

CURRICULUM VITAE

SARAH SARGENT GARBER, PH.D.

PERSONAL DATA

Office Address: Sarah S. Garber, Ph.D.
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Curricula/COP
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EDUCATION:

1987: Ph.D., Biochemistry
Brandeis University
Waltham, MA
*Science in a Box: Single Na⁺ Channels Modified by Veratridine and
Batrachotoxin.*

1981: B.A. (with Honors) Biology, major: Chemistry , minor
Barnard College
Columbia University
New York, New York

1977: Swarthmore College
Swarthmore, PA

POST-GRADUATE TRAINING:

1986-1990: Post-doctoral Fellow
Dept. Neurobiology
Stanford University
Stanford, CA

1987 Visiting Scientist
Marine Biological Laboratory
Woods Hole, MA

1990 Visiting Scientist
Max Planck Institute für biophysikalische Chemie
Goettingen, Germany

1990, 1991 Visiting Scientist
Department Physiology & Biophysics
University of California, Irvine
Irvine, CA

FACULTY APPOINTMENTS:

1990-1992: Research Instructor
Department Physiology & Biophysics
University of Alabama
Birmingham, AL

1990-1992: Associate Scientist

Cystic Fibrosis Research Center
Neurobiology Research Center
University of Alabama
Birmingham, AL

1992 Visiting Assistant Professor
Department Physiology & Biophysics
University of California, Irvine
Irvine, CA

1992-1998 Assistant Professor
Department of Physiology
Medical College of PA & Hahnemann University
Philadelphia, PA 19129

1998-1999 Associate Professor, with Tenure
Department of Physiology
MCP Hahnemann University
Philadelphia, PA 19129

1999-current Associate Professor, with Tenure
Dept. of Physiology & Biophysics
The Chicago Medical School
Rosalind Franklin University of Medicine and Science
3333 Green Bay Road
North Chicago, IL 60064

2004- current Associate Professor of Basic Biomedical Sciences
Scholl College of Podiatric Medicine
Rosalind Franklin University of Medicine and Science
3333 Green Bay Road
North Chicago, IL 60064

2005-2008 Associate Professor, with Tenure
Dept. of Interprofessional Healthcare Studies
College of Health Professions
Rosalind Franklin University of Medicine and Science
3333 Green Bay Road
North Chicago, IL 60064

2008-2010 Professor, with Tenure
Dept. of Interprofessional Healthcare Studies
College of Health Professions
Rosalind Franklin University of Medicine and Science
3333 Green Bay Road
North Chicago, IL 60064

2010-2011 Professor, with Tenure
Director of Assessment and Interprofessional Curricula/COP
Dept. of Pharmaceutical Sciences/COP (primary appt)
Dept of Interprofessional Health Care Studies/CHP (secondary appt)
Dept. of Physiology & Biophysics/CMS (secondary appt)
Dept of Basic Biomedical Sciences/SCPM (secondary appt)
Rosalind Franklin University of Medicine and Science
3333 Green Bay Road
North Chicago, IL 60064

2011-current Professor, with Tenure
Asst. Dean of Assessment and Director of Interprofessional Studies/COP
Dept. of Pharmaceutical Sciences/COP (primary appt)
Dept of Interprofessional Health Care Studies/CHP (secondary appt)
Dept. of Physiology & Biophysics/CMS (secondary appt)
Dept of Basic Biomedical Sciences/SCPM (secondary appt)
Rosalind Franklin University of Medicine and Science
3333 Green Bay Road
North Chicago, IL 60064

AWARDS AND HONORS:

1981 Research Fellowship
Merck, Sharp and Dohme
Rahway, NJ

1986 Grass Fellowship in Neurophysiology
Marine Biological Laboratory
Woods Hole, MA

1986, 1988 Katherine McCormick Fellowship
Stanford University School of Medicine
Stanford, University
Stanford, CA

1988-1989 Post-doctoral Fellowship in Cystic Fibrosis
Stanford University Cystic Fibrosis Research Development Program
Stanford, University
Stanford, CA

1991 Stephen Kuffler and Rand Fellowships
Marine Biological Laboratory
Woods Hole, MA

1994-1999 Established Investigator Award
American Heart Association, Dallas, TX

1996 To Marcy Hubert, Graduate Student, First Prize, Poster Award, Midwest
Physiological Soc. Annual Meeting, June 2000.

2002 The Erik B. Fries Endowed Fellowship, Marine Biological Laboratory,
Woods Hole, MA

2004 Vel Nair Fellowship, Rosalind Franklin University

2011 University Service Award, Rosalind Franklin University

MEMBERSHIPS IN PROFESSIONAL SOCIETIES:

1983- current Biophysical Society
1987-2000 Society for Neuroscience
1987-2000 Marine Biological Laboratory
1992- current Society of General Physiologists
1992- current American Association for the Advancement of Science
2000- current American Physiological Society
2006- current International Association of Medical Science Educators (IAMSE)

PROFESSIONAL COMMITTEES AND ADMINISTRATIVE SERVICE:

Institutional (RFU only)

2000- 2002	Student Evaluation, Promotion and Awards Committee
2000- 2002	MD/PhD Advisor, First & Second Years
2000- 2002	Ad-Hoc Tenure Review Committee, Chair
2002	Neuroscience Course Review
2003	Ad-Hoc Advisory Committee on Chair Appointments
2002- 2005	Faculty Appointments, Promotion and Tenure Committee (CMS)
2003- 2005	CMS Scholarship Committee
2003	LCME Review Subcommittee: Faculty
2001- 2004	Committee on Professionalism in the Workplace
2004- 2006	Committee of Professionalism in the Workplace, Chair
2004- 2008	EEOC Working Group
2000- 2006	Faculty Student Forum Committee
2002- 2009	Senator-at-Large, District II
2002- 2010	Senate Executive Comm.
2005- 2007	Deputy-Principal Senator, Senate Executive Comm.
2004- 2009	Asst. Director of Research Scholl College of Podiatric Medicine
2004- 2008	MD/PhD Program Committee
2004- 2008	DPM/PhD Program Committee, Chair
2005-current	Educational Research and Scholarship Interest Group (ERSIG)
2005-2008	Cultural Awareness Initiative
2005- 2007	HLC Accreditation Steering Committee
2006- 2008	Vertical Integration Group: Physiology
2006-2009	2007-2011 Strategic Update Committee
2007-current	Interprofessional Curriculum Committee
2007-2009	Principal Senator, Senate Executive Comm.
2007-2011	2007-2011 Strategic Update Committee: Co- Champion for Multicultural Curriculum
2007-2011	2007-2011 Strategic Update Committee: Co- Champion for Interprofessional Initiative
2008	5-Year Review for Physician Asst. Dept
2008- 2009	Faculty Compensation Committee
2008- 2009	Lead Team
2009-2009	EO Working Group
2009-current	University Tenure Committee (<i>supernumerary</i>)
2010-2011	5-Year Review Dept. of Nutrition
2010-2011	Director, Program Assessment and Interprofessional Studies, COP
2010-current	First Year Planning Committee
2010-current	Student Learning and Assessment Committee
2010-current	Curriculum Committee: COP
2010-2011	Assessment Sub-Committee: COP
2010-current	Appointments and Promotion Committee: COP
2010-current	Pharmacy Executive Committee: COP
2010-current	CMS LCME Steering committee
2010-current	CMS Strategic Planning Committee
2011-current	University Strategic Planning Committee
2011-current	Asst Dean, Program Assessment and Director of Interprofessional Studies, COP
2011- current	Assessment and Evaluation Committee

EXTRA-MURAL

1991	Oversight Committee, Grass Fellowship Program, MBL, Woods Hole, MA
1992	Associate Director, Grass Fellowship Program, MBL, Woods Hole, MA
1992	Associate Director, Grass Fellowship Program, MBL, Woods Hole, MA
1994	Councilor, Society of General Physiology
1996-2002	Membrane Biophysics Subgroup Executive Committee, Biophysical Society

2000 Program Committee: 5th Annual Midwest Physiological Society Meeting
June 5-6.
2011-current Interprofessional Working Group: National Coalition

Grant Review Panels

1992 Ad Hoc Member, NIH AREA Grants
1995 Ad Hoc Member, NIH Endocrinology Study Section
1995 Medical Research Council of Canada
1996 Cell Transport and Metabolism, American Heart Association
1996-1998 Physiology Study Section Member, NIH
1997 Marion Spencer Fay Award Study Section, National Board of the Medical
College of PA
1993-1994 CDF3 Study Section Member, NIH
1993-1995 MDCN-4 ad hoc Member, NIH
1992-2008 Bi-national US-Israel Foundation

Manuscript Reviews

Journal of Membrane Biology
American Journal of Physiology
Journal of Immunology
Journal of General Physiology
Journal of Neurobiology
Journal of Biological Chemistry

EDUCATIONAL ACTIVITIES

Institutional (RFU only)

2000-2001 Molecular and Cellular Physiology (Applied Physiol., Graduate School)
2004 Ethics (Graduate School)
2005 Brain Frontiers (Graduate School)
2000- 2005 Mammalian Physiology (CMS)
2001- 2008 CRP Board Review Course (Educational Affairs)
2004- current Alternative Medicine (alternate year course, CHP)
2005- current Body Systems I & II, PT, CHP
2005- current *Women's Health Physiology & Pathophysiology I, II & III, Dept. of IPHS,
CHP
2005-2009 Physiology, PA Dept., CHP
2005-2009 BioStatistics, PT/Grad, CHP
2006-2009 BioEthics, BMS/PT, CHP
2006- current *Women' Health Medical Pharmacology, Dept. of IPHS, CHP
2007-current Women Coping with Cancer, Dept. of IPHS, CHP
2007-current Rheumatic Diseases in Women, Dept. of IPHS, CHP
2006-current Interprofessional Healthcare Teams
2008-current *Culture in Health Care
2009-current *Physiology for Women's Health
2009-current *Proposal Development

*Course Director

PROFESSIONAL DEVELOPMENT:

1998, May National Workshop on Mentoring, Dept. of Health and Human Services,
Washington, DC
1998, July Faculty Affairs Professional Development Conference, Assoc. of
American Medical Colleges, Annapolis, MD

2002, June	Mid-Career Women Faculty Professional Development Seminar, Assoc. of American Medical Colleges, Washington DC
2004	Grant Writing Workshop: Research Image, Dr. N. Bell
2006	4 th Annual Interdepartmental Neuroscience Retreat
2006	Compassionate Care: Humanism and Professionalism in the Non-Clinical Setting B.Crawford, MD and C. Larzarus, MD
2007	IAMSE Seminars in Leadership and Mentoring
2007	Grant Support from Private Sources: J. Durkin, P. Khoury
2007	Lifers: An Experiential Workshop for Career Medical Educators. AL Rostain MD, MA

GRANT SUPPORT (SSG IS PI ON ALL)

Research Grants (Total Direct Costs)

1991	Regulation of Vesicle Fusion in Aplysia Bag Cell Neurons. Steven Kuffler and Rand Fellowships, Marine Biological Laboratory, Woods Hole, MA. \$6,000
1991-1994	Regulation of Vesicle Fusion and Ionic Currents in CF: Cystic Fibrosis Foundation: \$60,000
1992-1996	Single Cl ⁻ Channels and Fluid Secretion: NIH R01 DK46672: \$279,000
1994-1999	The Role of Chloride Ions in Cellular Metabolism: Established Investigator Award, American Heart Association. \$315, 000
1996-2002	The Role of Chloride and Osmolytes in Volume Regulation: NIH R01 DK46672: \$635,000
1999-2004	Anions in Volume Regulation: Start-up Grant, RFU: \$60,000
2004-2005	Anion Competition for a Cl ⁻ Channel Pore: Pilot Project Grant, RFU: \$25,000

Educational (Total Direct Costs)

1993-1995	Minority High School Student Research Program. NIH-National Center for Research Resources: \$26,000
1994	Minority Summer Research Program: Healthcare Resources Foundation: \$10,000
1996-1999	Minority High School Student Research Program: NIH-National Center for Research Resources: \$186,000

TRAINEES AND COLLABORATORS

Summer Students, Interns and Volunteers

1993	Ciprian Almonte
1995	Betty Luxama
1995	Catherine Sayer
1995	Sonya Olshan
1995	Mary Hofreiter
1996-1997	Michele Zraggen
1996-1998	Lonnie Rodgers
1997-1999	Celestine Frazier
2004- 2005	Abby Larsan, Lake Forest College
2001-2004	
2001-2003	
2004-2005	
2006-2007	Jessica Cici
2006-2008	Isha Dingrha

Post-Doctoral Fellows

1993-1998	Irena Levitan, Ph.D.
1993-1997	Barbara Mroz, MD.
1997-2000	Mary Hoffman, Ph.D.

Graduate Students (advisor)

1996- 2004 Marcy Hubert, Dept. of Physiology, Neuroscience Program, RFU

Graduate Students (not as advisor)

1991 Paul Ross, Department of Physiology, University of California, Irvine.
1992 Susan Schade, Neuroscience Program, University of Alabama, Birmingham.
2002 Victor Luna, NeuroScience Program, FUHS/CMS

Qualifying Examination Committees

1995 Marcy Hubert, Department of Anesthesiology, MCPHU
1996 Sanjay Nayak, Neuroscience Program, AUHS
1996 Zhaoming Chen, Neuroscience Program, AUHS
1997 Dong Yan, Cell Biology Program, AUHS
1999-2001 Aleksandr Vasilyev, MD/PhD Physiology, RFU
1999-2001 John Bitner, MD/PhD Physiology, RFU
2002-2003 Richard Derks, Microbiology & Immunology, RFU
2004 Laura Eriks, Biochemistry, RFU
2004- 2006 Chunlong Ma, Biochemistry, RFU
2006-2009 Sreevidya Remani, Biochemistry, RFU
2008-current Kristy Shanahan, Track II Biochemistry RFU

Technical Support

1994-1995 Ciprian Almonte
1995-1998 Garick Kowalsky
1995-1998 Catherine Sayer
1996-1998 Mary Hofreiter
1998-1999 Michele Zraggen
2000- 2005 Elzbieta Indyk, MS

Visiting Scientist and Collaborators

1992- 1996: Marc Chanson, Ph.D.: Laboratoire d'Investigation Clinique III, Geneve, Swiss: *cAmp Regulation of Gap Junctional Channels*
1994-1998: Andrew E. Mulberg, MD.: Children's Hospital of Pennsylvania, University of Pennsylvania: *CFTR in Bile Duct and Brain*.
1994-1999: Patrice Mollard, Ph.D.: INSERM, Montpellier, France.: *Vesicle trafficking and Confocal Imaging*,
1994-1999: Charian Varghese, M.D.: Assistant Professor, Dept. of Psychiatry, AUHS: *Polidypisa and Schizophrenia*
2000- 2005 Hector Rasgado-Flores, PhD. Dept of Physiol. CMS/RFU: Intracellular measurement of ions and osmolytes.
2002-2005 Doug Light, PhD. Lake Forest College, Lake Forest, IL: *Molecular Mechanisms of Volume Regulation*
2002- 2005 Peter Smith, PhD., BioCurrents Research Center, MBL, Woods Hole, MA: *Ion Selective Electrodes*
2001-2009 Wendy Rheault, PhD., Dept. of Physical Therapy, CHP/RFU: *Body image, Eating Affect and Physical Activity*
2004- 2005 Ann Snyder, PhD., Dept of Cell Pharm. CMS/RFU: *Glutamate release, astrocytes*
2004- 2005 Eric Walters, PhD., Dept of Biochem. CMS/RFU: *CF channel structure*
2004- 2005 Sohail Murad, PhD., Chemical Engineering, Univ. Illinois, Chicago: *Water and CF channel structure*
2006- 2009 Nutan Viadya, MD, Dept of Psychiatry, CHP/RFU: *Body image, Eating Affect and Physical Activity*

PUBLICATIONS
Original Papers

1. Gewurz AT, Lint TF, Imherr SM, Garber SS, Gewurz H. Detection and analysis of inborn and acquired complement abnormalities. *Clinical Immunology and Immunopathology* 1982;23(2):297-311.
2. Moczydlowski E, Garber SS, Miller C. Batrachotoxin-activated Na⁺ channels in planar lipid bilayers. Competition of tetrodotoxin block by Na⁺. *Journal of General Physiology* 1984;84(5):665-86.
3. Moczydlowski E, Hall S, Garber SS, Strichartz GS, Miller C. Voltage-dependent blockade of muscle Na⁺ channels by guanidinium toxins. *Journal of General Physiology* 1984;84(5):687-704.
4. Zweerink HJ, Weston HD, Andersen OF, Garber SS, Hayes EC. Immunity against infection with *Trypanosoma cruzi* in mice correlates with presence of antibodies against three trypomastigote polypeptides. *Infection and Immunology* 1984;46(3):826-30.
5. Garber SS, Miller C. Single Na⁺ channels activated by veratridine and batrachotoxin. *Journal of General Physiology* 1987;89(3):459-80.
6. Garber SS. Symmetry and asymmetry of permeation through toxin-modified Na⁺ channels. *Biophysical Journal* 1988;54(5):767-76.
7. Hoshi T, Garber SS, Aldrich RW. Effect of forskolin on voltage-gated K⁺ channels is independent of adenylate cyclase activation. *Science* 1988;240(4859):1652-5.
8. Garber SS, Hoshi T, Aldrich RW. Regulation of Ionic Currents in PC12 Cells by NGF and Dexamethasone. *Journal of Neuroscience* 1989;9:3976-87.
9. Zagotta WN, Germeraad S, Garber SS, Hoshi T, Aldrich RW. Properties of ShB A-type K⁺ channels expressed in Shaker mutant *Drosophila* by germline transformation. *Neuron* 1989;3:773-82.
10. Garber SS, Hoshi T, Aldrich RW. Interaction of forskolin with K⁺ channels in PC12 cells. *Journal of Neuroscience* 1990;10:3361-8.
11. Cozens AL, Yezzi MJ, Yamaya M, et al. A Transformed Human Epithelial Cell Line that Retains Tight Junctions Post Crisis. *In Vitro Cell Dev Bio* 1992;28A:735-44.
12. Garber SS. Outwardly rectifying Cl⁻ channels in Lymphocytes. *Journal of Membrane Biology* 1992;127:49-56.
13. Ross PR, Garber SS, Cahalan MC. Membrane chloride conductance and capacitance in Jurkat T lymphocytes during osmotic swelling. *Biophysical Journal* 1994;66:169-78.
14. Levitan I, Almonte C, Mollard P, Garber SS. Modulation of a volume-regulated chloride current by F-actin. *J Membr Biol* 1995;147(3):283-94.
15. Levitan I, Garber SS. Voltage-dependent inactivation of volume-regulated Cl⁻ current in human T84 colonic and B-cell myeloma cell lines. *Pflugers Arch* 1995;431(2):297-9.
16. Chanson M, White MM, Garber SS. cAMP promotes gap junctional coupling in T84 cells. *Am J Physiol* 1996;271(2 Pt 1):C533-9.
17. Verghese C, Levitan I, Nair C, Abraham G, Garber SS, Josiassen RC. Impaired lymphocyte volume regulation in schizophrenic patients with polydipsia-hyponatremia. *Biol Psychiatry* 1997;42(8):733-6.
18. Levitan I, Garber SS. Anion competition for a volume-regulated current. *Biophys J* 1998;75(1):226-35.
19. Hubert MD, Levitan I, Hoffman MM, Zraggen M, Hofreiter ME, Garber SS. Modulation of volume regulated anion current by I_{Cl⁻}. *Biophysica Biochimica Acta* 2000;1466:105-14.
20. Hoffman MM, Garber SS. Permeation through volume regulated anion conductance is dependent on ionic composition. *J Membr Biol* 2004;197:193-202.
21. Garber SS, Messerli M, Hubert MD, Hammer K, Indyk E, Smith PJS. Monitoring Cl⁻ movement in Single Cells Exposed to Hypotonic Solution. *J Memb Biol* 2005;203:101-10.
22. Dhingra I, Cici J, Garber SS, Rheault W, Vaidya NA. Exercise Dependence: Diagnosing a Silent Syndrome. *J Amer Psychiatric Assoc* 2007; (*Submitted*).
23. Hubert MD, Indyk E, Pena-Rasgado C, S.K. P, Rasgado-Flores H, Garber SS. Effect of extracellular glucose and K⁺ on intracellular osmolytes and volume in a human kidney cell line. *Front Biosci* 2007;12:4352-61.

Reviews

1. Garber SS, Cahalan MD. Volume-Regulated Anion Channels and Control of a Simple Cell Behavior. *Cell Physiol Biochem* 1997;7:229-41.

Book Chapters

1. Miller C, Garber SS. Na⁺ Channels in Lipid Bilayers: Have We Learned Anything Yet? . *Molecular Aspects of Ionic Channels* 1988;33:309-27.
2. Levitan I, Garber SS. Volume regulated anion current and cytoskeletal interaction. In: Latorre R, Sáez JC,

eds. From Ion Channels to Cell-Cell Conversations. New York: Plenum Press; 1997.

Abstracts & Presentations:

1. Garber SS, Miller C. Comparison of single Na⁺ channels modified by Veratridine and Batrachotoxin. *J Gen Physiol* 1985;86:14a.
2. Garber SS. Permeation of Potassium ions in single toxin-modified Na⁺ channels is asymmetric. *Biophys J* 1987;51:31a.
3. McIlveen AD, Garber SS, Ehrlich BE. Behavioral experiments suggest G protein modulation of calcium channels in Paramecium. *Bio Bulletin* 1987;173:445.
4. Garber SS, Hoshi T, Aldrich RW. Regulation of Ionic Currents in PC12 Cells by NGF and Dexamethasone. *Soc Neurosci Abst* 1988;14:141.
5. Hoshi T, Garber SS, Aldrich RW. Direct effect of Forskolin on voltage-gated K⁺ channels in PC12 cells. *Biophys J* 1988;52:144a.
6. Garber SS, Aldrich RW. Regulation of a rectifying Cl⁻ channel from Jurkat lymphocytes by temperature and 8Br-cAMP. *Soc Neurosci Abst* 1989;15:78.
7. Zagotta WN, Germeraad S, Garber SS, Aldrich RW. Properties of ShB A-type K⁺ channels expressed in Shaker mutant *Drosophila* by germline transformation. *Soc Neurosci Abst* 1989;15:338.
8. Cozens AL, Yezzi MJ, Chin L, et al. Chloride ion transport in transformed human airway epithelial cells. *Ped Pulm Suppl* 1990;5:227.
9. Garber SS. Regulation of outwardly rectifying Cl⁻ channels from Jurkat Lymphocytes. In: Proceedings of the Italian Cystic Fibrosis Conference; Sestri Levante, Italy; 1990.
10. Garber SS. Membrane capacitance changes correlated with [cAMP]_i in T84 cells and activation of Cl⁻ conductance. *Ped Pulm* 1991;S6:123a.
11. Garber SS. Membrane capacitance changes are correlated with [cAMP]_i and activation of Cl⁻ conductance in T84 cells. In: *Pediatric Pulmonology*; 1991. p. 256.
12. Garber SS, Cahalan MD. Changes in membrane capacitance are correlated with activation of osmotically-induced Cl⁻ conductance. *Biophysical Journal* 1991;58:A509.
13. Garber SS. Depolarization increases membrane area in Aplysia bag cell neurons. *Biophys J* 1992;61:A509.
14. Ross PR, Garber SS, Cahalan MC. Swelling induces a chloride conductance and a capacitance change in Jurkat T lymphocytes. *Biophys J* 1992;61:A514.
15. Garber SS, Chanson M. Regulation of epithelial cell junctional conductance by cAMP. *Biophys J* 1994;66:A433.
16. Levitan I, Garber SS. Inactivation of osmo-regulated Cl⁻ current is dependent on conductance. *Journal of General Physiology* 1994;104:48a.
17. Levitan I, Almonte C, Mollard P, Garber SS. F-actin Disassembly does not trigger activation of the volume-regulated Cl⁻ current in B-lymphocytes. *Mol Biol of the Cell* 1994;5:274a.
18. Levitan I, Almonte C, Mollard P, Garber SS. F-actin integrity is not required for activation of volume-regulated Cl⁻ current in B-lymphocytes. *Biophys J* 1995;68:A274.
19. Levitan I, Garber SS. Permeation properties of volume regulated anion current is dependent on anionic composition. *Biophys J* 1996;70:A70.
20. Levitan I, Hubert M, Hofreiter ME, Garber SS. Inactivation properties of volume-regulated anion current (VRAC) are independent of I_{Cl⁻}. *Biophys J* 1997;72:A36.
21. Hubert MD, Levitan I, Garber SS. Activation of volume regulated anion current (VRAC) is dependent on ICln expression. *Biophys J* 1998;74:A221.
22. Hoffman MM, Garber SS. Ionic modulation of volume regulated anion current (VRAC) *Biophys J* 1999;76:A403.
23. Hubert MD, Garber SS. Activation of volume regulated anion current (VRAC) is dependent on ICln expression. *Biophys J* 1999;76:A349.
24. Levitan I, Garber SS. Activation of a volume regulated anion current (VRAC) is modulated by F-actin. *Biophys J* 1999;76:A3.
25. Hubert M, Levitan I, Hoffman MM, Zraggen M, Hofreiter ME, Garber SS. pICln sequence homology in human cell lines. *Biophys J* 2000;78:A208.
26. Hubert MD, Garber SS. Volume regulatory decrease in tsA201A cells is dependent on external K⁺. *Biophys J* 2001;80:A208.
27. Hoffman MM, Garber SS. Cl⁻ and Glutamate- competition for a Volume-Regulated Anion channel. *Bio*

- Bulletin 2002;203:194-195.
28. Hubert MD, Indyk E, Garber SS. Regulatory volume decrease in tsA201A cells depends on external K⁺ concentration . Biophys J 2002;82:212a.
 29. Hubert MD, Peña-Rasgado C, Indyk E, Pierce SK, Rasgado-Flores H, Garber SS. Intracellular ion composition in response to hypotonic swelling of tsA201A cells. Biophys J 2002;82:211a.
 30. Garber SS, Messerli M, Hammer K, Hubert M, Indyk E, Smith PJS. Cl⁻ flux during cell volume regulation recorded using modulation of ion selective electrodes. In: Soc Gen Physiol Annual Meeting; Woods Hole, MA; 2003.
 31. Garber SS, Messerli M, Hammer K, Hubert M, Indyk E, Smith PJS. Following Cl⁻ movement during cell volume regulation using modulation of ion selective electrodes. Biophys J 2003;84.
 32. LoPinto M, Garber SS, Rheault W. Relationship between body image and yoga practice. In: Physical Therapy: Annual Conference; Chicago, IL; 2003.
 33. Garber SS, Messerli M, Hammer K, Smith PJS. Measuring Volume related Cl⁻ flux in single cells. Biophys J 2004;86.
 34. Hubert MD, Indyk E, Peña-Rasgado C, Pierce SK, Rasgado-Flores H, Garber SS. Role of [K⁺]_o and Cl⁻ for volume regulation in tsA201A cells under iso- & hypotonic conditions. Biophys J 2004;86.
 35. Garber SS, Indyk E, Uhlen P. Hypotonic-induced changes in intracellular Cl⁻ in single cells measured by Clomeleon. Biophys J 2005;88
 36. Garber SS, Tappert SK. An Online interprofessional physiology and pathophysiology course focused on women's health. In: Association of Schools of Allied Health Professions Annual Conference; Chicago, IL; 2006.
 37. Holmuhamedova ME, LoPinto M, Rheault W, Garber SS. Yoga Practitioners have healthier body image and eating affect. In: 7th Annual Women's Health Research Day Center for Women's Health Research at UNC; Chapel Hill, NC; 2006.
 38. Garber SS, Rheault W, Tappert SK. Interprofessional Women's Health Master of Science and Certificate Program. In: 7th Annual Women's Health Research Day Center for Women's Health Research at UNC; Chapel Hill, NC; 2006.
 39. Garber SS, Kremer M, Litwin L. Nurse Anesthesia: The Future is NOW. In: Association of Schools of Allied Health Professions Annual Conference; San Diego, CA; 2007.
 40. Garber SS, Tappert SK. Development of an Interprofessional Women's Health Program: A work in Progress. In: The 27th Conference of The Generalists in Medical Education; Washington DC; 2007.
 41. Tappert SK, Garber SS. Bridging the Gap: Interprofessionalism in Women's Health. In: Association of Schools of Allied Health Professions Annual Conference; San Diego, CA; 2007.
 42. Garber SS, Lazarus, C, Brooks, D. Reducing Healthcare Disparities: An Interprofessional Approach to Teaching Cultural Awareness in Healthcare. *3rd National Leadership Summit on Eliminating Racial and Ethnic Disparities in Health*. Washington DC, 2009
 43. Garber SS, Lazarus, C, Brooks, D. Collaborating Across Borders II: Building Bridges Between Interprofessional Education and Practice Halifax, Nova Scotia, 2009
 44. Sarah Garber, PhD; Diane Bridges MSN, RN, CCM; and Susan K. Tappert PT, DPT: "Moving Interprofessional Education Forward". Jefferson InterProfessional Education Center, 2nd Annual Conference: Interprofessional Care for the 21st Century: Redefining Education and Care, March 2010
 45. Sarah Garber, PhD; Diane Bridges MSN, RN, CCM; Cathy J. Lazarus, MD, FACP and Judith Stoecker PT, PhD "First Year Interprofessional Experience" American Interprofessional Health Collaborative, Institutionalizing Interprofessional Education and Practice – A Leadership Conversation March 2010
 46. Susan K. Tappert PT, DPT, Diane Bridges MSN, RN, CCM, and Sarah Garber, PhD; "Interprofessional Education in Healthcare: The First Year Experience" Chicago Medical Society's Annual CME 2010 Midwest Clinical Conference and Technology Summit March 2010
 47. Cathy J. Lazarus, MD, FACP, Sarah Garber, PhD, Brandi N Woodard, MS, PA (ASCP). "Interprofessional Education and Cultural Awareness for First Year Health Professional Students" CGEA Regional Meeting. April 2010
 48. Cathy J. Lazarus, MD, FACP, Sarah Garber, PhD, Brandi N Woodard, MS, PA (ASCP). "Reducing Healthcare Disparities: An Interprofessional Approach to Teaching Cultural Awareness in Healthcare" Sixth Annual AAMC Physician Workforce Research Conference, May 2010
 49. Cathy J. Lazarus, MD, FACP, Sarah Garber, PhD, Brandi N Woodard, MS, PA (ASCP). "Interprofessional Education: What does it take to make it work and how can you do it at home?" The 31th Conference of The Generalists in Medical Education; Washington DC; Nov. 2010
 50. Cathy J. Lazarus, MD, FACP, Sarah Garber, PhD, Brandi N Woodard, MS, PA (ASCP). "Interprofessional

- Education: Making it Work.” AACOM Annual Meeting; Baltimore April 2011
51. Tappert SK, Rheault W, and Garber SS. “Institutional Evolution in Interprofessional Healthcare Education” Collaborating Across Borders III Tucson, AZ 2011
 52. Garber SS and Abel, MS. “Growing the IP Mission: Contributions from New Programs” Collaborating Across Borders III Tucson, AZ 2011
 53. Michener, L., Hanes, S., Abel, M., Rosenkranz, J., Rynn, K., Garber, S., Mamidi, S., Meredith G. (2011, September). ICLB: A Team Based Curricular Integration Project. Poster session presented at the Illinois Pharmacist Association Annual Conference, Springfield, IL .
 54. Michener, L., Hanes, S., Abel, M., Rosenkranz, J., Rynn, K., Garber, S., Mamidi, S., Meredith G (2011, July). ICLB: A Team Based Curricular Integration Project. Poster session presented at the American Association of Colleges of Pharmacy Annual Conference, San Antonio, TX.
 55. Garber SS, Abel, M., Harrison, D., Oltmans, G. Developing Assessment Tools at a New College of Pharmacy (2012, July) Poster session presented at the American Association of Colleges of Pharmacy Annual Conference, Kissimmee FL.
 56. Garber SS, and Abel, M. Incorporating IPE into the PharmD Curriculum. (2013, June) Collaborating Across Borders IV, Vancouver, CA
 57. Tappert, SK., Garber SS, Rheault, and W.,Stoecker, J. (2013, June) Institutionalizing Interprofessional Education at a Health Professions University” Collaborating Across Boarders IV, Vancouver, CA

Continuing Education Presentations:

1. Garber, S., Harper-Brown, D, Mamidi, S, Isaacs, D, Hanes, S (2011) The Role of the Pharmacist in Interprofessional Practice. North Suburban Pharmacists of Chicagoland.

Invited Presentations:

Invited:

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| 1986, June | Cornell University Medical School, NYC, NY; Department of Physiology |
| 1987, May | Stanford University, Stanford, CA; Department of Psychology |
| 1987, June | University of Calgary, Alberta, Canada; Department of Medical Physiology |
| 1987, April | University of Alabama, Birmingham, AL; Department of Physiology |
| 1990, April | Stanford University, Stanford, CA; Cystic Fibrosis Journal Club |
| 1990, April | Max Planck Inst. fur biophysikalische Chemie, Goettingen, Germany |
| 1990, October | University of California, Irvine; Department of Physiology and Biophysics |
| 1990, October | University of Calgary, Alberta, Canada; Department of Medical Physiology |
| 1991, March | University of Alabama, Birmingham, AL; Department of Physiology |
| 1991, May | University of Alabama, Birmingham, AL; Neurobiology Research Center |
| 1991, July | Marine Biological Laboratory, Woods Hole, MA; MBL Fellows Seminar Series |
| 1991, December | University of California San Francisco, San Francisco, CA |
| 1992, January | Long Beach Hospital, Long Beach, CA; Cystic Fibrosis Group |
| 1992, January | Research Institute, Children's Hospital Oakland, Oakland, CA |
| 1992, February | University of Miami, Miami, FL; Department of Pharmacology |
| 1992, February | Emory University, Atlanta, GA; Department of Physiol. & Biophys. |
| 1992, March | Medical College of Philadelphia, Philadelphia, PA; Department of Physiology |
| 1992, April | University of California San Francisco, San Francisco, CA |
| 1992, July | SIBIA, La Jolla, CA |
| 1994, May | Inst. Human Gene Therapy, U. Penn., Philadelphia, PA |
| 1994, May | Critical Care Conference, Pulmonary, Medical College of PA, Philadelphia, PA |
| 1994, July | Grass Fellows, Marine Biological Lab, Woods Hole, MA |
| 1995, March | Emory University, Atlanta, GA; Department of Physiol. & Biophys. |
| 1996, April | University of Texas, Medical Branch, Galveston, TX; Department of Physiol. & Biophys. |
| 1996, July | DuPont Research Institute, Wilmington, Delaware |
| 1997, March | Jefferson University, Philadelphia, PA; Dept. of Physiology |
| 1997, July | University of Pennsylvania, Philadelphia, PA; Summer Research Program |
| 1997, November | Temple University, Philadelphia, PA; Dept. of Pharmacology |

1997, November Loyola University, IL: Dept. of Physiology
1998, January Wayne State University, Detroit, MI: Dept. of Physiology
1998, November Chicago Medical School, North Chicago, IL: Dept. of Physiol. & Biophys.
1999, February UMDNJ, Newark, NJ: Dept. of Physiol & Pharm.
1999, November University of Chicago: Dept. of Physiology
1999, December Rush University: Dept. of Physiology
1999, May Emory University, Atlanta, GA; Department of Physiol. & Biophys
1999, May DuPont Research Institute, Wilmington, Delaware
2001, May FUHS/CMS: Dept. of Micro/Immuno
2002, August Marine Biological Laboratory, Woods Hole, MA. Fellows Seminar Series.
2007, May Regulatory Volume Decrease: Following Chloride. (2007) University of Calgary,
Alberta, Canada; Department of Physiology & Biophysics
2007, May Development of an Online Interprofessional Women's Health MSc & Certificate
Program. University of Calgary, Alberta, Canada; Institute for Gender Research
2014, February "A Culture of Interprofessional Education", Workshop organizer & presenter: Marshal
B Ketchum University.

Invited Speaker at Meetings (National and International)

1995, June Membrane Transport Gordon Conference
1995, November *From Ion Channels to Cell-to-Cell Communication*: Centro de Estudios Cientificos de
Santiago. Santiago, Chile.

Meeting Organizer

1999, February Ion Channels and the Cytoskeleton: Membrane Biophysics Subgroup, 43rd Annual
Meeting of the Biophysical Society