SRCD - 01 (1994)

Member (ad hoc) NIDA - SCRD - A01 Study Section (1995)

University at Buffalo, State University of New York, Outside reviewer for Seed Grant Funding Program (1995)

Member (ad hoc) NHLBI - Special Contact Review Committee (1996).

Member (ad hoc) NIDA - Special Review Committee - SCRD - A01 Study Section (1996)

Member (ad hoc) NIDA - NIDA - J Study Section (1996)

Member (ad hoc) Special Review Committee - Epidemiology and Diseases Control Study Section (1996)

Member - NIH Study Section - Special Emphasis Panel (April 1997)

Member - DOD - DARPA - Advanced Diagnostics Advisory Panel (June 24-26, 1997)

Member - NIH - NIDA - Study Section (July 1997)

Member - DOD - DARPA - Advanced Diagnostics Advisory Panel (September 16-18, 1997)

Member - NIH-NCI-CA97-011 – Novel Technologies for Evaluation of Molecular Alterations in tissues (March 23-25, 1998)

Member - DOD - DARPA - Advanced Diagnostics Advisory Panel (June 1-3, 1998)

Member - DOD - DARPA - Advanced Diagnostics Advisory Panel (August 17-20, 1998)

Member – RFP-NIH-DC-98-03 – Study Section (September 8, 1998)

Member – AAO-HNSF Study Section (March 19-21, 1999)

Member – NHLBI Special Emphasis Panel – RFP HB-99-10 (April 13, 1999)

Write-in Member – NIDCD Special Emphasis Panel ZDC1 SRB-O (21) (November 3, 1999)

Member – NCI Study Section (ZCA1 – NCI-GT-56201) for PARs 99-100 – 99-103: Innovative Technologies for the Molecular Analysis of Cancer and their Applications, and Applications of Innovative technologies for the Molecular Analysis of Cancer (November 17-19, 1999).

Write-in Member – NIDCD Special Emphasis Panel ZDC1 SRB-O (21) (November 29, 1999)

Write in Member – NIDCD Special Emphasis Panel ZDC1 SRB-O (23) (March 23, 2000)

Member – AAO-HNSF Study Section (March 31 – April 2, 2000)

Member – DOD –DARPA – Advanced Biologic Warfare Diagnostics Advisory Panel (June 2000)

Member – NIMH Study Section - Special Emphasis Panel ZMH1 BRB-P (02) (July 11-12, 2000)

Member – DOD-DARPA- Advanced Biologic Warfare Diagnostics Advisory Panel (September 2000)

Member – AAO-HNSF Study Section (April 6-8, 2001)

Member – Pittsburgh Tissue Engineering Initiative (PTEI) Study Section (May 29, 2001)

Member – NIDCD Special Emphasis Panel ZDC1 SRB-J (12) P-30 reviews in response to PA-01-011 (June 2001)

Member – NIDCD Special Emphasis Panel (October 14-15 2001)

Member – NCI ZCA1 SRRB-C (R21/33 applications) phone correspondent (March 6-8 2002)

Member – NIDCD ZDC1 SRB-A (37) Special emphasis panel/Research Core (P30) (June 19, 2002)

Member – NIAID Special Emphasis panel/ RFA AI-02-008 (Scientific Review Group ZAI1-GPJ-M-J1) (November 6-8 2002)

Member – NIDCR Special Emphasis panel/RFA DE-03-001 (Craniofacial Genetics) (November 10-11, 2002)

Member - NIAID Bacteriology and Mycology-2 Study Section (BM-2) *ad hoc* (Biofilm Program Announcement) (June 18-19, 2003)

Member – NIAID Bacteriology and Mycology-1 Study section (BM-1) *ad hoc* February 23-24, 2004)

Member- NIDCR Special Emphasis Panel for Program Projects (P50) June 21-24, 2004

Member – NIDCD Special Emphasis Panel on Otitis Media, ZRG1-IFCN-B-03 (July 21, 2004)

Member – NIAID Special Emphasis Panel on Infectious Disease ZRG1 IDM0H(03) (February 28, 2005)

Member – National Science Foundation - Sensors for Microorganism and Toxin Detection Panel - P070664 (February 26, 2007)

## SITE VISITS

Member, NIDA Drug Abuse AIDS Research Review Committee, Biobehavioral/Clinical Subcommittee project site visit - 2-R01 DA05593-04 "Spread of AIDS in IVDAs".

Member, NIH Site Visit Team for Program Project Grant at Wistar Institute, September 1992.

Consultant, NIH Reverse Site Visit, Sudden Infant Death Syndrome contract at Loyola University of Chicago, March 7, 1994.

## **SCIENTIFIC JUDGING**

Allegheny General Hospital, Annual Residents Research Symposium. May 19, 2000

Allegheny General Hospital, Department of Surgery, Third Annual Resident Research Day. April 10, 2001

## **ADVISORY COMMITTEES**

Alfred University - Health Sciences Advisory Committee 1996 - Date

NIDCD - Molecular Genetics of Speech and Language Development

NIDCD – Board of Scientific Counselors, 2000 *ad hoc*

Medical Biofilms 2002 (Symposium) – Tokyo Japan

Pasteur Institute – Research Program Evaluations committee, 2007 – external *ad hoc*

## **EDITORIAL POSITIONS**

-Editorial Board - Molecular Diagnosis - Churchill-Livingston Publishers. (1996-2001)

-Editorial Board - Clinical and Diagnostic Laboratory Immunology (now Clinical and Vaccine Immunology) (ASM) 1997-2002 (founding member), extended through 12/2005

## **JOURNAL REVIEWS**

**Ad Hoc Reviewer for:**

AIDS;

American Journal of Pathology;

Antimicrobial Agents and Chemotherapy (ASM);

Applied and Environmental Microbiology (ASM)  
BioMaterials  
Biotechniques;  
Blood;  
Cancer Research;  
Clinical and Diagnostic Laboratory Immunology/Clinical and Vaccine Immunology (ASM);  
Clinical Immunology and Immunopathology;  
Clinical Orthopedic and Related Research;  
Drug Discovery Today;  
Genomics;  
Human Genetics;  
Infection and Immunity (ASM);  
JAMA;  
Journal of AIDS;  
Journal of Bacteriology (ASM)  
Journal of Clinical Microbiology (ASM);  
Journal of Infectious Disease;  
Journal of Leukocyte Biology;  
Journal of Neuropathology and Experimental Neurology;  
Molecular and Cellular Probes;

### **JOURNAL REVIEWS (cont)**

Molecular Diagnosis  
Otolaryngology Head and Neck Surgery  
Nature Genetics;  
Neurology;  
Tissue Engineering;

*REVISED Saturday, December 20, 2006*