

Curriculum Vitae
Charlotte Slayton Kaetzel, Ph.D.

EDUCATION AND PROFESSIONAL EXPERIENCE

Personal data

Date of birth: April 22, 1952, Washington, D.C.

Former names: Charlotte Alston Slayton
Charlotte Slayton Nace

Home address: 605 Cypress Road
Severna Park, MD 21146
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Business address: Department of Microbiology, Immunology and Molecular Genetics
203 Combs Cancer Research Bldg.
University of Kentucky
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Lexington, KY 40536
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Education

Cornell University Ithaca, NY	1970-1971	
University of Maryland College Park, MD	1971-1974	B.S.
University of Maryland College Park, MD	1975-1979	Ph.D.

Professional Experience

1979-1981	Postdoctoral Fellow, Department of Dairy Science, University of Maryland, College Park, MD 20742
1981-1982	Postdoctoral Fellow, Department of Medicine and Veterans Administration Medical Center, Case Western Reserve University, Cleveland, OH 44106
1982-1983	Research Chemist, Veterans Administration Medical Center,

Cleveland, OH 44106

- 1983-1984 Instructor, Department of Pathology, Case Western Reserve University, Cleveland, OH 44106
- 1984-1992 Assistant Professor, Department of Pathology, Case Western Reserve University, Cleveland, OH 44106
- 1992-1993 Associate Professor with tenure, Department of Pathology, Case Western Reserve University, Cleveland, OH 44106
- 1993-1994 Associate Professor, Department of Pathology and Laboratory Medicine, College of Medicine, University of Kentucky, Lexington, KY 40536
- 1993-2002 Associate Professor, Department of Microbiology and Immunology, College of Medicine, University of Kentucky, Lexington, KY 40536
- 1993-2002 Associate Professor, Department of Oral Health Science, College of Medicine, University of Kentucky, Lexington, KY 40536
- 1994-2002 Associate Professor with tenure, Department of Pathology and Laboratory Medicine, College of Medicine, University of Kentucky, Lexington, KY 40536
- 1999-2004 Co-Director, Division of Experimental Pathology, Department of Pathology and Laboratory Medicine, University of Kentucky, Lexington, KY 40536
- 2002-present Professor with tenure, Department of Pathology and Laboratory Medicine, College of Medicine, University of Kentucky, Lexington, KY 40536 (joint appointment)
- 2002-present Professor, Department of Oral Health Science, College of Medicine, University of Kentucky, Lexington, KY 40536 (joint appointment)
- 2002-present Professor with tenure, Department of Microbiology, Immunology and Molecular Genetics, College of Medicine, University of Kentucky, Lexington, KY 40536 (primary appointment)
- 2011-2012 Director of Graduate Studies, Department of Microbiology, Immunology and Molecular Genetics, College of Medicine, University of Kentucky, Lexington, KY 40536

Honors and Awards

Bachelor of Science *summa cum laude*, 1974
 American Institute of Nutrition Graduate Student Award, 1977
 National Science Foundation Postdoctoral Fellowship, 1979-1980

Public Health Service Postdoctoral Fellowship, 1980-1982
 John S. Diekoff Award for Distinguished Graduate Teaching, 1992

ADMINISTRATIVE AND PROFESSIONAL ACCOMPLISHMENTS

Membership in Professional Societies

American Society for Cell Biology, 1983-2000
 American Association of Immunologists, 1987-present
 Society for Mucosal Immunology, Charter Member, 1987-present
 Councilor, Society for Mucosal Immunology, 2007-2011 (Chair, Program Committee)
 Crohn's & Colitis Association of America, 2005-present

Study Sections and Review Panels

American Heart Association, NE Ohio Affiliate, Research Study Section, 1988-1991
 NIH General Medicine A-2 Study Section (*ad hoc*), Oct 1992
 NIH Experimental Virology Study Section (*ad hoc*), Mar 1997, Oct 1997, Oct 1998
 American Cancer Society, University of Kentucky review panel, 1998-2001
 NIH Special Emphasis Panel on Foodborne Illnesses, Jul 2000
 NIH Allergy and Immunology Study Section (*ad hoc*), Feb 2001, Feb 2002, Jun 2002, Jun 2003, Feb 2004,
 NIH Cellular and Molecular Immunology-A Study Section (*ad hoc*), Jun 2004, Oct 2004, Feb 2006, April 2007
 NIH Special Review Panel on GI Inflammation and Genetics, Apr 2005
 Philip Morris External Research Program, Nov 2005
 Department of Defense, Review Panel on Inflammatory Bowel Disease, Sep 2008
 NIH/NIAID Special Review Panel on Mechanisms of Immunodeficiency, Feb 2009
 NIH/NIAID American Recovery and Reinvestment Act Grant Reviewer, Jun 2009
 NIH/NIAID Special Emphasis Panel on Exploratory Investigations in Food Allergy, Nov 2009
 NIH/NIAID Special Emphasis Panel on Enterics Research Investigational Network Cooperative Research Centers, Mar 2010
 NIH Infectious Disease and Host Defense Study Section (*ad hoc*), Jun 2010
 NIH/NIAID Special Emphasis Panel on Immune Defense Mechanisms at the Mucosa Cooperative Study Group, Mar 2011
 Department of Defense, Review Panel on Inflammatory Bowel Disease, Aug 2011
 NIH/NIAID Special Emphasis Panel IMM-N (01), Nov 2011
 NIH/NIAID Special Emphasis Panel IMM-N (02), Mar 2012
 Department of Defense, Review Panel on Inflammatory Bowel Disease, Aug 2012
 Department of Defense, Review Panel on Inflammatory Bowel Disease, Sep 2012
 NIH/NIAID Special Emphasis Panel, "Targeting Inflammation and Immune Activation in HIV Disease" (U01), Oct 2012
 NIH/NIDDK Review Panel for Ancillary Clinical Studies, Mar 2013
 NIH/NIAID Special Emphasis Panel ZAI1 BDP-I (S2), Jul 2013
 NIH/NIAID Special Emphasis Panel ZAI1 BP-A (S4), Aug 2013

Editorial Boards and Journal Reviews

Associate Editor, *Journal of Immunology*, 2001- 2005
 Associate Editor, *Current Immunology Reviews*, 2004-2010
 Associate Editor, *Mucosal Immunology*, 2007-present
 Associate Editor, *Frontiers in Immunology*, 2011-present
 Ad hoc reviewer, 1983-present:

American Journal of Physiology
Biochimica et Biophysica Acta
Brain, Behavior and Immunity
British Journal of Cancer
Critical Reviews in Immunology
DNA and Cell Biology
European Respiratory Journal
Future Microbiology
Gastroenterology
Infection and Immunity
Immunological Investigations
International Immunopharmacology
Journal of Biological Chemistry
Journal of Clinical Investigation
Journal of Experimental Medicine
Journal of Immunoassay and Immunochemistry
Journal of Immunological Methods
Journal of Immunology
Journal of Leukocyte Biology
Laboratory Investigation
mBIO (American Society for Microbiology open-access journal)
Molecular Cell
Oral Surgery, Oral Medicine, Oral Pathology, Oral Radiology and Endodontology
Proceedings of the National Academy of Sciences, USA
Science
Trends in Immunology
Viral Immunology

University Committee Service

Case Western Reserve University, Cleveland, OH

Steering Committee, Coordinated Curriculum for Cell and Molecular Biology, 1986-1993
 Faculty Council of the School of Medicine, 1991-1993
 School of Medicine Radiation Safety Committee, 1991-1993
 Steering Committee, Medical Scientist (M.D. Ph.D.) Training Program, 1992-1993

University of Kentucky, Lexington, KY

Faculty Search Committee, Dept. of Microbiology and Immunology, 1997-1998
 Six-year Review Committee for Dept. of Biochemistry, 1998-1999

Six-year Review Committee for Dept. of Microbiology and Immunology, 1999-2000
 Co-Director, Division of Experimental Pathology, Dept. of Pathology and Lab Medicine, 1999-2004
 Executive Committee, Dept. of Pathology and Laboratory Medicine, 1999-2004
 Steering Committee, Microbiology Graduate Program, 2000-present
 Steering Committee, Integrated Biomedical Sciences Program, 2001-2003
 Graduate Council Committee on Fellowships and Traineeships, 2001-2004
 Chair, Dept. of Physiology Chair Search Committee, 2001-2002
 Markey Cancer Center Faculty Search Committee for Prostate Cancer, 2002-2004
 University of Kentucky Presidential Fellowship Selection Panel, 2003-2004
 University Senate, 2003-2006
 Six-year Review Committee for Dept. of Pathology, 2007
 Academic Area Advisory Committee for the Biological Sciences, 2009-2012, Chair 2009-2011
 University of Kentucky International Activities Committee, 2009 – 2012

Consulting and Development of Commercial Products

Affinity Bioreagents, Inc., Goldon, CO, www.bioreagents.com

This company markets two monoclonal antibodies that I developed for the enzyme protein disulfide isomerase.

Orovax, Inc., Boston, MA

Consulting on novel approaches for development of oral vaccines.

Planet Biotechnology, Inc., Mountain View, CA

Consulting on production of secretory IgA antibodies by recombinant DNA technology in plants.

EPIcyte Pharmaceutical, Inc., San Diego, CA

Consulting on novel methods of gene delivery targeting the polymeric immunoglobulin receptor.

Genesis Biologics, Inc., Leicester, MA

Consulting on quantitative epitope mapping of IgA antibodies to HIV gp120, funded by a Small Business Innovation Research Grant from the NIH.

TEACHING ACCOMPLISHMENTS

Formal courses

Case Western Reserve University, Cleveland, OH

BBD, Biological Basis of Disease (medical students), 12 contact hours/year, 1984-1993

BIOL 302, Biotechnology Laboratory (undergraduate students), 12 contact hours, 1986

BIOL 388, Independent research (undergraduate students), 1989-1993

Mentoring research projects in my laboratory (1 student each semester)

CBIO 458, Immunology, Coordinated Curriculum in Cellular and Molecular Biology (graduate students), 6 contact hours/year, 1987-1992

PATH 416, Fundamental Immunology (advanced undergraduate, graduate and medical students)
 Course organizer and principal instructor, 23 contact hours/year, 1986-1992
 PATH 465, Advanced Immunobiology (graduate students), 3 contact hours, October, 1985
 PATH 467, Advanced Molecular Immunology (graduate and medical students)
 Course organizer and principal instructor, 23 contact hours/year, 1985-1993
 PATH 477, Immunopathology (graduate students), 2 contact hours, August, 1985

University of Kentucky, Lexington, KY

BIO395, Independent research (undergraduate students), 1995-2010
 Mentoring research projects in my laboratory (1 student each semester)
 IBS603, Cell Biology (graduate students), 2000-2011
 3 contact hours/year; lectures on endocytosis and transcytosis
 IBS604, Cell Signaling (graduate students), 2007-2008
 1 contact hour/year; lecture on pattern recognition receptors and innate immunity
 IBS605, Experimental Genetics (graduate students), 2000-2003; 2009-2011
 2 contact hours/year; lectures on somatic gene rearrangements
 MI604, Experimental Genetics (graduate students), 1996-1999 (replaced by IBS 605 in 2000)
 2 contact hours/year; lectures on somatic gene rearrangements
 MI615, Molecular Biology and Genetics (graduate students), 1995-2012
 4.5 contact hours/year; lectures on transcription regulation
 MI685, Advanced Immunobiology (graduate students), 1994-2011
 2 contact hours/year; lectures on cytokine receptor families
 MI707, Contemporary Topics in Immunology (graduate students), 1997, 2006, 2008, 2010, 2012
 2 contact hours/year; discussion groups on GI infections, mucosal immunity, vaccines
 Co-organizer in 2008, 20 contact hours
 MI710-001, Cell Biology (graduate students), 1999 (replaced by IBS603 in 2000)
 2 contact hours/year; lectures on endocytosis and transcytosis
 MI710-002, Microbial Pathogenesis (graduate students), 2009-2012
 1 contact hour/year; lecture on commensal bacteria
 MI772, Graduate Student Seminars, 1994-2011
 Mentoring of graduate student research seminars (1-2 students/year)
 MI822, Immunity, Infection and Disease (medical students), 1994-2012
 10 contact hours/year; lectures on immunology
 OBI650, Oral Biology (postdoctoral dental students), 1997-2006
 2 contact hours/year; lectures on oral mucosal immunity
 OBI828/9, Infectious Diseases (dental students), 1997-2012
 2 contact hours/year; lectures on oral mucosal immunity
 PHR956, Advanced Pharmacotherapy (PharmD students), Fall 2004, Fall 2005, Spring 2006
 2 contact hours/year; lectures on immunopathology and autoimmunity

National

American Association of Immunologists Advanced Immunology Course, Faculty, lecture on
 “Mucosal Immunity,” Aug 2012, Jul 2013.

Continuing Medical Education

Case Western Reserve University, Cleveland, OH

Cleveland Metropolitan General Hospital, Cleveland, OH, October 1988

“Immunoglobulin and T Cell Receptor: Proteins and Genes”

Clinical Pathology CME Conference, June, 1989

“Nucleic Acid Hybridization Strategies: Southern and Northern Blots for Analysis of DNA and RNA”

International Health Summer Course, July, 1989; July 1990

“Humoral Immunity to Infection: Antibody”

University of Kentucky, Lexington, KY

CME for Fellows in Infectious Disease, teaching conference, 2001

“Cytokines in Infectious Diseases”

CME Conference in Gastroenterology, March 2007

“Regulation of IgA Transport in the Intestine: Cross-Talk Between Commensal Bacteria and Epithelial Cells”

Journal Clubs

Case Western Reserve University, Cleveland, OH

Immunology Journal Club, 2 presentations per year, 1983-1993

AIDS Research Journal Club, 1 presentations per year, 1987-1992

Cell Biology Journal Club, 1 presentation per year, 1990-1993

University of Kentucky, Lexington, KY

Immunology Journal Club, Dept. of Microbiology and Immunology, 1993-2012

1 presentation per year

Molecular Biology Journal Club, Dept. of Microbiology and Immunology, 1993-2012

2 presentations per year

Mentoring of students and postdoctoral fellows

Graduate students trained in my laboratory

Koteswara Chintalacharuvu, Ph.D., 1991 (currently Research Biologist at Veterans Administration, Greater Los Angeles)

Janet Piskurich, Ph.D., 1993 (currently Professor, University of Texas El Paso School of Medicine)

Kenneth Youngman, Ph.D., 1995 (currently visiting faculty, San Jose State University)

Carolyn Willmer, M.S., 1991

Carol Tamer, M.S., 1995

Vincent Blanch, Ph.D., 1999 (received M.D. from University of KY, 2003)
 Paula Hempen, Ph.D., 1999 (currently scientist with Sigma Chemical Co., St. Louis, MO)
 Tracey Schneeman, Ph.D., 2004 (currently high school science teacher)
 Andrew Stefka, M.S., 2007 (currently research associate, University of Chicago)
 Aubrey Frantz, PhD, 2012 (currently Assistant Professor of Biology, University of North Texas)
 Eric Rogier, PhD, 2012 (current student in Masters of Public Health program, Emory University)

Postdoctoral fellows/research associates trained in my laboratory

Michael Fiedler, M.D., 1989-1991 (currently on faculty of Children's Hospital Research Foundation and University of Cincinnati)
 Koteswara Chintalacharuvu, Ph.D., 1991-1992 (currently on faculty of UCLA School of Medicine)
 Nada Khattar, Ph.D., 2000-2003 (currently Scientist, 20/20 Gene Systems, Gaithersburg, MD)
 Maria Bruno, Ph.D., 2000-2006 (currently Res. Asst. Prof., University of KY College of Medicine)

Graduate student research rotations in my laboratory

Case Western Reserve University, Cleveland OH, 1983-1993

Giordano, Tracey, Dept. of Pathology

McNally, Amy, Dept. of Pathology

Moeslein, Fred, M.D., Ph.D. Program

Murray-Lisy, Nicole, Integrated Cell and Molecular Biology Program

Schneider, Michael, M.D., Ph.D. Program

University of Kentucky, Lexington, KY, 1993-present

Dix, Amy, Dept. of Microbiology and Immunology, 1996

Loh, Wai-Khan, Dept. of Microbiology and Immunology, 1996

Wu, Hsin-Jung, Dept. of Microbiology and Immunology, 1997

Brown, Shannon, Dept. of Microbiology and Immunology, 1999

Davis, Kristen, Dept. of Microbiology and Immunology, 1999

Perincheri, Sudhir, Dept. of Microbiology and Immunology, 2000

Asare, Rexford, Integrated Biomedical Sciences Program, 2001

Burnside, Rachel, Dept. of Microbiology and Immunology, 2001

Karuppanan, Anbu, Dept. of Microbiology and Immunology, 2001

Murapa, Patience, Integrated Biomedical Sciences Program, 2002

Zhang, Yuquian, Integrated Biomedical Sciences Program, 2004

Stefka, Andrew, Integrated Biomedical Sciences Program, 2005-06

Sindhava, Vishal, Integrated Biomedical Sciences Program, 2006

Mark King, DMD/PhD Program, 2006

Frantz, Aubrey, Integrated Biomedical Sciences Program, 2007-08

Kurkjian, Cathryn, Integrated Biomedical Sciences Program, 2008

Gavin, Ellis, Integrated Biomedical Sciences Program, 2008

Rogier, Eric, Integrated Biomedical Sciences Program, 2009

Fenton, Laura, Integrated Biomedical Sciences Program, 2012

Graduate student advisory and exam committees

Case Western Reserve University, Cleveland OH, 1983-1993:

Altier, Craig, Dept. of Molecular Biology and Microbiology
 Bagheri, Nayer, Dept. of Pathology
 Baron, Andre, Center for Neurosciences
 Bergmann, Christoph, Dept. of Pathology
 Bonfield, Tracey, Dept. of Pathology
 Broestl, Jayne, Dept. of Pathology
 Brunschwig, Elaine, Dept. of Pathology
 Cameron, Craig, Dept. of Biochemistry
 Carothers, Donna, Dept. of Biochemistry
 Cheung, Tobun, Dept. of Pharmacology
 Chintalacharuvu, Koteswara, Dept. of Pathology
 Coling, Don, Center for Neurosciences
 Cooper, Laurence, Dept. of Pathology
 Fleming, Jim, Dept. of Biology
 Gillespie, Susan, Dept. of Pathology
 Habib, Randa, Dept. of Pathology
 Hejlik, Daniel, Dept. of Biochemistry
 Hobart, Michael, Dept. of Physiology
 Horton, Lynn, Dept. of Pathology
 Kadowaki, Tatsuhiko, Dept. of Pathology
 Karpen, Mary, Dept. of Biochemistry
 Matriano, James, Dept. of Biology
 McNally, Amy, Dept. of Pathology
 Morrow, Dwight, Dept. of Pathology
 Pasternack, Jennifer, Dept. of Pathology
 Piskurich, Janet, Dept. of Pathology
 Singh, Neena, Dept. of Pathology
 Singleton, David, Dept. of Pathology
 Tamer, Carol, Dept. of Pathology
 Tisdale, Ellen, Dept. of Pathology
 Ton-That, Hoa, Dept. of Biochemistry
 Tsao, Hsin-Min, Dept. of Pathology
 Valenzuela, Rafael, Dept. of Pathology
 Willmer, Carolyn, Dept. of Pathology
 Youngman, Kenneth, Dept. of Pathology

University of Kentucky, Lexington KY, 1993-present:

Blanch, Vincent, Dept. of Microbiology and Immunology, 1995-1999
 Bruce, Shirley, Dept. of Microbiology and Immunology, 1995-1999
 Hempen, Paula, Dept. of Microbiology and Immunology, 1995-1999
 Dix, Amy, Dept. of Microbiology and Immunology, 1995-2000
 Bertolino, Shannon, Dept. of Microbiology and Immunology, 1996-1998
 Thompson, Michael, Dept. of Biochemistry, 1996-2000
 Xi, Side, Nutritional Sciences Program, 1997
 Peyton, David, Dept. of Microbiology and Immunology, 1997-2000
 Finlin, Brian, Dept. of Biochemistry, 1998
 Wu, Hsin-Jung, Dept. of Microbiology and Immunology, 1998-2002
 Davis, Kristen, Dept. of Microbiology and Immunology, 1999-2000

Dingle, Cameron, Dept. of Microbiology and Immunology, 1999-2001
El-Guendy, Nadia, Dept. of Microbiology and Immunology, 1999-2002
Guzman, Monica, Dept. of Microbiology and Immunology, 1999-2002
Karuppanan, Anbu, Dept. of Microbiology and Immunology, 2000-2002
Perincheri, Sudhir, Dept. of Microbiology, Immunology & Molecular Genetics, 1999-2004
Sozer, Selcuk, Dept. of Microbiology, Immunology & Molecular Genetics, 1999-2004
Schneeman, Tracey, Microbiology, Immunology & Molecular Genetics, 1999-2004
Jayashankar, Kartika, Dept. of Microbiology, Immunology & Molecular Genetics, 2003-2004
Emerson, Kristen, Dept. of Microbiology, Immunology & Molecular Genetics, 2004-2005
Even, Deborah, Dept. of Microbiology, Immunology & Molecular Genetics, 2003-2005
Bhattacharyya, Surjya, Graduate Program in Toxicology, 2003-2005
Savia, Melissa, Dept. of Microbiology, Immunology & Molecular Genetics, 2004-2005
Bevins, Robert, Graduate Program in Toxicology, 2005 (outside examiner)
Burnside, Rachel, Microbiology, Immunology & Molecular Genetics, 2000-2006
Dasu, Trivikram, Dept. of Microbiology, Immunology & Molecular Genetics, 2002-2006
Patel, Jigna, Pharmaceutical Sciences Graduate Program, 2002-2006
Ramasamy, Sathyabama, Dept. of Microbiol., Immunol. & Molecular Genetics, 2005-2006
Stefka, Andrew, Dept. of Microbiology, Immunology & Molecular Genetics, 2006-2007
Zhang, Yuanyuan, Graduate Program in Toxicology, 2003-2008
Ranganathan, Padhma, Graduate Program in Toxicology, 2003-2008
Choi, Wangsun, Dept. of Molecular and Cellular Biochemistry, 2003-2008
Badstibner, Adina, Dept. of Microbiology, Immunology & Molecular Genetics, 2004-2007
Riley, Sean, Dept. of Microbiology, Immunology & Molecular Genetics, 2004-2007
Puppala, Dinesh, Dept. of Molecular and Biomedical Pharmacology, 2004-2007
Zhang, Yuqian, Dept. of Molecular and Cellular Biochemistry, 2004-2008
Green, Kristi, Dept. of Microbiology, Immunology & Molecular Genetics, 2005-2007
Butler, James, Dept. of Microbiology, Immunology & Molecular Genetics, 2006-2009
Sampley, Megan, Dept. of Molecular and Cellular Biochemistry, 2009
Burns, Logan, Dept. of Microbiology, Immunology & Molecular Genetics, 2006-2010
Cantrell, Jamie, Dept. of Molecular and Cellular Biochemistry, 2006-2010
Gonzales, Octavio, Dept. of Microbiology, Immunology & Molecular Genetics, 2006-2010
Arsenescu, Razvan, Dept. of Microbiology, Immunology & Molecular Genetics, 2006-2011
Turcios, Lilia, Dept. of Microbiology, Immunology & Molecular Genetics, 2006-2011
Fallah, Mosoka, Dept. of Microbiology, Immunology & Molecular Genetics, 2006-2011
Chang, Edward, Medical Sciences M.S. Program, 2007-2011
Opata, Michael, Dept. of Microbiology, Immunology & Molecular Genetics, 2008-2011
Fleishaker, Erica, Dept. of Microbiology, Immunology & Molecular Genetics, 2011
Ye, Shaojing, Dept. of Molecular and Cellular Biochemistry (outside examiner), 2011
Ren, Hui, Dept. of Microbiology, Immunology & Molecular Genetics, 2007-2012
Frantz, Aubrey, Dept. of Microbiology, Immunology & Molecular Genetics, 2008-2012
Hoskins, Samantha, Dept. of Microbiology, Immunology & Molecular Genetics, 2008-2012
Rogier, Eric, Dept. of Microbiology, Immunology & Molecular Genetics, 2009-2012
Birket, Susan, College of Pharmacy, 2009-2012
Gachuki, Beth, Medical Sciences M.S. Program, 2010-2012
Kurkjian, Cathryn, Dept. of Microbiology, Immunology & Molecular Genetics, 2009-present
Ellis, Gavin, Dept. of Microbiology, Immunology & Molecular Genetics, 2009-present

International

First opponent, Ph.D dissertation examination of Hilde Schjerven, University of Oslo, Norway,
March 2003

Undergraduate student research rotations in my laboratory

Case Western Reserve University, Cleveland, OH, 1983-1993:

Brashear, Linda
 Garde, Kathleen; subsequently received M.D. from CWRU
 Hsieh, May-Chuen; subsequently received M.D. from CWRU
 Moeslin, Fred; subsequently received M.D., Ph.D. from CWRU
 Mroz, Thomas
 Papas, Angela
 Sedlak, Thomas
 Umoh, Gloria

University of Kentucky, Lexington, KY, 1993-present

Osborne, Tim, Summer 1995; subsequently received M.D. from University of KY
 Tischner, Kim, Spring 1996
 Pierce, Amy, Summer 1996
 Brady, Colleen, Spring 1997
 Shipp, Johnna, Spring 1998
 McCool, Andrea, Spring 1999
 McGuire, Sarah, Summer – Fall 1999
 Sandoval, Katrina, Summer – Fall 1998
 West, Ryan, Fall 2001 – Spring 2002; subsequently received M.D. from University of KY
 Osterhage, Jennifer, Fall 2002
 Chady, Laura, Spring 2003
 Eaton, Matthew, Spring 2004
 Adkins, Dustin, Fall 2004
 Thompson, Stephanie, Spring 2005
 Van't Hof, Kathleen, Spring 2007
 Wright, Theodore, Spring 2008
 Craycraft, Ryan, Fall 2009
 Jarrar, Roaa, Spring 2010

High school student research rotations in my laboratory

Brashear, Linda; submitted research to a NASA contest for high school students and was one of two winners from Ohio; subsequently received B.S. from CWRU.
 Hsieh, May-Chuen; continued to work in my laboratory as an undergraduate and medical student; subsequently received B.S. and M.D. from CWRU and is now a practicing physician.
 Schottenstein, Melinda, Cincinnati OH, 1996-1997
 Leia Wedlund, Dunbar High School, Lexington, KY, 2011-2012; currently student at Harvard University.

RESEARCH ACCOMPLISHMENTS

Research Funding

Active:

Crohn's & Colitis Foundation of America Senior Research Award
 Cross-talk between gut bacteria and intestinal epithelial cells in IBD
 February 1, 2011 – January 31, 2014
 Role: Principal Investigator, 25% effort

NIH/NIDCR 5P20RR020145-03
 Center for Biologic Basis of Oral/Systemic Diseases (Principal Investigator, J.L. Ebersole)
 July 1, 2009 – June 30, 2014
 Role: Mentor for junior faculty project, 5% effort

Completed:

American Cancer Society
 A protective role for the polymeric immunoglobulin receptor in colitis-associated cancer (Principal Investigator, M.E. Bruno)
 July 1, 2010 – June 30, 2011
 Role: Mentor for junior faculty project, 5% effort

NIH R21 DE018332
 Effects of ART on oral epithelial cell biology (Principal Investigator, C.S. Miller)
 August 1, 2007 – July 31, 2011
 Role: Co-Investigator, 7.5% effort

NIH R21AI069027-01A1
 Novel in vivo models for cell-type specific MyD88 signaling in the intestine
 Sept 1, 2007 – Aug 31, 2010
 The goal of this project is to develop chimeric and transgenic mouse models in which expression of the Toll adaptor protein MyD88 is limited to epithelial or bone-marrow derived cells.
 Role: Principal Investigator, 30% effort

Crohn's & Colitis Foundation of America Senior Research Award
 Regulation of pro- and anti-inflammatory gene expression in intestinal epithelial cells by colonic bacteria
 The goal of this project is to determine the mechanisms by which colonic bacteria differentially regulate expression of pro- and anti-inflammatory genes in intestinal epithelial cells.
 January 1, 2006 – June 30, 2008
 Role: Principal Investigator, 25% effort

Translational Research Grant, AstraZeneca International
 Regulation of the polymeric immunoglobulin receptor in Crohn's Disease (Principal Investigator, R. Arsenescu)
 April 1, 2007 – March 31, 2008

Role: Co-Investigator, 10% effort

NIH 2R01AI043197-06

Molecular Adjuvants for NALT-based immunity to anthrax (Principal Investigator, J.R. McGhee,
University of Alabama, Birmingham)

April 1, 2003 – March 31, 2008

Role: Co-Investigator, 5% effort

NIH-T32-CA-09509-17

Tumor Immunology and Cancer Cell-Molecular Biology (Principal Investigator, A.M. Kaplan)

July 1, 1985 – April 30, 2007

Role: Co-Investigator (Training grant)

5P20RR020145-03

Center for Biologic Basis of Oral/Systemic Diseases (Principal Investigator, J.L. Ebersole)

September 23, 2004 – July 31, 2009

Role: Participating faculty

NIH 5R01CA051998-1

Regulation of the polymeric immunoglobulin receptor

April 1, 1990 – January 31, 2005

Principal Investigator, 30% effort

University of Kentucky Medical Center Research Fund Grant #760

Tissue-specific regulation of the polymeric immunoglobulin receptor

July 1, 1995 - June 30, 1996

Principal Investigator, 25% effort

NIH RO1DK43999

Targeting genes to cells relevant to cystic fibrosis (Principal Investigator, P.B. Davis)

1991 – 1993, Co-Investigator, 10% effort

NIH RO1AI26449

Studies on Secretory Immunoglobulin (Principal Investigator, M.E. Lamm)

1983 - 1993, Co-Investigator, 20% effort

NIH HD05885

National Research Service Award (postdoctoral fellowship)

Surface Membrane Antigens in Mammary Tissue

August 1, 1980 - July 31, 1982

Principal Investigator, 100% effort

NSF SPI79-14872

National Needs Postdoctoral Fellowship

Surface Membrane Antigens in Mammary Tissue

October 1, 1979 - July 31, 1980

Principal Investigator, 100% effort

Invited Seminars, Symposia and Workshops

International:

- McMaster University, Hamilton, Ontario, CANADA, April 1992
 “Regulation of IgA Transport by the Polymeric Immunoglobulin Receptor”
- 660th Meeting, Joint Congress of The British Society for Immunology and The Biochemical Society, Harrogate, UNITED KINGDOM, December 1996
 “The Polymeric Immunoglobulin Receptor: Structure and Synthesis”
- 11th International Congress of Immunology, Stockholm, SWEDEN, July 2001, Symposium on Effector Mechanisms at Mucosal Tissues, “Regulation of Mucosal IgA Transport by the Polymeric Ig Receptor”
- 11th International Congress of Mucosal Immunology, Orlando, FL, USA, June 2002, Chair, Symposium on Immunoglobulin Transport Across Epithelial Surfaces
- Norwegian Society for Immunology, Oslo, NORWAY, March 2003, “For Whom the Bell Tolls: Cross-Talk between Innate and Adaptive Immune Systems in the Intestine”
- McMaster University, Hamilton, Ontario, CANADA, October 2004, “Regulation of IgA transport and Intestinal Inflammation by Toll-like Receptor Signaling”
- 12th International Congress of Mucosal Immunology, Boston, MA, USA, June 2005, Chair, Symposium on Polymeric Immunoglobulin Receptor and IgA
- 12th International Congress of Mucosal Immunology, Boston, MA, USA, June 2005, “Colonic bacteria up-regulate expression of the polymeric immunoglobulin receptor *in vivo* and *in vitro* through TLR4 signaling”
- Tayside Immunology Group, University of Dundee, UNITED KINGDOM, September 2007, “From Bench to Bedside: Epithelial Transport of IgA and Intestinal Homeostasis”
- 14th International Congress of Mucosal Immunology, Boston, MA, USA, July 2009, Co-Chair, Workshop on Microbes and Mucosal Immunity
- 14th International Congress of Mucosal Immunology, Boston, MA, USA, July 2009, Chair, Plenary Session, “Immunoglobulin & B Cell Function at Mucosae”
- 15th International Congress of Mucosal Immunology, Paris, FRANCE, July 2011, Session Chair, “IgA, Polymeric Receptor and Peyer’s Patch B Cell Lymphopoiesis”
- 16th International Congress of Mucosal Immunology, Vancouver, CANADA, July 2013, Session Chair, “B Cells and Lymphoid Organogenesis”

National:

Keystone Symposium on Mucosal Immunology: New Strategies for Protection against Viral and Bacterial Pathogens, Keystone, Colorado, January, 1995

“Regulation of Expression of the Polymeric Immunoglobulin Receptor”

New York University Medical Center, Department of Pathology, February, 1996

“Cytokine Regulation of the Human Polymeric Immunoglobulin Receptor”

University of Alabama, Birmingham, AL, Dept. of Microbiology and Immunology, Dec 1997

“Regulation of IgA Transport by the Polymeric Immunoglobulin Receptor”

Walter Reed Army Institute of Research, Third National Symposium on Basic Aspects of Vaccines, Washington, DC, May 1998, “Regulation of The Polymeric Ig Receptor, the Mucosal IgA Transporter”

University of Alabama, Birmingham, AL, Dept. of Microbiology and Immunology, Oct 1999

Research Seminar: “Regulation of the Polymeric Immunoglobulin Receptor”

University of Alabama, Birmingham, AL, Dept. of Microbiology and Immunology, Oct 1999

Visiting Professorship, Graduate Course in Immunology

“Epithelial Transcytosis of Immunoglobulins”

Keystone Symposium on Innate and Acquired Immunity at Mucosal Surfaces, Taos, NM, Jan 2000, Workshop Chair, “Luminal and Mucosal Host Defense Mechanisms”

Albany Medical College, Albany, New York, Dept. of Immunology, Jan 2000

“Regulation of IgA Transport by the Polymeric Immunoglobulin Receptor”

Mercer University School of Medicine, Department of Basic Sciences, Dec 2001

“IgA: The First Line of Immunological Defense”

West Virginia University, Morgantown, WV, Dept. of Microbiology and Immunology, Mar 2002

“Regulation of IgA Transport by the Polymeric Immunoglobulin Receptor”

Case Western Reserve University, Cleveland, OH, Dept. of Pathology, Mar 2004. “For Whom the Bell Tolls: Cross-Talk between Innate and Adaptive Immune Systems in the Intestine”

University of Texas, San Antonio, Dept. of Biology, Feb 2005. “The polymeric immunoglobulin receptor: bridging innate and adaptive immune responses at mucosal surfaces”

American Association of Immunologists Annual Meeting, Boston, MA, June 2006. Co-Chair of Block Symposium: “Preventing Intolerance at Mucosal Surfaces”

Case Western Reserve University, Cleveland, OH, Dept. of Pathology, Feb 2007. “Regulation of IgA Transport in the Intestine: Cross-Talk Between Commensal Bacteria and Epithelial Cells”

- American Association of Immunologists Annual Meeting, San Diego, CA, May 2008. Co-Chair of Guest Symposium for the Society for Mucosal Immunology
- American Association of Immunologists Annual Meeting, San Diego, CA, May 2008. “Signature biomarkers in Crohn’s Disease: Toward a Molecular Classification”
- Federation of Clinical Immunology Societies Annual Meeting, Boston, MA, June 2008. “Signature biomarkers in Crohn’s Disease: Toward a Molecular Classification”
- Federation of Clinical Immunology Societies Annual Meeting, Boston, MA, June 2008. Co-Chair of Satellite Symposium sponsored by the Society for Mucosal Immunology, the American Academy of Allergy, Asthma & Immunology and the Crohn’s & Colitis Foundation of America: “Antigen Recognition at Mucosal Surfaces: Implications for Allergic, Inflammatory and Immunologic Diseases”
- American Association of Immunologists Annual Meeting, Seattle, WA, May 2009. Co-Chair of Guest Symposium for the Society for Mucosal Immunology
- Federation of Clinical Immunology Societies Annual Meeting, Boston, MA, June 2010. Co-Chair of Satellite Symposium sponsored by the Society for Mucosal Immunology and the American Uveitis Society: “Cross-talk between Innate and Adaptive Immune Cells at Mucosal Surfaces: Implications for Mucosal Diseases”
- American Gastroenterological Association Symposium on Gastroenterological Response to Intestinal Injury, Scottsdale, AZ, September 2010. Co-Chair, Workshop on Microbes and Mucosal Immunity
- American Association of Immunologists Annual Meeting, San Francisco, CA, May 2011. Co-Chair of Guest Symposium for the Society for Mucosal Immunology
- Regional:*
- Cleveland Clinic Foundation, Cleveland, OH, Department of Immunology, May 1987
“Secretory IgA Assembly in Mucosal Epithelium”
- Cleveland Clinic Foundation, Cleveland, OH, Department of Immunology, June, 1990
“Cytokine Regulation of the Polymeric Immunoglobulin Receptor”
- MetroHealth Medical Center, Cleveland, OH, December 1992
City Wide Gastroenterology and Hepatology Grand Rounds
“Immunoglobulins—IgA”
- Midway College, Midway, KY, April 1997
“IgA Transport by the Polymeric Immunoglobulin Receptor”
- Morehead University, Morehead, KY, February 2002
“IgA: The First Line of Immunological Defense”

Intramural:

Case Western Reserve University, Cleveland, OH:

Immunology Seminar, April, 1985

“Assembly of Secretory IgA in the Intestine”

Dept. of Pathology Seminar, October, 1985

“Disulfide Interchange Enzymes in Epithelial Cells: A Possible Role in IgA Transport”

Immunology Seminar, December, 1986

“Expression of the IgA Receptor in HT-29 Human Colon Carcinoma Cells”

Cell Biology Colloquium, October, 1987

“Epithelial Transcytosis of Immunoglobulins”

Dept. of Pediatrics Seminar, May, 1988

“Regulation of IgA Receptor Expression in Epithelial Cells”

Dept. of Pharmacology Seminar, October, 1988

“Regulation of Polymeric Ig Receptor Expression in Polarized Epithelial Cells”

Dept. of Molecular Biology and Microbiology Seminar, April, 1989

“Regulation of IgA Transport”

Dept. of Pathology Seminar, April, 1990

“Regulation of IgA Transport”

Infectious Diseases Fellows Course, October, 1990

“Antibody Structure & Function”

Dept. of Pharmacology Seminar, December, 1990

“Role of Disulfide Bonding in Secretory IgA Assembly and Transport”

Immunology Seminar, October, 1992

“The Polymeric Immunoglobulin Receptor and IgA Function”

Rheumatology Grand Rounds, February, 1993

“IgA and Host Defense”

University of Kentucky, Lexington, KY:

Dept. of Microbiology and Immunology Research Seminar, July 1993

“Regulation of IgA Transport and Function”

Dept. of Obstetrics and Gynecology Research Seminar, March 1994

“Regulation of IgA Transport by the Polymeric Immunoglobulin Receptor”

Dept. of Pathology and Laboratory Medicine, Fall 1994

“Regulation of IgA Transport by the Polymeric Immunoglobulin Receptor”

Dept. of Microbiology and Immunology Research Seminar, November 1996

“Regulation of Expression of the Polymeric Immunoglobulin Receptor”

AIDS Research Conference, seminar presentation, July 1996

“Regulation of IgA Transport in Infectious Disease”

Dept. of Pathology and Laboratory Medicine, Fall 1999

“Immunopathology of the Polymeric Immunoglobulin Receptor”

Dept. of Veterinary Science, Gluck Equine Research Center, February 2000

“Regulation of IgA transport: How antibodies get into the gut”

Dept. of Pathology and Laboratory Medicine, Spring 2003

“For Whom the Bell Tolls: Cross-Talk between Innate and Adaptive Immune Systems in the Intestine”

Dept. of Surgery, February 2005

“Regulation of IgA Transport and Inflammation in the Intestine”

Continuing Medical Education conference, March 2007

“Regulation of IgA Transport in the Intestine: Cross-Talk Between Commensal Bacteria and Epithelial Cells”

Dept. of Pathology & Laboratory Medicine, January 2008

“Signature biomarkers in Crohn’s Disease: Toward a Molecular Classification”

Dept. of Microbiology, Immunology & Molecular Genetics, Immunology Musings, March 2010

“Protection of mucosal surfaces by IgA”

Oral and Poster Presentations at Scientific Conferences

Federation of American Societies for Experimental Biology and Medicine, Atlantic City, NJ, April 1974 (oral presentation).

Federation of American Societies for Experimental Biology and Medicine, Anaheim, CA, April 1976 (2 posters).

Federation of American Societies for Experimental Biology and Medicine, Chicago, IL, April 1977 (1 oral presentation and 1 poster).

Federation of American Societies for Experimental Biology and Medicine, Atlantic City, NJ, April 1978 (poster).

American Society for Biological Chemistry, New Orleans, LA, June 1980 (poster).

American Society for Biological Chemistry, St. Louis, MO, June 1981 (poster).

Federation of American Societies for Experimental Biology and Medicine, New Orleans, LA, April, 1982 (poster).

American Society for Cell Biology, Baltimore, MD, December 1982 (2 posters).

American Society for Cell Biology, Kansas City, MO, December, 1984 (2 posters)

2nd International Congress for Mucosal Immunology, Niagara Falls, NY, June, 1986 (poster).

American Society for Cell Biology, Washington, DC, December, 1986 (poster).

American Society for Cell Biology, St. Louis, MO, December, 1987 (2 posters).

Federation of American Societies for Experimental Biology and Medicine, Las Vegas, NV, April, 1988 (poster).

The American Association for the Study of Liver Diseases. 40th annual meeting and postgraduate course, Chicago, IL, October, 1989 (poster).

American Society for Cell Biology, Houston, TX, November, 1989 (2 posters).

The American Association for the Study of Liver Diseases. 41st annual meeting and postgraduate course, Chicago, IL, October, 1990 (poster).

American Society for Cell Biology, San Diego, CA, December, 1990 (poster).

Federation of American Societies for Experimental Biology and Medicine, Atlanta, GA, April 1991 (3 posters).

Federation of American Societies for Experimental Biology and Medicine, Anaheim, CA, 1992 (5 posters).

Joint Meeting of the American Association of Immunologists and the Clinical Immunology Society, Denver, CO, June, 1993 (poster).

Keystone Symposium on Mucosal Immunology: New Strategies for Protection against Viral and Bacterial Pathogens, Keystone, Colorado, January, 1995 (oral presentation).

- Joint Meeting of the American Society for Biochemistry and Molecular Biology, the American Society for Investigative Pathology and the American Association of Immunologists, New Orleans, LA, June, 1996 (3 posters).
- 660th Meeting, Joint Congress of The British Society for Immunology and The Biochemical Society, Harrogate, UNITED KINGDOM, December, 1996 (oral presentation).
- 26th Annual Autumn Immunology Conference, Chicago, IL, November, 1997 (2 posters).
- Walter Reed Army Institute of Research, Third National Symposium on Basic Aspects of Vaccines, Washington, DC, May 1998 (oral presentation).
- Keystone Symposium on Experimental Models of Immune Dysregulation and Mucosal Inflammation: Impact on the Understanding and Treatment of the Inflammatory Bowel Diseases, Santa Fe, NM, January, 1999 (2 posters).
- Experimental Biology 1999, Washington, D.C., April, 1999 (2 posters).
- Keystone Symposium on Innate and Acquired Immunity at Mucosal Surfaces, Taos, NM, Jan 2000 (1 oral presentation and 3 posters).
- Experimental Biology 2001, Orlando, FL, April, 2001 (1 oral presentation and 3 posters).
- 11th International Congress of Immunology, Stockholm, SWEDEN, July 2001 (oral presentation).
- Keystone Symposium on Microbial-Epithelial-Lymphocyte Interactions in Mucosal Immunity, Breckenridge, CO, April 2002 (1 oral presentation and 1 poster)
- 11th International Congress of Mucosal Immunology, Orlando, FL, June 2002 (1 oral presentation and 3 posters).
- American Association of Immunologists, Denver, CO, May 2003 (4 posters)
- Autumn Immunology Congress, Chicago IL, November 2003 (2 posters)
- 12th Interational Congress of Immunology, Montreal, Quebec, CANADA, July 2004 (2 posters)
- 12th International Congress of Mucosal Immunology, Boston, MA, June 2005 (1 oral presentation and 2 posters)
- American Association of Immunologists, Boston, MA, May 2006 (1 oral presentation, 1 poster, co-chair of block symposium)
- American Association of Immunologists, Miami, FL, May 2007 (poster presentation)
- International Congress of Mucosal Immunology, Tokyo, JAPAN, July 2007 (co-author, oral presentation)
- International Congress of Immunology, Rio de Janiero, BRAZIL, August 2007 (oral presentation)
- 6th Annual Advances in the Inflammatory Bowel Diseases, Aventura FL, December 2007 (poster presentation)
- American Association of Immunologists, San Diego, CA, April 2008 (1 oral presentation, 3 posters, presentation, co-chair of block symposium)
- Federation of Clinical Immunology Societies, Boston, MA, June 2008 (1 oral presentation, co-chair of satellite symposium)
- Autumn Immunology Conference, Chicago, IL, November 2008 (2 posters)
- Microbes and Mucosal Immunity Workshop, Boston, MA, June 2009 (Co-chair of workshop)
- International Congress of Mucosal Immunology, Boston, MA, July 2009 (2 oral presentations, 1 poster, chair of plenary symposium)
- Autumn Immunology Conference, Chicago, IL, November 2009 (2 posters)
- Autumn Immunology Conference, Chicago, IL, November 2010 (2 posters)
- International Congress of Mucosal Immunology, Paris, France, July 2011 (2 oral presentations, 1 poster, session chair)
- International Congress of Mucosal Immunology, Vancouver, Canada, July 2013 (1 oral presentation, 1 poster, session chair)

PUBLICATIONS

NOTE former names: *Charlotte A. Slayton; Charlotte S. Nace.*

Peer-reviewed articles:

1. Slayton, C.A. & Szepesi, B. (1973) The role of a high fat diet in the re-repression of two rat liver enzymes. Proc. Soc. Exp. Biol. Med. 144:876-881.
2. Szepesi, B., Slayton, C.A. & Michaelis, O.E., IV. (1974) Further studies on the time course of rerepression of two rat liver enzymes. Proc. Soc. Exp. Biol. Med. 145:729-733.
3. Szepesi, B., Michaelis, O.E., IV & Slayton, C.A. (1974) Evidence for translational and transcriptional rerepression of two rat liver enzymes. Nutr. Rep. Int. 9:91-95.
4. Michaelis, O.E., IV, Nace, C.S. & Szepesi, B. (1975) Demonstration of a specific metabolic effect of dietary disaccharides in the rat. J. Nutr. 105:1186-1191.
5. Nace, C.S. & Szepesi, B. (1975) Dietary saturated fat and hepatic lipogenesis in the starved-refed rat. Nutr. Rep. Int. 12:305-310.
6. Nace, C.S. & Szepesi, B. (1976) Dietary fatty acids and the control of glucose-6-phosphate dehydrogenase and malic enzyme in the starved-refed rat. J. Nutr. 106:285-291.
7. Nace, C.S. & Szepesi, B. (1977) Response of glucose-6-phosphate dehydrogenase and malic enzyme in rat liver and adipose tissue to dietary medium and long chain triglycerides. J. Nutr. 107:934-941.
8. Nace, C.S. & Szepesi, B. (1977) Independence of glycogen accumulation and glucose-6-phosphate dehydrogenase induction in rat liver. J. Nutr. 107:2109-2112.
9. Michaelis, O.E., IV, Nace, C.S. & Szepesi, B. (1978) Effect of refeeding raw and cooked starches on hepatic enzyme activities of rats. Brit. J. Nutr. 39:85-89.
10. Michaelis, O.E., IV, Scholfield, D.J., Nace, C.S. & Reiser, S. (1978) Demonstration of the disaccharide effect in nutritionally stressed rats. J. Nutr. 108:919-925.
11. Nace, C.S., Szepesi, B. & Michaelis, O.E., IV (1979) Regulation of glucose-6-phosphate dehydrogenase induction in liver and adipose tissue: Effect of dietary trilinolein level in starved-refed and ad libitum fed rats. J. Nutr. 857:1094-1102.
12. Mather, I. H., Nace, C.S., Johnson, V.G. & Goldsby, R.A. (1980) Preparation of monoclonal antibodies to xanthine oxidase and other proteins of bovine milk-fat-globule membrane. Biochem. J. 188:925-928.
13. Kaetzel, C.S., & Ray, D.B. (1984) Immunochemical characterization of three major caseins and alpha-lactalbumin from rat milk using monoclonal antibodies. J. Dairy Sci. 67:64- 75.

14. Kaetzel, D. M., Fu, I.Y., Christiansen, M., Kaetzel, C.S., Soares, J.H. & Lambert, P.W. (1984) Isolation of a 110,000 molecular weight protein in the purification of the nuclear chick intestinal 1,24-dihydroxyvitamin D₃ receptor. *Biochim. Biophys. Acta* 797:312-319.
15. Kaetzel, C.S., Mather, I.H., Bruder, G. & Madara, P.J. (1984) Characterization of a monoclonal antibody to bovine xanthine oxidase. *Biochem. J.* 219:917-925.
16. Lee, E.Y.-H.P., Lee, W.-H., Kaetzel, C.S., Parry, G. and Bissell, M.J. (1985) Interaction of mouse mammary epithelial cells with collagen substrata: Regulation of casein gene expression and secretion. *Proc. Natl. Acad. Sci. USA* 82:1419-1423.
17. Kaetzel, C.S., Rao, C.K. & Lamm, M.E. (1987) Protein disulphide-isomerase from human placenta and rat liver. Purification and immunological characterization with monoclonal antibodies. *Biochem. J.* 241:39-47.
18. Parry, G., Cullen, B., Kaetzel, C.S., Kramer, R. & Moss, L. (1987) Regulation of differentiation and polarized secretion in mammary epithelial cells maintained in culture: Extracellular matrix and membrane polarity influences. *J. Cell Biol.* 105:2043-2051.
19. Lewandowska, K., Kaetzel, C.S., Zardi, L. & Culp, L. A. (1988) Binding characteristics of complementary fibronectin fragments on artificial substrata. *FEBS Lett.* 237:35-39.
20. Kaetzel, C.S., Robinson, J.K., Chintalacharuvu, K.R., Vaerman, J.-P. & Lamm, M.E. The polymeric immunoglobulin receptor mediates transport of IgA immune complexes across epithelial cells: A local defense function for IgA. (1991) *Proc. Natl. Acad. Sci. USA* 88:8796-8800.
21. Chintalacharuvu, K.R., Piskurich, J.F., Lamm, M.E. & Kaetzel, C.S. (1991) Cell polarity regulates the release of secretory component, the epithelial receptor for polymeric immunoglobulins, from the surface of HT-29 colon carcinoma cells. *J. Cell. Physiol.* 148:35-47.
22. Fiedler, M.A., Kaetzel, C.S. & Davis, P.B. (1991) Sustained production of secretory component by human tracheal epithelial cells in primary culture. *Am. J. Physiol. (Lung Cell Mol. Physiol.)* 261:L255-L261.
23. Flanigan, T. P., Aji, T., Marshall, R., Soave, R., Aikawa, M. & Kaetzel, C.S. (1991) Asexual development of *Cryptosporidium parvum* within a differentiated human enterocyte cell line. *Infection and Immunity* 59:234-239.
24. Aji, T., Flanigan, T., Marshall, R., Kaetzel, C. & Aikawa, M. (1991) Ultrastructural study of asexual development of *Cryptosporidium parvum* in a human intestinal cell line. *J. Protozool.* 38:82S-84S.
25. Pretlow, T.G., Pretlow, T.P., Yang, B., Kaetzel, C.S., Delmoro, C.M., Kamis, S.M., Bodner, D.R., Kursh, E., Resnick, M.I. & Bradley, J.R. (1991) Tissue concentrations of prostate-specific antigen in prostatic carcinoma and benign prostatic hyperplasia. *Int. J. Cancer* 49:645-649.

26. Mazanec, M.B., Kaetzel, C.S., Lamm, M.E., Fletcher, D. & Nedrud, J.G. (1992) Intracellular neutralization of virus by IgA antibodies. *Proc. Natl. Acad. Sci. USA* 89:6901-6905.
27. Flanigan, T., Marshall, R., Redman, D., Kaetzel, C. & Ungar, B. (1992) In vitro screening of therapeutic agents against *Cryptosporidium*: Hyperimmune cow colostrum is highly inhibitory. *J. Protozoology* 38:225S-227S.
28. Chintalacharuvu, K.R., Lamm, M.E. & Kaetzel, C.S. (1993) Unstable inter-H chain disulfide bonding and noncovalently associated J chain in rat dimeric IgA. *Mol. Immunol.* 30:19-26.
29. Piskurich, J.F., France, J.A., Tamer, C.M., Kaetzel, C.S. & Kaetzel, D.M. (1993) Interferon-gamma induces polymeric immunoglobulin receptor mRNA in human intestinal epithelial cells by a protein synthesis dependent mechanism. *Mol. Immunol.* 30:413-421.
30. Kaetzel, D.M., Bonfield, T.L., Knauss, T.C., Corsillo, L., Piskurich, J.F., Kube, D.M., Kaetzel, C.S. & Fenstermaker, R.A. (1993) A cationic region of the PDGF A-chain (Arg₁₅₉Lys₁₆₀Lys₁₆₁) is required for optimal receptor binding and mitogenic activity of the PDGF-AA homodimer. *J. Biol. Chem.* 268:10482-10489.
31. Ferkol, T., Kaetzel, C.S. & Davis, P.B. (1993) Gene transfer into respiratory epithelial cells by targeting the polymeric immunoglobulin receptor. *J. Clin. Invest.* 92:2394-2400.
32. Chintalacharuvu, K.R., Tavill, A.S., Louis, L.N., Vaerman, J.-P., Lamm, M.E. & Kaetzel, C.S. (1994) Disulfide bond formation between dimeric IgA and the polymeric immunoglobulin receptor during hepatic transcytosis. *Hepatology* 19:162-173.
33. Kaetzel, C.S., Robinson, J.K. & Lamm, M.E. (1994) Epithelial transcytosis of monomeric IgA and IgG cross-linked through antigen to polymeric IgA: A role for monomeric antibodies in the mucosal immune system. *J. Immunol.* 152:72-76.
34. Youngman, K.R., Fiocchi, C. & Kaetzel, C.S. (1994) Inhibition of interferon-gamma activity in supernatants from stimulated human intestinal mononuclear cells prevents up-regulation of the polymeric immunoglobulin receptor in an intestinal epithelial cell line. *J. Immunol.* 153:675-681.
35. Piskurich, J.F., Blanchard, M.H., Youngman, K.R., France, J.A. & Kaetzel, C.S. (1995) Molecular cloning of the mouse polymeric immunoglobulin receptor: Functional regions of the molecule are conserved among five mammalian species. *J. Immunol.* 154:1735-1747.
36. Ferkol, T., Perales, J.C., Kaetzel, C.S., Hanson, R.W. & Davis, P.B. (1995) Gene transfer into the airway epithelium of animals by targeting the polymeric immunoglobulin receptor. *J. Clin. Invest.* 95:493-502.
37. Tamer, C.M., Lamm, M.E., Robinson, J.K., Piskurich, J.F. & Kaetzel, C.S. (1995) Comparative studies of transcytosis and assembly of secretory IgA in MDCK cells expressing human polymeric Ig receptor. *J. Immunol.* 155:707-714.

38. Piskurich, J.F., Youngman, K.R., Phillips, K.M., Hempen, P.M., Blanchard, M.H., France, J.A. & Kaetzel, C.S. (1997) Transcriptional regulation of the human polymeric immunoglobulin receptor gene by interferon- γ . *Mol. Immunol.* 34:75-91.
39. Vaerman, J.-P., Langendries, A.E., Giffroy, D.A., Kaetzel, C.S., Tamer Fiani, C.M., Moro, I., Brandtzaeg, P. & Kobayashi, K. (1998) Antibody to human J chain inhibits polymeric Ig receptor-mediated biliary and epithelial transport of human polymeric IgA. *Eur. J. Immunol.* 28:171-182.
40. Blanch, V.J., Piskurich, J.F. & Kaetzel, C.S. (1999) Cutting Edge: Coordinate regulation of interferon regulatory factor-1 and the polymeric Ig receptor by pro-inflammatory cytokines. *J. Immunol.* 162:1232-1235.
41. Bruce, S.R., Kaetzel, C.S. & Peterson, M.L. (1999) Cryptic intron activation within the large exon of the mouse polymeric immunoglobulin receptor gene: cryptic splice sites correspond to protein domain boundaries. *Nucl. Acids Res.* 27:3446-3454.
42. Hempen, P.M., Phillips, K.M., Conway, P.S., Sandoval, K.H., Wu, H.-J. & Kaetzel, C.S. (2002) Transcriptional regulation of the human polymeric Ig receptor gene: analysis of basal promoter elements. *J. Immunol.* 169:1912-1921.
43. Traicoff, J.L., De Marchis, L., Ginsburg, B.L., Zamora, R.E., Khattar, N.H., Blanch, V.J., Plummer, S., Bargo, S.A., Templeton, D.L., Casey, G. & Kaetzel, C.S. (2003) Characterization of the human polymeric immunoglobulin receptor (*PIGR*) 3'UTR and differential expression of *PIGR* mRNA during colon tumorigenesis. *J. Biomed. Sci.* 10:792-804.
44. Bruno, M.E.C, West, R.B., Schneeman, T.A., Bresnick, E.H. & Kaetzel, C.S. (2004) Upstream Stimulatory Factor but not c-Myc enhances transcription of the human polymeric immunoglobulin receptor gene. *Mol. Immunol.* 40:695-708.
45. Wilder, J.L., Shajahan, S., Khattar, N.H., Wilder, D.M., Yin, D., Rushing, R.S., Beaven, R., Kaetzel, C.S., Ueland, F.R., van Nagell, J.R., Kryscio, R.J. & Lele, S.M. (2004) Tamoxifen-Associated Malignant Endometrial Tumors: Pathologic Features and Expression of Hormone Receptors Estrogen- α , Estrogen- β and Progesterone; A Case Controlled Study. *Gynecologic Oncology* 92:553-558.
46. Elm, C., Ranveig, B., Bergmann, S., Frank, R., Vaerman, J.-P., Kaetzel, C.S., Chhatwal, G.S., Johansen, F.-E. & Hammerschmidt, S. (2004) Ectodomains 3 and 4 of human polymeric immunoglobulin receptor (hpIgR) mediate invasion of *Streptococcus pneumoniae* into the epithelium. *J. Biol. Chem.* 279:6296-6304.
47. Khattar, N.H., Lele, S. & Kaetzel, C.S. (2005) Down-regulation of the polymeric immunoglobulin receptor in non-small cell lung carcinoma: correlation with dysregulated expression of the transcription factors USF and AP2. *J. Biomed Sci.* 12:65-77.
48. Pedigo, N.G., Zhang, H., Bruno, M.E., Kaetzel, C.S., Dugan, A., Shanehsaz, P., Koszewski, N.J. & Kaetzel, D.M. (2005) A 5'-distal enhanceosome in the PDGF-A gene is activated in choriocarcinoma cells via ligand-independent binding of vitamin D receptor and constitutive jun kinase signaling. *Oncogene* 24:2654-2666.

49. Bruno, M.E.C. & Kaetzel, C.S. (2005) Long-term exposure of the HT-29 human intestinal epithelial cell-line to TNF causes sustained up-regulation of the polymeric Ig receptor and pro-inflammatory genes through transcriptional and post-transcriptional mechanisms. *J. Immunol.* 174:7278-7284.
50. Pal, K., Kaetzel, C.S. & Cuff, C.F. (2005) Regulation of polymeric immunoglobulin receptor expression by reovirus. *J. Gen. Virology* 86: 2347-2357.
51. Schneeman, T.A., Bruno, M.E.C., Schjerven, H., Johansen, F.-E, Chady, L. & Kaetzel, C.S. (2005) Regulation of the polymeric Ig receptor by signaling through Toll-like receptors 3 and 4: linking innate and adaptive immune responses. *J. Immunol.* 175:376-384.
52. Arsenescu, R., Bruno, M.E.C., Rogier, E.W., Stefka, A.T., McMahan, A.E., Wright, B.T., Nasser, M.S., deVilliers, W.J.S. and Kaetzel, C.S. (2008) Signature biomarkers in Crohn's Disease: Towards a molecular classification. *Mucosal Immunology* 1:399-411.
53. Danaher, R.J., Wang, C., Roland, A.T., Kaetzel, C.S., Greenberg, R.N. & Miller, C.S. (2010) HIV protease inhibitors block oral epithelial cell DNA synthesis. *Arch. Oral Biol.* 55:95-100.
54. Bruno, M.E.C., Rogier, E.W., Frantz, A.L., Stefka, A., Thompson, S. & Kaetzel, C.S. (2010) Regulation of the polymeric immunoglobulin receptor in intestinal epithelial cells by *Enterobacteriaceae*: Implications for mucosal homeostasis. *Immunol. Invest.* 39:356-382.
55. Danaher, R.J., Kaetzel C.S., Greenberg, R.N., Wang, C., Bruno, M.E. & Miller, C.S. (2010) HIV protease inhibitors alter innate immune response signaling to double-stranded RNA in oral epithelial cells: implications for immune reconstitution inflammatory syndrome? *AIDS* 24:2587-2590.
56. Bruno, M.E.C., Frantz, A.L., Rogier, E.W., Johansen, F.E. & Kaetzel, C.S. (2011) Regulation of the polymeric immunoglobulin receptor by the classical and alternative NF- κ B pathways in intestinal epithelial cells. *Mucosal Immunology* 4:468-478.
57. Frantz, A.L., Bruno, M.E.C., Rogier, E.W., Tuna H., Cohen D.A., Bondada S., Chelvarajan R.L., Brandon, J.A, Jennings C.D. & Kaetzel, C.S. (2012) Multifactorial patterns of gene expression in colonic epithelial cells predict disease phenotypes in experimental colitis. *Inflammatory Bowel Diseases*, 18:2138-2148.
58. Frantz, A.L., Bruno, M.E.C., Rogier, E.W., Weber, C.R., Shen, L. and Kaetzel, C.S. (2012) Targeted deletion of MyD88 in intestinal epithelial cells results in compromised antibacterial immunity associated with down-regulation of polymeric immunoglobulin receptor, mucin-2 and antibacterial peptides. *Mucosal Immunology* 5:501-512.
59. Rogier, E.W., Frantz, A.L., Bruno, M.E., Wedlund, L., Cohen, D.A., Stromberg, A.J. & Kaetzel, C.S. (2014) Secretory antibodies in breast milk promote long-term intestinal homeostasis by regulating the gut microbiota and host gene expression. *Proc. Nat. Acad. Sci. USA* 111:3074–3079.

Invited reviews, proceedings and book chapters:

1. Rao, C.K., Kaetzel, C.S. & Lamm, M.E. (1987) Induction of secretory component synthesis in colonic epithelial cells. In: Recent Advances in Mucosal Immunology, Part B (Mestecky, J., et al., eds.), Plenum Press, New York, pp. 1071-1077.
2. Kaetzel, C.S., Banghart, L.R., Jackson, D.W., Madara, P.J., Jarasch, E.D. & Mather, I.H. (1987) Expression of a 95-100 kDa glycoprotein on the apical surfaces of bovine mammary epithelial cells during lactation. *Biochem. Soc. Trans.* 15:1117-1118.
3. Lamm, M.E., Robinson, J.K., Rao, C.K. & Kaetzel, C.S. (1991) Epithelial transport of IgA immune complexes. In: Immunology of Milk and the Neonate (Mestecky, J., et al., eds.), Plenum Press, New York, pp. 187-191.
4. Lamm, M.E., Mazanec, M.B., Nedrud, J.G. & Kaetzel, C.S. (1992) Mechanisms of IgA-mediated mucosal defense. *Vaccine Res.* 1:169-173.
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The work experience vs education debate is what that has been around for quite a long time. There is no clear answer as to which is appropriate and would accompany at all situations. The real world examples are Michael Dell, Bill Gates and Steve jobs who have been successful entrepreneurs and the astonishing part is that they are college dropouts. This example shows that education isn't necessary to come up in life. When an individual wants to get enrolled for university placements then he needs to obtain an education. With work experience, young professionals would gain real life skills and also genuine value from their placements. With work experience on the resume, you stand out of the crowd and present yourself to be enthusiastic. 3. To battle competition Education and Professional Experience. Summary of Achievements. Honors. Decision Sciences Institute. Professional employment experience. 2001 - University of Chattanooga Foundation Professor of Mathematics, University of Tennessee at Chattanooga. 1996- 2001 University of Chattanooga Foundation Associate Professor of Mathematics, University of Tennessee at Chattanooga. Experiential education is a philosophy of education that describes the process that occurs between a teacher and student that infuses direct experience with the learning environment and content. The term is not interchangeable with experiential learning; however experiential learning is a sub-field and operates under the methodologies of experiential education. The Association for Experiential Education regards experiential education as "a philosophy that informs many methodologies in which educators