

Beverly L. Smith-Keiling, Ph.D.

www.beverlysmithkeiling.com/science

Citizenship: United States of America

Email preferred: bevsmithk@gmail.com

Native language: English

International driving license

Education:

Postgraduate: **Postdoctorant**, European Union Research Grant (2002-2004) Centre de la National Recherche Scientifique, Laboratoire de Microbiologie et Genetique Moleculaire, Université Paul Sabatier, 118 route de Narbonne, 31062, Toulouse, France ; Mentor : Jean-Pierre Claverys, Ph.D.

Postdoctoral Fellow in Pediatric Infectious Diseases National Institutes of Health (NIH) Training Grant (1998-2000) Department of Pediatrics and Infectious Disease, University of Minnesota, Minneapolis, MN
Mentor: Patricia Ferrieri, M.D.

Graduate: **Ph.D.** Microbiology, 1998, University of Minnesota, Minneapolis, MN; Departments of Microbiology and Pediatric Infectious Diseases. MMC 196 420 Delaware St, SE Minneapolis, MN 55455 Advisor: Margaret K. Hostetter, M.D. "Characterization of a pneumococcal surface protein which binds complement protein C3 and its role in adhesion."

Preparing Future Faculty Certification, University of Minnesota, 1998. Ph.D. specialized training and certification for development as a future faculty. Engaged in active learning strategies in class and in a mentorship at Augsburg College, Minneapolis, MN.

Teaching Enrichment Workshop Certifications, University of Minnesota, Faculty and TA Enrichment Program

- Creating Effective Tests, 1996
- Grading Writing Assignments, 1996
- Learning Through the Cycle (Kolb Learning Styles), 1995

Laboratory Safety Institute Certification, 2007. Augsburg College, MN

Red Cross Certified-2014 current: First Aid, CPR (Cardiopulmonary Resuscitation and AED (automated external defibrillator)

Undergraduate: **B.S.**, East Central University, Ada, OK, 1988, Biology major, Chemistry minor
Graduated with High Academic Honors and Honors Program

Additional training:

French Language courses (Business-B1 competency speaking/ reading two+ years in France):

- 1 month intensive debutant level French course, Oct 2002; Langue Onze, Toulouse, FR

- 50 hours level 1 (Spring 2003), 50 hours level 2 (Fall 2003) courses; Pole University, Toulouse, FR
- 1 month intensive level 4 course, August 2003; Alliance Française, Toulouse, FR
- 1 semester intermediate French, (2005) Augsburg College
- 1 month intensive level B1 course, June 2014; Alliance Française, Toulouse, FR

German Language courses (Practical-competent speaking after living seven+ years in Germany):

- 1 semester intermediate German, (2007) Augsburg College
- 1 semester German, (Spring 1998) Univ. of Minnesota, MN
- Private tutoring

Other Language courses:

- Japanese (Level 1, 2 months), Nagoya University, Japan- Beginner
- 3 courses (Basic, Beginner 1 and 2) Korean, (2011) Kyung Hee University, Seoul, S. Korea
- 1 week intensive Spanish course, Guatemala (1995)- Beginner
- Thai language, private tutoring, Thailand (2000)
- Introductory Chinese, private tutoring, MN + China (2006)

Writing Workshops:

- 1 month Writing Fiction, American University Paris, with Darcey Steinke (2015)

Faculty Development Leadership:

- **Academic Coordinator for Natural Sciences**, UMUC (2011-13) Mentored all incoming new faculty; faculty development for mentors, and worked with all faculty on engaging curricula
- **Faculty Development consultant**, Kyung Hee University, Korea (2011, 2012)
- **Faculty mentor for new biology faculty**, (2009-2010) University of Maryland, University College-Europe
- **Faculty Development Committee** (2006-2008), Augsburg College
- **Center for Teaching and Learning (CTL) Fellow**, (2005-2006) Augsburg College
- **Case Studies and Critical Thinking**, (July 2006), Visiting professor faculty development Anqing Teacher College, China
- Attended, presented, and met with colleagues in the divisions of Microbial Education in areas of Faculty Development and student learning at the **American Society for Microbiology** conferences, 2006, 2013
- **WIKIs, Mind Maps, and Podcasts as Teaching Tools**, Friday Seminar presenter, April 2008, Augsburg College

Faculty Development Training:

- **Syllabus workshop**, 2004, Augsburg College, MN
- **A Picture's Worth a Thousand Numbers: Visual Representations of Quantitative Data**, 2004, Augsburg, MN
- **Service-Learning in Biology Conference**, 2005 Council Bluffs, IA
- **Project Kaleidoscope (PKAL) 2005**, Conference, Hope College, MI
- **PKAL Research-Rich May 2005** participant, Augsburg College
- **2-day training on CEQ sequencer**, Augsburg College
- **CTL Discussion Series 2005-2006**, Ken Bain "What the Best Teachers Do," Nathan's "My Freshman Year"
- **Institutional Review Board** information session, Augsburg

- **Universal Instructional Design Workshop**, 2006, Augsburg College
- **Portfolio workshop** (Fall, Spring and May 2006), Augsburg
- **1-day workshop training Bioinformatics**, Univ MN
- **Vocational Writing Seminar**, 2006, Hamline Univ., MN
- **Critical Thinking (Bloom's)**, 2006, Augsburg College, MN
- **The Future Auggies: Minnesota Demographic and Economics, and Their Implications for Higher Education**, Gillaspay and Stinson, Oct 2006, Augsburg College
- **Adult Learners, Steven Brookefield Seminar**, 2006, Augsburg College, MN
- **Scholarly Writing Group**, 2004-2008, Augsburg College
- **Brain Science and Learning- Designing Curricula**, 2007. Augsburg College.
- **Critical Thinking in the Age of the Internet**, February, 2008, Conference Participant, Bloomington , MN, The collaboration for the advancement of college teaching and learning.
- **Military Learners**, 2009, University of Maryland, University College
- **Scholarship of Teaching and Learning**, 2010, University of Maryland, University College-training for online education research
- **SEGUE New course curriculum**, 2011, University of Maryland, University College-training for online education and course design

Online Platform Workshops:

- **WebCT**, 2001, University of MN-Morris, Morris, MN
- **Blackboard**, 2002, Luther College, Decorah, IA
- **Pilot for online platform: Moodle**, 2005, Augsburg College, Minneapolis, MN
- **WebTycho**, 2008, University of Maryland, University College-training for online education
- **Teaching Hybrid Courses**, 2009, University of Maryland, University College-training for online education
- **Desire 2 Learn**, 2014, new LEO Learning Platform for University of Maryland, University College

Employment History:

Approximate total years teaching experience: 24 years

Approximate total years research experience: 16 years

8/2015-present	Consultant, Writer, and Director Science International-Collaborative Research Fund , for continued global education beyond the interdisciplinary/sciences.
8/2014-8/2015	Professor Natural Sciences (Biology, Nutrition and Chemistry) , University of Maryland-University College Europe (Germany) University of Maryland University College, U.S. Post: Unit 29216, APO AE 09004 Full-time collegiate resident (equated with tenure); Biology, Chemistry 1, 2; Anatomy/Physiology 1, 2; Microbiology; Stem Cells; Nutrition; Medical Terminology, Human Health Disease
9/2011-8/2013	Academic Coordinator for Natural Sciences ; administrative role overseeing and mentoring natural science faculty, course approvals, curricula and lab course support for European Division and Downrange, concurrent with teaching

8/2008-8/2014 **Associate Professor Natural Sciences (Biology, Nutrition and Chemistry),** University of Maryland-University College Europe (Germany) University of Maryland University College, U.S. Post: Unit 29216, APO AE 09004
Full-time collegiate resident (equated with tenure); **Biology, Chemistry 1, 2; Anatomy/Physiology 1, 2; Microbiology; Stem Cells; Nutrition; Medical Terminology, Human Health Disease**

Summer 2011
Summer 2010 **Consultant and Visiting Professor: Faculty Development and Academic Skills, Writing and Communication Resource Center, Global Collaborative Summer Program for Sustainability** Kyung Hee University, Global Campus, Suwon, Republic of South Korea. Supported graduate student, undergraduate students and TAs in Writing and Communication Resource Center; **Science Communication Promoting Sustainability (a course focusing on environmental solutions, both scientific and developmental, and ability to communicate ideas in English)**

Summer 2008 **Assistant Professor Biology,** University of Minnesota Department of Veterinary and Biomedical Sciences, 1365 Gortner Ave, St Paul, MN 55108
Full-time summer course in **Microbiology**

9/2004-5/2008 **Assistant Professor Biology,** Augsburg College, Department of Biology, 2211 Riverside Avenue, Minneapolis, MN 55454
Full-time Tenure-track; **Biochemistry, Biochemistry Lab, Microbiology, Microbiology Lab, Introduction to Research, Biological World for non-Biology majors, Sr. Integrated Science Keystone, General Biology section for Biology majors, assisted with AugSem, mentor for undergraduate research and for vocational interns, guest lecturer Women's studies, Medieval studies, Honor's Program Course in Beer Brewing**

7/2006 **Visiting Professor,** Anqing Teacher College. Anqing, China.

7/2005
1/2007
7/2007 **Visiting Scientist,** Centre de la National Recherche Scientifique, Laboratoire de Microbiologie et Genetique Moleculaire, Université Paul Sabatier, Toulouse, France

12/2002-4/2004 **Postdoctorant,** Centre de la National Recherche Scientifique, Laboratoire de Microbiologie et Genetique Moleculaire, Université Paul Sabatier, 118 route de Narbonne, 31062, Toulouse, France

7/2001-8/2001 **ASM-UNESCO Visiting Resource Person/Scientist,** All India Institute of Medical Sciences. New Delhi, India.

8/2001-8/2002 **Assistant Professor Biology,** Luther College, Department of Biology Decorah , Iowa; Full-time Temporary Sabbatical Replacement: **Principles of Biology, Human Biology, and Genetics; Honors Introduction to Biological Research and mentor for undergraduate research.**

7/2001-8/2001 **Visiting Scientist**, Children's Hospital, Seattle, WA, mentored by Craig Rubens, M.D., Ph.D.

8/2000-5/2001 **Assistant Professor Biology**, University of Minnesota, Morris, Division of Science and Math, Morris, MN
Full-time Temporary; **Biochemistry, Microbiology, Biological Principles, and mentor for undergraduate research.**

6/1998-6/2000 NIH Training Grant **Postdoctoral Fellow** for Pediatric Infectious Diseases, University of Minnesota, Department of Pediatrics, Minneapolis, MN

Spring Semester 2000 Part-time Temporary Adjunct **Instructor** Concordia University, St. Paul, MN
Genetics course and mentor for undergraduate research

Spring Semester 1999 Part-time Temporary Adjunct **Instructor** Concordia University, St. Paul, MN;
Microbiology course

Fall Semester 1998 Part-time Temporary Adjunct **Instructor** Inver Hills Community College, Inver Grove Heights, MN **Microbiology course**

1/1994-6/1998 **Graduate Research Assistant**; University of Minnesota, Departments: Microbiology and Pediatrics, Minneapolis, MN

4/1994, 4/1995, 4/1998 Contractual **Marketing Assistant** for clinical devices; Palco Laboratories, Santa Cruz, CA

Fall Semester 1992 Part-time Temporary Adjunct **Instructor**
Fall Semester 1993 Hamline University, Department of Biology, St. Paul, MN
Human Heredity and Disease non-biology majors course
Spring 1994 **Concepts of Biology Lab**

1/1990-6/1992 **Graduate Teaching Assistant**; University of Minnesota, Department of Microbiology; **General Microbiology Lab, Medical Microbiology Lab, Immunology**

12/1992-8/1993 British University North America Club (BUNAC), London, England

7/1992-12/1992 **Laboratory Research Assistant** (temporary position)
General Mills, Inc., Minneapolis, MN; quality control

7/1992-9/1992 **Epidemiology Study Research Assistant**
National Institute of Occupational Safety and Health (NIOSH), Department of Public Health; temporary contract position for a focused background review of literature supporting effects of nitrates and nitrites in drinking water on health.

- 6/1989-12/1990 **Graduate Research Associate,**
Oral Roberts University, Dept. of Microbiology, Tulsa, OK; blood draw and exsanguination of animal (raccoon) sera, testing in tissue culture, protein column chromatography
- 7/1988-6/1989 **Sr. Research Technician,** Oral Roberts University, Department of Anatomy, Electron Microscopy Laboratory, Tulsa, OK; human cadaver dissection, plastinization of human organs, histology of animal (mouse, rat, rabbit, human) sections, assisted with lab experiments, SEM and TEM sample fixation, preparation, immunogold labeling, photography and dark room development
- 1984-1988 College work study positions concurrently: microbiology lab preparation, registrar's office filing, and secretarial office work
- 1982- 1984 **Chiropractic Assistant,** Langford Chiropractic Clinic, Broken Arrow, OK; Marked x-rays for bilateral alignment, performed muscle stimulation and ultrasound patient therapy
- 1982-1984 Girl Scout Gold Award Volunteer Positions: Bus driver for senior citizen group, meals-on-wheels, volunteer care worker for autistic child, dishwasher/assistant care worker senior citizen home

Membership in Professional Societies:

- 1995-present
1989-1990 American Society for Microbiology; Division W- Microbial Education and Division B-Bacterial Pathogenesis
ASM-CUE Council of Undergraduate Education
- 2013-present Society for the Advancement of Biology Education Research (SABER)
- 2013-present Science Case Network (SCN)
- 2012-present Partnership for Undergraduate Life Science Education (PULSE) Vision & Change
- 2010-present Introductory Biology Education Specialists (IBES) Part of the Introductory Biology Project NSF Grant
- 2006-2008 American Association of University Professors (AAUP)
- 2006-2007
1997-1998 American Association for the Advancement of Science (AAAS)
- 2004-2008 Sierra Club
- 5/1998-present Science-International Collaborative Research Fun Founder and Director, non-profit organization supporting undergraduate international research opportunities

5/1997-present Sigma Delta Epsilon - Graduate Women in Science (SDE-GWIS) and Women in Science and Engineering (WISE)

1988-present TriBeta National Honor Society for Biological Sciences

Research Interests:

Bacterial studies: Gram-positive virulence and host cell interactions including *Streptococcus pneumoniae*, *S. agalactiae* (GBS), *S. mutans*.

Immune studies: Complement C3 protein deposition during opsonization, and C3 nonoposonic binding.

Microbial pathogenesis studies: Host cell secretion of C3 and bacterial adhesion to and invasion of host cells; bacterial evasion of host defense.

Competence studies: Induction and early regulation of pneumococcal competence by host serum factors

Cell biology studies: C3 surface expression and retention by epithelium as an adhesive substrate. Host cell/bacterial interactions.

Molecular genetic studies: Identification of genes, sequencing and genomic analysis using bioinformatics, cloning and mutagenesis. Molecular characterization of serotypes and patient database analysis for GBS colonization and maternal/infant health.

Microbial education studies: Use and impact of diverse strategies to impact various learning-styles in biological education. Impact of application-based service-learning and research-based laboratory education. Impact of an Introduction to Research course in undergraduate education.

Faculty development studies: Introducing the evidence using a case-based approach in faculty development and success in improving teaching and learning.

Interdisciplinary:

- Faculty development consultant for interdisciplinary program in sustainability: Kyung Hee University
- Mentor for Biology and Chemistry students in research and Chemistry research seminars: Concordia University, Univ. MN-Morris, Luther College, Augsburg College
- Interdisciplinary college-wide Global Environmental Issues and Climate Change Program: Augsburg College
- Mentor for students from programs in Medieval Studies, Art, Women's Studies: Augsburg College
- Guest lecturer and discussions with students in Medieval Studies class: Augsburg
- Faculty reviewer for Public Speaking class: Augsburg College

- Guest lecturer and participant with Women's Studies program: Univ. MN Morris, Luther College, Augsburg College
- Round Table Research Discussion with Interdisciplinary Faculty: Augsburg College
- Invited multidisciplinary discussions in general biology and senior Kapstone courses (politics, religion, women's studies, environmental lobby groups, etc)
- Interdisciplinary Faculty Seminars and Frame of Mind series (Linguistics, Sumerian poetry, Native American film, Plato, History of Happiness and other readings/discussions.)

Multicultural:

Purpose: to engage in language and culture around the globe to seek understanding and peaceful solutions to sustainability.

Countries lived and worked in: United States (visited all 50 states), England (6 mo), Netherlands (2 mo), France (2+ yrs), Germany (7+yrs), Korea (5+ mo), Japan (3 mo+3mo)

Countries as visiting scientist/professor: France, Germany, China, India, Korea

Countries visited - 49+:

North America (Canada, Mexico, Jamaica, and Virgin Islands)

Central America (Mexico, Guatemala, Belize, Costa Rica)

Scandinavia (Denmark, Sweden, Finland, Iceland, Norway)

Western Europe (United Kingdom, Ireland, Netherlands, Belgium, Luxembourg, France, Monaco, Andorra, Germany, Austria, Switzerland, Spain, Portugal, Italy, Malta, Greece, Croatia)

Eastern Europe (Russia, Czech Republic, Slovakia, Hungary, Romania)

Middle East (Israel, Turkey, United Arab Emirates)

Africa (Egypt, Morocco, Kenya, Tanzania)

Asia (Japan, China, India, Thailand, Korea, Vietnam)

Pacific Islands (New Zealand)

Oral Presentations and Conference Participation:

- | | |
|------------|--|
| July 2013 | SABER-Society for the Advancement of Biology Education Research poster presentation and ongoing project Crowd-Sourcing Case-Based Approach to Faculty Development for Vision and Change in STEM Education. SABER National Meeting, Minneapolis, MN |
| May 2013 | PULSE Vision and Change Science Case Network pre-conference workshop poster presentation and ongoing online project at http://sciencecasenet.org/ Faculty Development Case Study Ideas to Promote Change in Teaching and Learning STEM; Englewood, CO; May 16-19 th , 2013 |
| March 2013 | AGU Chapman conference Fundamental Properties and Processes of Magnetotails, Iceland (volunteer conference co-organizer) |
| May 2012 | Japan Pacific Geophysical Union Conference, Tokyo, Japan |
| July 2011 | Collaborator on IBES project. <i>Early predictive risks or success factors in introductory biology: hallmarks for intervention strategies.</i> Samantha Eliot et al., SABER conference Minneapolis, MN. |

- June 2010 Selected participation for workshop of the Introductory Biology Education Specialists (IBES) as part of the Introductory Biology Project (IBP) and ongoing collaboration. NSF-Funded. Dallas, TX.
- June 2010 Invited Break-Out Session. *Recruiting and Engaging Women and Underrepresented Groups in Science Through an Experiential Introduction to Research Course Model*. National Conference. Inclusive Science: Articulating Theory, Practice and Action. College of St. Catherine, St. Paul, MN.
- 2007-2008 Invited talks at several institutions, *The search for streptococcal C3-binding proteins through undergraduate research projects and changing paradigms in research*. Hamline University, College of St. Katherine's, St. Thomas University, and University of MN-Morris, St. Paul, MN.
- 5/2007 Invited Keynote Speaker Northwestern Biology Symposium, *The search for streptococcal C3-binding proteins through undergraduate research projects at Augsburg College and beyond* Northwestern College, St. Paul, MN.
- 4/2007 Faculty Research Roundtable, *Antibiotic resistance: why you should finish your Rx and what you should know about how Streptococcus pneumoniae take up DNA for antibiotic resistance*. Augsburg College, MN
- 3/2007 Biology Seminar Speaker, *Top 10 Surprises of the Human Genome, and Bioinformatic Approaches to Homologous Proteins*. Augsburg College, MN.
- 12/2006 Friday Afternoon Seminar Series: *A-moodling and A-wiking through China- a faculty development seminar*. Invited speaker, Augsburg College, MN
- 7/2006 *Human Complement Protein C3 and Streptococcal Proteins that Bind C3 to bind or not to bind...* Summer Research Series Brown Bag, Augsburg College, MN
- 5/2006 Women in Science and Engineering (WISE): *From the SDE-GWIS Agnes Hansen travel grant to the two-body problem: from here to France and back to Augsburg College and an undergraduate research program*. Invited speaker, Minneapolis, MN.
- 4/2006 *Streptococcus through the Two-body Problem*. Zyzzogeton Round Table Discussion, Augsburg College.
- 4/2006 Guest lecturer Women's Resource Center. *The Making of a sic [female], sic [woman], sic[feminist] Scientist*. Augsburg College, MN.
- 3/2006 Biology Department seminar with mentored student Eilidh Reyelts. *Balance between host factors and pathogens: Host serum and competence induction in Streptococcus pneumoniae*. Augsburg College, MN.

- 3/2005 Service-Learning in Biology Campus Compact Conference: *The Source of the Smell? A partnership between a Microbiology Lab course and a local ethanol plant.* Invited speaker/break-out session facilitator, Council Bluffs, IA
- 9/2002 ASM-UNESCO Visiting Resource Speaker: *Human Complement C3 and C3 Binding Proteins of Streptococcus.* All India Institute of Medical Sciences. New Delhi, India.
- 4/2002 Oral presentation/discussion: *Biology and Women;* Women's Studies Brown Bag Lunch, Luther College.
- 2/2002 Seminar Presentation: *Top 10 Surprises of the Human Genome,* Luther College Biology Colloquium Series.
- 4/2001 Radio interview for local radio station, Morris, MN
The service-learning partnership between UMN and Denco.
- 2/2001 Oral presentation/discussion: *Biology and Women;* Women's Studies course, University of MN-Morris.
- 9/1999 Speaker for MIMP Graduate Student Meetings: *Using active-learning strategies in microbial education.* University of Minnesota, MN
- 5/1999 Invited Speaker, Student Seminar Series: *Streptococcal surface proteins;* Hamline University, St. Paul, MN
- 6/1999 Special Merit Presentation, ASM General Meeting, Chicago, IL
- 10/1997 Platform Presentation Regional American Society for Microbiology St. Cloud, MN
- 5/1996 Platform Presentation for Society of Pediatric Research
- 6/1992-12/1992 Toastmaster International, General Mills
- 1/1992-6/1992 Brown-Bag Lunch Series: Gender and Diversity in the Sciences, Coordinator, University of Minnesota
- 6/1991-6/1992 Public Speaking Platform- Increasing diversity of women and minorities in science. Rotary, Kiwanis, Lions Club and other invited opportunities throughout the year.

Volunteer and Professional Service:

- 2015-6 American Geophysical Union Chapman Conference, *Currents in Geospace and Beyond,* May 22-27, 2016 Assistant Organizer and Member of Local Organizing Committee for Inclusive Science, Dubrovnik, Croatia

May 2016	Abstract reviewer for SABER-Society for the Advancement of Biology Education Research
Dec-Jan 2016	Tortugueros Los Playitas, One-month Sea Turtle Rescue, Educational Programs and Fundraising, Todos Santos, Baja, Mx
2014	American Geophysical Union Chapman Conference Assistant Organizer, Jeju S. Korea
2014	Red Cross Certified First Aid, CPR (Cardiopulmonary Resuscitation and AED (automated external defibrillator) (organized class for pre-nursing students)
2013	ASM Task Force DE education and microbiology lab recommendations
2013	American Geophysical Union Chapman Conference Fundamental Properties and Processes of Magnetotails; Assistant Organizer, Iceland
Spring 2013	TEAS Nursing Entrance Exam Proctor
Jan 2013	Tortugueros Los Playitas, Two-Weeks Sea Turtle Rescue, Educational Programs and Fundraising, Todos Santos, Baja, Mx
2008-2010	Cards for a Cause, making cards for American Military Wounded Warriors in hospital at Landstuhl Medical Center, Germany.
2009-2013	Faculty mentor for many new faculty, University of Maryland University College- Europe (faculty mentor – online and face to face for Biology, Nutrition, Chemistry) Academic Coordinator mentor for all the Natural Sciences in online classrooms.
2005-2008	Family Opportunities for Living Collaboration (FOLC); led East African immigrant fitness classes to build community trust and mentored student leader health care presentations
1998-2008	Host family, orientation and welcome for international visitors (Netherlands, Spain, Egypt, Turkey, Hong Kong, United Arab Emirates, Australia, Germany, Czech Republic, Slovakia, China)
2004-2008	Sierra Club volunteer
2004-2008	Neighborhood community organizer and co-block leader
2006-2008	Faculty Development Committee, Augsburg College
Spring 2007	Mentored URGO student, directed research and Honors independent study research

Fall 2006	Mentored Introduction to Research course students, peer mentor, Internship research and community health
Summer 2006	Mentored four summer research students, two part-time and two full-time URGO and ASM Fellow
Summer 2006	Exploratory discussions for expanding/combining Introduction to Research with UMN summer course, University of MN
Spring 2006	Mentored student service-learning project development and implementation to Somali Women's health class and Campus Kitchens (Maternal Health and GBS, Immunization, Food Safety)
Spring 2006	Supervised and mentored undergraduate research students, (one URGO award) Undergraduate Research Graduate Opportunities, and one directed research Augsburg College Department of Biology, Minneapolis, MN.
Fall 2005- Spring 2006	Received grant and mentored Campus Compact Citizen Scholar and Developed Service-Learning in Biology Curriculum AugSem, Microbiology - <i>A Public Health Initiative in Augsburg College Biology AugSem</i>
Spring 2005	Mentor for two Lilly Foundation Interns for Service-Learning, partnered with Families Opportunities for Living Collaboration (FOLC), Augsburg College, Minneapolis, MN
Spring 2005	Faculty reviewer for public speaking class, Augsburg College
Spring 2005	Supervised and mentored three undergraduate research students, (two URGO awards) Undergraduate Research Graduate Opportunities, and one directed research Augsburg College Department of Biology, Minneapolis, MN.
2/2005	Interviewer for Presidential Leader Scholarship, Augsburg College, Minneapolis, MN
2004-2005	Microbiology Service-Learning Project with FOLC (Family Opportunities for Living Collaboration)
9/2002	Comparative book review for Prentice Hall; Madigan's "Brock" Microbiology text and Prescott's Microbiology text.
2001-2002	Supervised and mentored five undergraduate research students (directed studies and AAA award), from Fall 2001 Honors Introduction to Biological Research course; Luther College Department of Biology, Decorah, IA.
Spring 2001	Service-Learning Project "The Source of the Smell" with Denco Ethanol Plant

and Microbiology Course, University of Minnesota Morris

- Fall 2000-
Spring 2001 Supervised undergraduate research students: (**MAP award**)
Morris Assisted Partnership, (**UROP award**) Undergraduate
Research Opportunities Program, practicum and directed
Studies. University of Minnesota Morris.
- 10/2000 Organized public demonstrations and tours for Science
Building Dedication, University of Minnesota Morris
- Spring 2000 Supervised undergraduate student research.
Concordia University St. Paul, Minnesota
- 11/1999 Participated in **Beta-test evaluation** for an online distance learning course in
Clinical Anaerobic Bacteriology, Anaerobe Systems, Morgan Hill, CA
- 1/1999 Supervised and trained St. Benedict's College undergraduate student for senior
January-term research project.
- 1995 Computer Learning Center, Science Camp Coordinator for Jr. High School
Program; Park Avenue Foundation
- 1993 Habitat for Humanity, Minneapolis, MN
- 1992 Newton's Apple Diversity Board, St. Paul, MN
- Awards:**
- 2014 Nominated for Drazek Teaching Award, Univ. Maryland Univ. College.
- 7/2006 **Honorary Professor**, Anqing Teacher College. Anqing, China.
- Spring 2007 Mentored student Linda Huynh received SDE-GWIS travel award
- Summer
2006 Mentored student Richard Birkett received ASM Undergraduate
Research Fellowship
- 2005-2006 Center for Teaching and Learning Fellow, Augsburg College, MN
- 5/2005 Mentored student Eilidh Reyelts received ASM travel award
- 7/2001-8/2001 **ASM-UNSECO Award for Visiting Resource Person**, All India Institute of
Medical Sciences. New Delhi, India.
- 5/2001 Mentored student Jennifer Dechaine received ASM travel award
- 6/1999 **Special merit award** and sustaining member travel grant
recipient, ASM General Meeting, Chicago, IL

- 5/1998 Agnes Hanson Travel Award, Sigma Delta Epsilon
- 5/1998 Women in Science and Engineering (WISE) Travel Award
- 10/1997 **First Place Award** for Graduate Student Presentation, Regional ASM Meeting, St. Cloud, MN

Funded Grants:

- 7/1999-7/2000 Minnesota Medical Foundation Grant; Authored as Co -Investigator; \$11,600 **received** funding as Co-Investigator with Mentor Patricia Ferrieri, M.D.
- 1/2000-1/2001 Vikings Children's Fund; Authored as Principle Investigator; \$6913 **received** funding as Principle Investigator Beverly L. Smith, Ph.D. and Co-Investigator Patricia Ferrieri, M.D.
- Spring 2001 Service-Learning Mini-Grant, \$2000 **received** funding organizing collaboration with University of Minnesota Morris and the local Denco Ethanol Plant
- Summer 2005 Faculty Summer Research Grant, \$2000, Augsburg College, MN **received** funding for summer research in France and incorporating research into Biochemistry course
- 2005-2006 Campus Compact Learn and Serve America Citizen Scholar Grant, \$3000, Augsburg College, MN, **received** funding for building Service-Learning into Biology first year course.
- Summer 2006 Faculty Summer Research Grant, \$1000, Augsburg College, MN **received** funding for summer research in France
- Summer 2007 Faculty Summer Research Grant, \$1000, Augsburg College, MN **received** funding for summer research in France
- 2007 Course Instructional Design, \$4000, Augsburg College, MN **received** funding to design, implement, and assess *Introduction to Research* course
- 6/2010 Introductory Biology Education Specialists (IBES) as part of the Introductory Biology Project (IBP), **received** funding from NSF-Funded Collaboration and additional support provided by University of Maryland University College Europe

Grant Writing Experience:

- May 2005 National Science Foundation (NSF) Course Curriculum Laboratory Instrumentation (CCLI), *prepared, submitted* but not funded \$150,000 (ranked 12/90; funding cutoff 10), Augsburg College, MN to acquire equipment

and support for an *Introduction to Research* course. Adaptation, Implementation, Assessment and Dissemination of an Introduction to Research Course for Early-Career Undergraduates.

- September 2005 March of Dimes Foundation Chapter Grant; authored as Principle Investigator; *prepared, submitted* but not funded \$25,000. A collaborative initiative between Augsburg College, FOLC and Fairview to increase maternal health education for Somali women in Cedar Riverside.
- February 2006 National Institutes of Health (NIH-AREA) Grant; authored as Principle Investigator; *prepared, submitted* but not funded \$150,000, (ranked NIH score 190/500; funding cutoff 150); Characterization of a novel C3-binding gene function in Group B *Streptococcus*. Augsburg College, MN to acquire support for research
- May 2006 National Science Foundation (NSF) Course Curriculum Laboratory Instrumentation (CCLI), *prepared, re-submitted* but not funded \$150,000, (unknown rank), Augsburg College, MN to acquire equipment and support for an Introduction to Research course. Adaptation, Implementation, Assessment and Dissemination of an Introduction to Research Course for Early-Career Undergraduates.

Research Students Mentored:

In addition to occasional students (not listed) that may assist me or work on a small lab exercise to get a brief experience with research, I have mentored 39 students through more in-depth research experiences through directed research, internships, campus supported funding, credit and/or an *Introduction to Research* intensive training course--participation, honors and status after graduation, if known, are noted below.

- Nou Chang 2006-2007 (URGO, poster)
- Amy Eickmeyer 2006-2007 (directed, poster)
- Fall 2006. Augsburg College *Introduction to Research* course (3 students: Korissa Wobschall, Nou Chang, Amy Eickmeyer)
- Linda Huynh. 2005-2007 (URGO summer research, Intern, ASM poster)
- Richard Birkett. 2005-2007 (recipient of 2006 American Society for Microbiology Undergraduate Research Fellowship, ASM poster, Honors, medical research)
- Fall 2005. Augsburg College *Introduction to Research* course (3 students: Richard Birkett, Stevie Breitbarth, John Thacker).
- Eilidh Reyelts. 2004-2005. Augsburg College, Minneapolis, MN (Lilly Intern, Campus Compact Citizen Scholar, ASM travel grant recipient and poster; Masters program Public Health)
- Rachel Domier. 2005. Augsburg College, Minneapolis, MN (Lilly Intern, ASM poster, medical school)
- Stevie Breitbarth. 2005. Augsburg College, Minneapolis, MN (directed, graduate school)
- Steve Haasken. 2005. Augsburg College, Minneapolis, MN (URGO, medical school)
- Ben Miller. 2005. Augsburg College, Minneapolis, MN (URGO)

- Brooke Heineman. 2001-2004. Luther College, Decorah, IA (directed, ASM oral presentation, optometry school)
- Lindsay Edwards. 2002. Luther College, Decorah, IA (directed)
- Anna Bergdall. 2001-2002. Luther College, Decorah, IA (directed, Lancefield poster/publication, public policy science lobbyist)
- Jenny Krepela. 2001-2002. Luther College, Decorah, IA (directed, Lancefield poster/publication, Pharm D. program)
- Jennifer Dechaine. 2001-2002. Luther College, Decorah, IA (AAA, ASM travel grant recipient and poster, Lancefield poster/publication, graduate school)
- 2001. Luther College *Introduction to Research* course (16 students, various graduate programs).
- Matt Smith. 2000-2001. University of MN-Morris (UROP, ASM poster, graduate school)
- Kyle Dosch. 2000-2001. University of MN-Morris (MAP, ASM poster, dental school)
- Karen Smith. 2000-2001. University of MN-Morris (directed, ASM poster, M.D. /Ph.D. program)
- 2000. Concordia University, St. Paul Research course (4 students).

Conference Papers and Published Abstracts:

(* denotes mentored students, ** denotes mentored student as presenting author)

Beverly Smith-Keiling. July 2013. A Crowd-Sourcing Case-Based Approach to Faculty Development for Vision and Change in STEM Education. Research poster presentation. SABER-Society for the Advancement of Biology Education National Meeting, Minneapolis, MN. (ongoing project)

Beverly Smith-Keiling. May 2013. Faculty Development Case Study Ideas to Promote Change in Teaching and Learning STEM. PULSE Vision and Change Science Case Network pre-conference workshop poster presentation. Englewood, CO. (ongoing project)

Beverly Smith-Keiling. May 2013. 'Real Lab' Experiences in the Changing Face of STEM Education: Safety, Rigor, and Outcomes in Distance Education Microbiology Labs (Online, Hybrid, and an Outreach Traveling-Lab Bus). Microbrew Chalk Talk: 20th Annual ASM Conference for Undergraduate Educators ASM-CUE Englewood, CO; May 16-19th, 2013

Beverly Smith-Keiling. June 2008. Recruiting and Engaging Women and Underrepresented Groups in Science Through an Experiential Introduction to Research Course Model. National Conference. Inclusive Science: Articulating Theory, Practice and Action. College of St. Catherine, St. Paul, MN.

Richard T. Birkett**, Linda N. Huynh*, Dan Hayward*, and **Beverly L. Smith.** 2007. C3 binding by a Group B streptococcal protein. Peer-reviewed abstract submitted by *mentored research students and first-author** recipient of the ASM Undergraduate Research Fellowship to General Meeting of The American Society for Microbiology Toronto, Canada.

Eilidh J. Reyelts**, Rachel K. Domier*, and **Beverly L. Smith.** An undergraduate curriculum at Augsburg College promoting service-learning in microbiology/ immigrant health. Peer-reviewed paper at the American Society for Microbiology, May 2006, Orlando, FL. Mentored student** received an award for outstanding merit for student presentation.

Beverly Smith, Brooke Heineman**, Lindsay Edwards*, Laura Haubrick and Patricia Ferrieri. 2002. Human Complement Protein C3 and C3 Binding Proteins of *Streptococcus*. Abstract and oral presentation by **mentored student. ASM Regional Meeting, University of Minnesota Medical School.

Beverly Smith, Aurea Flores, Jennifer Dechaine*, Jenny Krepela*, Anna Bergdall*, and Patricia Ferrieri. 2002. The group B streptococcal protein R4 gene, its presence in clinical reference laboratory strains, and analysis of R4 protein pepsin sensitivity. Abstract, poster presentation and Proceedings in XV Lancefield International Symposium on Streptococci and Streptococcal Diseases, Goa, India.

Jennifer Dechaine*, Patricia Ferrieri, and **Beverly Smith**. 2002. Design of an undergraduate laboratory course incorporating basic science research, critical thinking exercises, and polymerase chain reaction (PCR) to obtain relevant data for scholarly activity. Abstract and poster presentation by *mentored student; American Society for Microbiology.

Beverly Smith, Karen Smith*, Matt Smith* and Patricia Ferrieri. 2001. Identification of the gene encoding GBbcA, a group B streptococcal surface protein that binds complement protein C3. Abstract and poster presentation by *mentored students; American Society for Microbiology, Orlando, FL.

Beverly Smith and Patricia Ferrieri. 1999. Identification, conservation, and suggested immunogenicity of GBbcA, a group B streptococcal surface protein that binds complement protein C3. Abstract, poster presentation and Proceedings in XIV Lancefield International Symposium on Streptococci and Streptococcal Diseases, New Zealand.

Qi Cheng, Melanie Madsen, **Beverly L. Smith**, and Margaret K. Hostetter. 1999. Two functions for the protein encoded by *pbca* in *Streptococcus pneumoniae* (Pn). Abstract in XIV Lancefield International Symposium on Streptococci and Streptococcal Diseases, New Zealand.

Beverly L. Smith. 1999. An Inquiry-based laboratory integrating cooperative learning strategies and CD-ROM technology to reach diverse learning styles of general microbiology students. Abstract and poster presentation; **Gordon Research Conference Undergraduate Microbiology Education**, New London, CT

Beverly L. Smith. 1999. An Inquiry-based laboratory integrating cooperative learning strategies and CD-ROM technology to reach diverse learning styles of general microbiology students. Abstract, poster, and **special merit award platform presentation**; American Society for Microbiology, Chicago, IL.

Beverly L. Smith. 1998. Characterization of a pneumococcal surface protein which binds complement protein C3 and its role in adhesion. Abstract and poster presentation; American Society for Microbiology, Atlanta, GA.

Beverly L. Smith, Qi Cheng, and Margaret K. Hostetter. 1997. Characterization of a pneumococcal surface protein which binds complement protein C3 and its role in adhesion. Abstract and **first place award for graduate student platform presentation** competition; American Society for Microbiology Regional Meeting, St. Cloud, MN.

Beverly L. Smith, Jon Ong, and Margaret K. Hostetter. 1996. Factors modulating pneumococcal adhesion. Abstract and **platform presentation** for Society of Pediatric Research, Washington, DC.

Editorially Reviewed Newsletter Articles:

Beverly L. Smith. Spring 2000. A Diversity of Strategies for a Diversity of Learning Styles: a Recipe for Success. American Society for Microbiology *Focus on Microbiology Education* Newsletter. Board of Education and Training and Division W publications.

Beverly L. Smith. Winter 2000. Learning styles and microbiology education: a new emphasis in a new millennium. American Society for Microbiology *Focus on Microbiology Education* Newsletter. Board of Education and Training and Division W publications.

Reviewed Publications:

(*denotes mentored student; **denotes mentored students as presenting author)

Beverly Smith-Keiling. Winter 2009. Success or Failure of a Prodigal Research Program- How Good Assessment Matters. American Society for Microbiology Focus on Microbiology Education. Vol15.No2. p12-15.

Beverly Smith, Aurea Flores, Jennifer Dechaine*, Jenny Krepela*, Anna Bergdall*, and Patricia Ferrieri. 2004. Gene encoding the group B streptococcal protein R4, its presence in clinical reference laboratory isolates, and R4 protein pepsin sensitivity. Proceedings in XV Lancefield International Symposium on Streptococci and Streptococcal Diseases, Goa, India. Indian Journal of Medical Research. 119 Suppl. 213-20.

Beverly L. Smith and Margaret K. Hostetter. 2000. C3 as substrate for adhesion of *Streptococcus pneumoniae*. Journal of Infectious Diseases. 182:497-508.

Melanie Madsen, Y. Lebenthal, Qi Cheng, **Beverly L. Smith**, and Margaret K. Hostetter. 2000. A pneumococcal protein that elicits IL-8 from pulmonary epithelial cells. Journal of Infectious Diseases. 181:1330-6.

Beverly L. Smith. 1998. Characterization of a pneumococcal surface protein which binds complement protein C3 and its role in adhesion. Dissertation for University of Minnesota.

David T. John and **Beverly L. Smith**. 1997. Amebicidal activity of wild animal serum. Journal of Parasitology. Vol. 83(4): 757-759.

Peter Lee, Barry Kreiswirth, James Deringer, Steven Projan, William Eisner, **Beverly Smith**, Eunice Carlson, Richard Novick, and Patrick Schlievert. 1992. Nucleotide sequences and biologic properties of toxic shock syndrome toxin 1 from ovine- and bovine-associated *Staphylococcus aureus*. Journal of Infectious Diseases. 165:1056-63.

Genbank, Patents and Articles in Progress:

Beverly Smith-Keiling. 'Real Lab' Experiences in the Changing Face of STEM Education: Safety, Rigor, and Outcomes in Distance Education Microbiology Labs (Online, Hybrid, and an Outreach Traveling-Lab Bus). *Submitted 2013 JMBE*, in revision for resubmission.

Beverly Smith-Keiling. *In preparation.* An introduction to Research Course Curriculum Design-short term and long lasting effects.

Beverly Smith-Keiling. The Making of a... [Female]... [Woman]... [Feminist]... Scientist: Recruiting and Engaging Women and Underrepresented Groups in Science through an Experiential Introduction to Research Course Model. *Submitted 2008. NWSA Journal*. Long-term further assessment planned.

Beverly Smith-Keiling, and Patricia Ferrieri. Group B Streptococcal Surface Protein, GbcA, C3-Binding Function Supporting Adhesion. *Submitted September 2007. Infection and Immunity*. Additional experiments required.

Beverly L. Smith and Patricia Ferrieri. 1999. A novel protein in *Streptococcus agalactiae*, group B *Streptococcus*, that binds complement protein C3. U.S. Patent No. 6,582,950.

Genbank Accession # AY226097 C3-binding polypeptide

Margaret Hostetter, Qi Cheng, David. Finkel, and **Beverly Smith.** 1998. C3 Binding protein of *Streptococcus pneumoniae*. Co-Inventor: U.S. Patent Application Serial No. 09/308,022.

Artistic and Writing Endeavors:

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| March 2016 | "Snow, Ice, Aurora" Collaborative Art and Science Photography and Prose Presentation with space physicist Andreas Keiling, PhD, Tenjinyama Art Studio, Sapporo, Japan. |
| March 2016 | <i>Transformation:</i> Multimedia Exhibition and Artist Talk, Tenjinyama Art Studio, Sapporo, Japan. |
| Jan-Mar2016 | Artist-in-Residence. Two months performing weekly Art and Breakfast workshop series storytelling storybook art project. Tenjinyama Art Studio, Sapporo, Japan. |
| July 2015 | Writers Workshop and month-long residency with final public reading. Writing Fiction, American University Paris, with Darcey Steinke (2015) |