

Curriculum vitae

Karen K. Bernd

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I. Academic Appointments

2004-present	Associate Professor	Biology Department, Davidson College
1998-2004	Assistant Professor	Biology Department, Davidson College

II. Education:

1996-1998	Post doc	Duke University; Developmental Molecular and Cell Biology (PI: Bruce Kohorn)
1990-1996	Ph.D.	Princeton University; Molecular Biology (Advisor: Elizabeth Sztul)
1986-1990	B.A.	Franklin and Marshall College; Maj. Biology; Min. Philosophy. <i>Cum laude</i> and High Honors in Biology

III. Teaching Experience (since Davidson appointment in 1998)

Bio111: Molecules, Genes and Cells w/ lab (2 sections yearly)
Bio308: Cell Biology w/ lab (2 sections yearly)
Bio361/2 Seminars (1 section yearly)
“Cases in Environmental Health”, “Vesicular traffic—Dogma/myth”; “From Venoms and Toxins to Drugs”; “Genetically Modified Organisms”; “Forensic Serology”
Bio371/Bio372 Independent Research Mentor: 39 students
Bio373 Honors Thesis Research Mentor: 4 student (3sem.)
Honors Thesis 2nd reader: 17 students
Summer research students: 33 students
Center for Interdisciplinary Studies:
CIS341: Introduction to Forensic Sciences: team-taught:
CIS 241: Redesigned Introduction to Forensic Sciences, team-taught
(All CIS offering taught as teaching overloads)
Biophysical Chemistry major advisor and primary research mentor: 1 student
Biophysics major advisor and primary research mentor: 3 students
Bioethics major advisor and primary research mentor: 1 student
Neuroscience major 2nd reader: 6 students
Member of CIS advisory board 2000-2006
July Experience Instructor “Genetic maps and Mood Swings”: 3 wk summer course for rising high school seniors: taught summer of ‘03, ‘05-‘09
For recent syllabi and course information please access my self-designed website:
www.bio.davidson.edu/Bernd

IV. Awards and Funding (since 1998)

2013-2016 NSF-TUES (Transforming Undergraduate Education in STEM disciplines)
Breathe, Eat, Touch Project: Co-PIs: K. Bernd, C Hauser, K Foley. \$199,930

2013 HHMI Course Release: Seminar Development \$7,000

2012 Course Development Stipend: Davidson College, Davidson, NC:
\$2,000 Cases in Environmental Health

2012 Faculty Study and Research Grants: Davidson College, Davidson, NC:
\$3,500 Environmental Cell Biology Research Fellow support and supplies

2011 Promega, Co. Honorarium, Product Development GSH/GSSG-Glo Kit
\$1000

2011 Faculty Study and Research Grants: Davidson College, Davidson, NC:
\$3,000 Environmental Cell Biology Study Supplies and Research Fellow support

2007-2010 Summer Research Internship Program in Biochemistry Merck
Foundation/AAAS: \$60,000 Co-PI Karen Bernd and Cindy Hauser

2010 Course Development Grant; Davidson College, Davidson, NC: \$2000
Developing Bio104: Forensic Science w/ lab

2010 Faculty Study and Research Grants: Davidson College, Davidson, NC:
\$2,600 Environmental Cell Biology Study Supplies

2008 Faculty Study and Research Grants: Supplies Davidson College, Davidson,
NC: \$2,600 Characterizing the effects of ozone and internal stressors on lung cell viability

2007 HHMI Summer Research Program. Student Fellow support Co-Advisor
Karen Bernd and John Yukich \$5700. "Characterization of Functional Flagella with Optical
Tweezers"

2007 Faculty Study and Research Grants; Student Fellowship Davidson College,
Davidson, NC: \$3,200 "Establishing models to study the effects of ozone on surfactant and
lung epithelial cells"

2006 Faculty Study and Research Grants; Student Fellowship Davidson College,
Davidson, NC: \$3,200 "Characterization of swimming force generated during flagella
generation using the laser trap"

2003-2006 Summer Research Internship Program in Biochemistry Merck Foundation-
AAAS: \$60,000 Co-PI Karen Bernd and Erland Stevens

2002-2006 NSF-REU Site Grant : \$248,101 "REU Site: Developing Student Scientists:

Collaborative Research in the Life Sciences at Davidson College." Co-PI: Michael E. Dorcas, Mark T. Stanback, Karen K. Bernd,

2005 Faculty Study and Research: Teaching Improvement Grant Davidson College, Davidson, NC: \$2,600 "Forensic Serology Seminar: Communicating Scientific Information to Audiences with Different Scientific Backgrounds"

2003 Faculty Study and Research Grants Davidson College, Davidson, NC: \$3,000 Student stipends (2) "Optimizing Comparative RT-PCR for Cell Biology Department" and "Building Optical Tweezers,"

2002 Mellon Technology Fellow Associated Colleges of the South: \$2,500 "Providing Connections: Resources for Cell Biology" Updated syllabus and wrote course guide <http://www.bio.davidson.edu/people/kabernd/cellbiohm.html>

2002 Faculty Study and Research Grant Davidson College, Davidson, NC: \$2,750 "Microscale screening: Testing the general applicability of a novel technique"

2001 Faculty Study and Research Grant Davidson College, Davidson, NC: \$3,000 "Characterizing the resistance of *Chlamydomonas reinhardtii* tip mutants to the herbicide Valor"

2001 Information Fluency Grant Associated Colleges of the South: \$3,655 "Maximizing Audience and Student-Perceived Relevance: Teaching Information Fluency in Introductory Biology Courses"

2000-2001 Educational Enhancement Grant North Carolina Biotechnology Center, Durham, NC: \$23,430 "Development of DNA sequencing and RNA detection methods for the undergraduate laboratory" Co-Principal Investigator: Dr. D. Wessner: Davidson College

2000 Mellon Technology Fellow Associated Colleges of the South: \$2,500 "Integrating WWWeb-based Technology into a Cell Biology Course"

2000 Faculty Study and Research Grant Davidson College, Davidson, NC: \$2,500 "Characterization of herbicide resistance in mutant algae strains"

1999 Faculty Study and Research Grant Davidson College, Davidson, NC: \$2,500 "Investigating the link between translocation and herbicide resistance"

1997-1999 NIH National Research Service Award: \$65,020 "Genetic analysis of *Chlamydomonas* protein translocation" *Declined last year to accept position at Davidson College*

V. Professional Activities

A. Professional Society Memberships

1990-present Phi Beta Kappa
 President 2010-2011
 Chapter Initiation Banquet Committee 2002-2004

1991- 2010	American Society for Cell Biology NC Congressional Liaison Coalition 1999-2008
1999- 2010	National Association of Biology teachers
1991- 2002	Federation of American Societies for Experimental Biology
1999- 2002	American Association for the Advancement of Science

B. Reviewer (selected activities since 1997)

GRE	Committee of Examiners: Cellular, Molecular and Biochemistry Subject Test. Responsible for writing and reviewing and selecting the questions for the GRE test (ETS, Princeton NJ) 2006-2013 <i>Committee Chair</i> 2011-2012 Sub-committee chair 2010-2011 Panel member 2006-2012
Multimedia resource Development	<u>Cell Biology Interactive</u> , packaged with Alberts et al. Molecular Biology of the Cell ^{4th} ed., Garland Publishing <i>Involved in storyboard design, reviewing presentation and content at alpha and beta testing levels</i>
External Reviewer	Emory & Henry Biology Department
Educational literature Reviewer	<u>Human Genome Traveling Exhibit: Teacher Guide</u> Topics in Education Co, Charlotte, NC; <i>Involved in development and content review "Genome: The Secret of How Life Works" on display at Smithsonian Institution Fall 2003.</i>
Grant Proposal Reviewer	NSF Graduate Research Fellowship Proposal reviewer Genetics and Cell Biology Panel 2003-2006, 2008 <i>Ad hoc</i> reviewer of NSF proposal for Population and Evolutionary Biology Cluster (2007, 2008, 2009)
Peer Review- Journals	Approximately one/year
Textbooks proposal review	Approximately one /year Cell biology, Biochemistry, Introductory Biology, Non-majors
Textbook revision Reviewer	Molecular Cell Biology, 5 th edition, Lodish <i>et al.</i> Reviewed and provided comments on five chapters and TOC to help direct the development of the 6 th edition. Biology. Curtis and James 6 th edition

C. Invited Speaker

2008	Scholarship; Teaching Research and Researching Teaching: Duke University: 2-hour seminar to graduate level course Bio390: Seminar in Teaching College Biology. Focus 3/08
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2006 'Making Labs Engaging' Duke University: Invited speaker for 2-hour seminar to graduate level course Bio390: Seminar in Teaching College Biology. 3/06.

2005 "The Broad Spectrum of Academia: How academic cultures vary across institutions" Panelist with Albert Young, Assistant Professor, Physics, North Carolina State University; and Jeff Rathmell, Assistant Professor, Pharmacology and Cancer Biology, Duke University Medical Center. Duke University Postdoctoral Association organized event. Duke University, 1/05

2003 'Protein Translocation and Herbicide Resistance: How the Summer Sun Causes the Birth of an Assay' Franklin and Marshall College: Lancaster, PA Biology Evening Seminar Series/ Porter Science Society (3/03)

2003 Metabolism and Information Pathways. Franklin and Marshall College: Lancaster, PA Guest lecturer Bio334: Biochemistry and Molecular Biology (3/03)

2002 "Information Fluency: Promoting critical reading and webpage" authoring in biology courses NSF: Preparing Future Faculty: Duke University, Durham, NC (3/02)

2001 "Integrating Webauthoring into Seminar Courses" NSF: Preparing Future Faculty, Guilford College, Greensboro, NC (3/01)

2000 "Linking the WWWeb and Seminar Courses: Lessons learned from Vesicular Traffic: Dogma or Myth" American Society for Cell Biology Annual Meeting: San Francisco, CA (12/00)

1999 "Webpage authoring as an instructional tool for seminar classes" Southwestern University: ACS technology workshop (7/99)

1998 Novartis Corporation, Durham, NC (2/98)

VI. Selected Publications (since 1997)

A. Research Papers *denotes undergraduates as co-authors

Clodfelter C.*, Yukich, J, and K.K. Bernd Force production during flagella regeneration in *Chlamydomonas reinhardtii*. (in progress)

Valauri-Orton, A.*, Bschorer, F.*, and **K. K. Bernd**. Dichloroacetate Decreases Cell Health and Activates Oxidative Stress Defense Pathways in Rat Alveolar Type II Pneumocytes. *Journal of Biochemical and Molecular Toxicology*. Submitted August 2012

Guilford, W.H., Aust, L.E.*, and **K.K. Bernd**. 2006. Whole-cell flagellum-based motility studied using back focal plane interferometry in a laser trap transducer. Conference Record of the Fortieth Asilomar Conference on Signals, Systems and Computers: 178-82.

McCord, R.P.*, Yukich, J. N., and **Bernd, K.K.**. 2005. Analysis of Force Generation during Flagellar Assembly Through Optical Trapping of Free-swimming *Chlamydomonas reinhardtii*. *Cell Motility and*

the Cytoskeleton 61: 137-144

Bernd, K. K., and Cook, N.*. 2002. Microscale assay monitors algal growth characteristics. *Biotechniques* 32: 1256-1259. <http://www.biotechniques.com/>

Timm, K.S., Titus, B.J., **Bernd, K.** and Barroso, M. 1999. The EF-hand calcium-binding protein p22 associates with microtubules in a N-myristoylation-dependent manner. *MBC* 10: 3473-3478. <http://www.molbiolcell.org/cgi/content/full/10/10/3473>

Hsing, W., Russo, F.D., **Bernd, K.K.**, and Silhavy, T.J. 1998. Mutations that alter the kinase and phosphatase activities of the two-component sensor EnvZ. *Journal of Bacteriology* 180:4538-4546. <http://jb.asm.org/cgi/reprint/180/17/4538.pdf>

Bernd, K.K., and Kohorn, B.D. 1998. Tip loci: Six *Chlamydomonas* nuclear suppressors that permit the translocation of proteins with mutant thylakoid signal sequences. *Genetics* 149:1293-1301 <http://www.genetics.org/content/vol149/issue3/>

B. Books and Book Chapters

Bernd K.K. 2004. *Biology In Condense Knowledge* Eds W. Pearson, L. Hunt and M. Hattikudur. Harper Collins.

Bernd, K.K. 2002. *Teaching Guide: Integrating Molecular Biology of the Cell 4th edition and Cell Biology Interactive*. Garland Science
<http://www.garlandscience.com/MBoC4/supplements.html>

Bernd, K.K., Perret, M.C., and Kohorn, B.D. 1998. *Chloroplast protein translocation in Chlamydomonas*. In *Molecular Biology of Chloroplasts and Mitochondria in Chlamydomonas*. Eds. J. -D. Rochaix, M. Goldschmidt-Clermont, and S. Merchant

C. Invited Book Reviews and articles *denotes undergraduates as co-authors

Chalfant*, M. and **Bernd, K.** Detecting Ozone-Induced Changes in Cellular Redox Balance via GSH/GSSG-Glo™ Assay. [Internet] 2011. Available from:
http://content.promega.com/resources/articles/pubhub/tpub_059-detecting-ozone-induced-changes-in-cellular-redox-balance-via-gsh-gssg-glo-assay/

Interviewed by Kerri McWinney for MoBio newsletter, the quarterly electronic newsletter for their company, featuring collaborative field/lab work with M. Dorcas.
<http://www.mobio.com/blog/2009/10/18/csi-meets-crocodile-hunter-undergraduate-scientists-hunt-for-the-deadly-chytrid-fungus/>

Bernd K.K. 2005. TP Msg. 623 “Merging Teaching and Research” a response to ‘Sufficient Time for Research’ Initially posted 2/14/05, ‘Tomorrow's Professor’ faculty development resource sponsored by the Stanford University Center for Teaching and Learning. Posting written at the request of the moderator Rick Reis. Archived at
<http://ctl.stanford.edu/Tomprof/index.shtml>

Bernd, K.K. and V. Statler*. 2004. Customer Focus: Undergraduates Study Gene Expression in *S.cerevisiae* Using a Student-Optimized Protocol. Epicentre Forum 11; 4

Bernd, K.K. 2003. Waiting for 4.1: Review of Roche Genetics Education Program CD-rom version 4.0 Cell Biology Education 2: 152-155.
<http://www.cellbioed.org/articles/vol2no3/article.cfm?articleID=66>

Bernd K.K. 2002. Book Review: Mood Genes: Hunting for the Origins of Mania and Depression. J. of Undergraduate Neuroscience. 1(1); R1-R2.
<http://www.funjournal.org/downloads/R1bernd.pdf>

D. Abstracts/Posters/Presentations at Meetings *denotes undergraduates as co-authors

A. Valauri-Orton* and **K Bernd**. Water Purification Byproduct Dichloroacetic Acid Induces Stress in Lung Cells. ASB meeting. UGA, Athens, GA. Presented by A. V.O. (April 2012)

D. Cook* and **K Bernd**. Characterizing the effects of selenium treatment on lung cell viability and antioxidant production. ASB meeting. UGA, Athens, GA. Submitted/accepted but Daniel later unable to attend. (April 2012)

R. Lightsey*, **K. Bernd**, J. Myers, and J. Yukich. (2011) Measuring the mechanical properties of spider silk using optical tweezers. *SNCURCS*, East Carolina University. (Nov 2011)

D. Cook* and **K. Bernd** (2010) Effect of Selenium treatment on alveolar type II lung cells exposed to ozone. Association of Southeastern Biologists Annual Meeting, Asheville, NC (April 2010)

M. Chalfant* and **K Bernd** (2010) 17-beta estradiol administration timing alters lung cell response to ozone exposure. Association of Southeastern Biologists Annual Meeting, Asheville, NC (April 2010)

J. N. Yukich, C. Clodfelter,* **K.K. Bernd** 2009. Flagellar force production during regeneration in *Chlamydomonas reinhardtii*. Platform presentation Southeastern Section of the American Physical Society, Atlanta, GA, November 12, 2009.

M. Chalfant*, **K. Bernd**. 2009. 17- β Estradiol affects lung cell response to oxidative stress. State of NC Undergraduate Research and Creativity Symposium (SNCURCS). UNC-Wilmington, Nov 2009

D. Cook*, **K. Bernd**. 2009. Selenium treatment post ozone exposure improves lung cell recovery 12th Annual Undergraduate Research Symposium in the Chemical and Biological Sciences sponsored by National Institutes of Health (NIGMS), Univ of Maryland, Baltimore County, MD, Oct 2009

C. Clodfelter*, J. Yukich and **K. Bernd**. 2009. Abnormal movement and the trend of flagellar force production during regeneration in *Chlamydomonas reinhardtii* Biophysical Society Annual Meeting. Boston, MA.

M. Shaban*, C. Clodfelter*, J. Yukich, **K.K. Bernd**. 2008. Comparing Laser Trap-based Approaches to Investigate and Model Flagella Force Generation in *Chlamydomonas reinhardtii*. Biophysical Society Annual Meeting. Long Beach CA Poster presented by MS and CC Feb 2008

M. Shaban* C. Clodfelter*, **K.K. Bernd**. J. Yukich. 2008. Developing optical trapping techniques to measure swimming force generation in Chlamydomonas cells NC Academy of Science Annual Meeting. UNC Greensboro. Platform talk by M.S. Mar 2008

L. Woeste*, M Esposito*, and **K.K. Bernd** . 2008 A thyroid disorder model based on metabolic differences in cell culture to demonstrate the varying effect of thyroid hormone on glucose consumption. NC Academy of Science Annual Meeting. UNC Greensboro. Mar 2008

*Clodfelter, C., *Shaban, M., Yukich, J., **Bernd, K.K** 2007. Analysis of Force Generation Patterns During *C. reinhardtii* Flagella Regeneration. America Society for Cell Biology Annual Meeting, Washington, D.C. Dec 2007

Bernd, K.K., DeForest Hauser, C., *Nam, A., *Raver, C., 2007 *Weaver, A. An epithelial Type II Cell System to Investigate Links between Environmental Factors and Lung Injury. America Society for Cell Biology Annual Meeting, Washington, D.C. Dec 2007

M. Shaban*, C. Clodfelter*, J.Yukich, **K.K. Bernd**. 2007 Examining Swimming Force Generation as *Chlamydomonas reinhardtii* Flagella Regenerate. Regional meeting American Society for Microbiology, Greensboro, NC. Pster presented by M.S. Oct 2007

Yukich, J. *Shaban, M., * Clodfelter, C., **Bernd. KK** 2007. Measurement of swimming force generation in *Chlamydomonas reinhardtii* using optical tweezers. Optics in the Southeast Annual Meeting. Clemson University Platform Talk Oct 2007

Guilford W., *Aust,L, **Bernd, K.K.**, 2006 Whole-cell flagellum-based motility studied using back focal plane interferometry in a laser trap transducer. 40th Asilomar Conference on Signals, Systems and Computers. Pacific Grove, California. Platform talk. Nov 2006

Shaban, M.*, **Bernd, K**, and Yukich, J., 2006 Improving Optical Trap Calibration Techniques for Chlamydomonas Cells. NCS-AAPT meeting Elon College. Sept 2006. Mona Shaban presented platform talk.

Yukich, J., **Bernd, K.K.**, and R.P.McCord*. 2005. Biophysical analysis of swimming force by *Chlamydomonas* flagella. Annual Meeting of the SE section of the American Physical Society. Platform talk.

Newton, K.*, Pickens, A.*, and **K.K.Bernd**. 2005. Novel organic compounds DRR 3 and DRR 5 affect growth rate differentially in model bacteria *Escherichia coli*, *Salmonella typhimurium*, and *Staphylococcus simulans*. North Carolina Academy of Science Annual Meeting. Meredith College, Raleigh, NC.

- McCord, R.P.*, Yukich, J. N., and **K.K. Bernd**. 2004 Optical Trap Analysis Reveals *Chlamydomonas reinhardtii* Exhibit Complex Patterns of Swimming Force Increase During Flagella Elongation. American Society for Cell Biology annual meeting, Washington, DC.
- Bernd, K. K.** 2004. Undergraduates Ranking Grant Proposals and Writing a *Curriculum Vitae* Why and How? American Society for Cell Biology annual meeting, Washington, DC.
- McCord, R.P.*, Yukich, J. N., and **K.K. Bernd**. 2004. Using Optical Tweezers to Measure the Force Exerted by Original and Regenerated Flagella of *Chlamydomonas reinhardtii*. NC Academy of Science Annual meeting, Catawba College, March 2004. Awarded First Place in Cell and Developmental Biology Oral Presentation Section.
- McCord, R.P.*, **Bernd, K.K.**, and J.N. Yukich 2004 Optical Tweezers and Biological Forces: Using a Laser Trap to Measure the Swimming Force Exerted by the Flagella of *Chlamydomonas reinhardtii*. Biophysical Society Annual Meeting. Baltimore, MD presented by McCord. February, 2004
- Wilson, A.R.*, Neill, J.,* Stevens, E. and **K.K. Bernd**. 2004. Analysis of Purine Derivatives for Antimicrobial Activity. NC Academy of Science Annual meeting, Catawba College, March 2004. Awarded First Place in Cell and Developmental Biology Poster section.
- McCord, R.P.*, Yukich, J.N., and **K.K. Bernd**. 2003. The Design and Construction of an Optical Tweezers Laser Apparatus to Measure Piconewton Scale Biological Forces. Annual Meeting of the SE section of the American Physical Society. Wilmington, NC. Awarded Second Place in Undergraduate Poster Division.
- Stevens, E. Neill, J., * Wilson, A, * and **Bernd, K.K.** 2003. Synthesis and Biological Activity of 1,2,3-triazoles. American Chemical Society Annual meeting Atlanta, GA,
- Newton, K. *, Chase, M. *, Toran, P. *, and **Bernd, K.K.** 2003. Characterizing golgin targeting requirements. Poster at North Carolina Academy of Science Meeting, at UNC-Wilmington, Wilmington, NC. Awarded Third Place John Derieux Award for Outstanding Undergraduate Research; Student Poster division. Presented by all three student authors.
- Statler, V. * and **K. K. Bernd**. 2003. Optimizing Comparative RT-PCR for undergraduate Cell Biology laboratories. Presentation at North Carolina Academy of Science Meeting, at UNC-Wilmington, Wilmington, NC. Awarded Second Place John Derieux Award for Outstanding Undergraduate Research; Science Education division. Platform presentation by Victoria Statler ('03)
- Bernd, K. K.** and Cook, N. * 2001. Protein translocation mutants demonstrate altered herbicide resistance in novel microscale assay. American Society for Cell Biology annual meeting, Washington, DC.
- Larned, C. *, Nugent, E*, McKillop, J. C., **Bernd, K. K.** and Wessner, D. 2001. Use of Rapid, Chemiluminescent DNA Sequencing and Phenol-free RNA Isolation Protocols in the Undergraduate Curriculum. ASM Annual Meeting abstract/poster, Orlando, FL Presented by C. Larned.

McKillop, J. C. * and **K.K. Bernd**. 2001. Optimizing *S. cerevisiae* differential gene expression protocols for use in undergraduate laboratories. NC Academy of Science meeting. Platform presentation by J.C. McKillop ('01).

Bernd, K K, Larned, C*, McKillop, J, *Nugent, E*, Riedley, S*, and Wessner, D. 2000. DNA Sequencing and Differential Expression Studies: Non-radioactive, Non-toxic and Accessible. American Society for Cell Biology Annual Meeting. MCB Supplement

Cook, N. * and **Bernd K**. 1999. Maximize screening capabilities, minimize cost: Using liquid and solid media microtiter assays to screen microorganisms. Mol Biol Cell Supplement 9

Bernd, K.K., Perret, M. C., Zerges, W., and Kohorn, B.D. 1998. Tip loci: Six suppressors that permit the translocation of proteins with mutant signal sequences. *8th International Conference on the Cell and Molecular Biology of Chlamydomonas*. Seminar and poster. Tahoe City, California

Bernd, K.K., Perret, M. C., and Kohorn, B.D. 1997. Tip loci: Six suppressors that permit the translocation of proteins with mutant signal sequences. *American Society for Cell Biology Annual Meeting. MCB Supplement 8*, 198a.

E. Davidson College Service

1. College committees

2012- present	Professional Affairs Committee
2012	Biology Department Search Committee: Conservation Ecologist
2004-present	First year student course registration advisor (one of 4 contacts for summer webtree help for all incoming students)
2006-2012	Faculty Admissions Committee. Chair 2008-12.
2009	Search committee: HHMI Postdoctoral fellow
2006-2007	Search committee Assistant Director Medical Humanities Program (2 rounds)
2004-2007	Student Conduct Council Elected by the Natural Sciences Division
2001 – 2006	Center for Interdisciplinary Studies Advisory Board Critique all Center Major applications (approx. 15-20 per year) Participate in thesis proposal defenses (approx. 3 per year) Participate in final oral thesis defenses (approx. 4 per year)

- 2005-2006 SAC committee reviewing the Humanities program
- 2003 – 2006 Sexual Misconduct Board
Appointed to board by President Vagt Spring 2003.
- 2005 Search committee for VP/Dean of Admission and Financial Aid
- 2005 Biology Department Search Committee for one semester position teaching Introductory Biology
- 2000 – 2004 Graduate Grants and Fellowships committee:
Interview and grant Davidson's Smith Fellowship
Determine college's candidates for Watson fellowship
Mock interviews for Rhodes and Mellon Fellowships
Aid students in preparing NSF graduate fellowship applications
- 2009, 2003, 1999 Premed Advisory Committee Subcommittee member
Interviewed and ranked four students applying to medical school.
- 2002, Premedical Advisory Committee
Held interviews and participated in student review process during spring semester as substitute for committee member who was on sabbatical (5 students interviewed, 42 students reviewed and ranked by panel)
- Fall 1999 - Fall 2001 Review Board: Heard cases appealing sanctions imposed by Honor Council or Judiciary Board (approx 3 cases each semester)
Chair of Review Board Fall 2000 – Fall 2001
- 1999-2000 Writing Center Advisory Committee

2. College Organizations

- 2001-2007 **Reproductive Rights Alliance** of Davidson faculty advisor (since its inception). Student group focusing on educational resources for reproductive issues. Outreach includes education regarding reproductive health and safety as well as resources concerning birth control, abortion and adoption services.
- 1998-2004 NOAH Junior faculty group meeting monthly to discuss pedagogy and insights to being junior faculty and being at Davidson.
Co-coordinator Fall 2000-2003

3. College Presentations and Service

- 2008-2010 BioCenter Newsletter: Writer, Editor-in Chief and head bottle washer:
Prepare and distribute weekly electronic newsletter containing departmental events, seminars, job and fellowship opportunities, study tips and jokes to all majors, students in biology courses and department staff and faculty (~1.5hr/week)

2006-present Host Forensic Science Workshop for local middle school students. As part of Forensic Serology seminar design and host 2.5hour workshop for 30 students.

1998- present Departmental 'Public Relations' contact:

Provide contact point for inquiries about the biology major, Davidson's facilities, and other more random scientific questions (i.e. ' Please tell me everything you know about biology' ;‘ a friend took a non-fatal overdose of aspirin as a child, could that have caused his childhood habit of banging his head against the floor?; “what is the life expectancy of red wiggler (worms)?”).

Provide personal tours, answer questions in person, by email and phone.

1998-present Work with Office of Admission and Financial Aid

Faculty Admission Committee

Member and Chair, see committee work above

Tours:

Introduce prospective Davidson students to the opportunities and facilities in the Biology department (Approx 2 tours per week during academic year, 1-2 tours per week during summer)

Provide biology training for summer campus tour guides

Discover Davidson and Decision Davidson: weekend recruiting events

Biology Department Representative for Science Tours (2hr 9/09

Invited speaker for science section of the following events (ea 1hr talk + Q&A)

“Stress Responses: Why Bears Always Chase Biologists” 10/07

Davidson Junior Day: Part of four-person panel that provided information about our division of the college and opportunities for students. Answered questions posed by the prospective students and their parents. 2/19/06

“Communication is the Key: Cell Biology from Bipolar Disorder to Yeast Mating” 10/03.

“Connecting with Life: Biology at Davidson.” (10/02)

“Relevance! An Introduction to Biology at Davidson.” (9/02)

“A Day at Davidson for Juniors’ (2/02). co-led discussion groups with focused on unique teaching and learning opportunities at Davidson

“Making Connections: An Introduction to Biology at Davidson” (10/01)

“Getting Your Signals Right: An Introduction to Biology at Davidson” (9/01)

“Biology meets the Internet: It’s all about communication!” (4/01)

Departmental representative in Spring 1999 and two Fall 1999 event

Scholar Interview committee

Belk Scholarship Interview Panel: 2003-2012: Belk Scholarship is a merit based scholarship that provides 10 students in each entering class with 4 years of full tuition, room, board, and two summer stipends

Baker Scholarship Interview Panel: 2011: Baker Scholarship is a merit based scholarship that provides 2 students in each entering class with 4 years of full tuition, room, board, and two summer stipends

Contact

First year student scheduling advisor. One of three faculty members provided as contacts to help incoming students submit their first course registration forms. (2005-2009)

Admissions Biology contact: emailed accepted students with stated Biology interest, congratulating them on acceptance and offering to help with any questions that remained.

Admissions 'final push' letter: Drafted letters sent to accepted students providing highlights within the Davidson Biology Department (12/01 and 12/99, approx 50 letters each) ---

- 2009 *CatsConnect* Panel discussion with student mentors
- 2009 *Air quality and lung function: An argument from the couch*: CIS lunch series speaker
- 2007, 2008 *How to succeed at Davidson*: First Year Orientation panel presentation. Came in costume as the late, baseball cap and sweats, texting, student (example of what not to do). Panel included Registrar, Student and Asst Dean of Students.
- 2006, 2008 'Goggles for Non-Geeks' Forensic Science: With Dr Cindy Hauser (Chemistry) developed and led 3 hour Saturday morning investigative lab integrating biological and chemical analysis into crime solving. Participants were 8, 8th graders 11/06 4/08
- Search Committee for Biology Visiting Assistant Professor position (sabbatical replacement to help cover those on sabbatical, others on reduced load)
- 2006-2007 Search Committee for Assistant Director for Medical Humanities (Successful during second round.)
- 2006 Participated in external review of Anthropology Department
- Participated in external review of Medical Humanities Program
- Family Weekend Speaker 'From Pedagogy to Practice' Presentation discussing the HHMI Bridge Program and pedagogy intended to instill interest in continuing on to College and continue on in science. 10/20/06
- 'Blood Hunters: Lessons in Communication from a Forensic Serology Seminar' Teaching Improvement Grants - Sharing Session 4/11/06
- 2005-06 SACs accreditation committee examining Humanities program
- 1999-2004 NOAH junior faculty group presentations:
 "Integrating wweb and website authoring into a seminar class" (2/99)
 "Honor Code at Davidson College: Reflections from a Review Board

- member” panel discussion (2/00)
 “Honoring the Code: Process and Prospects at Davidson’ (10/02)
 “Testing methods: Finals with a Twist.” (3/03)
 “What we should have, could have, or wished we hadn’t done”. (9/03)
- 2003 Review panel for Chemistry of Biomedical Polymers (Chm 308): Invited by David Brown to critique student poster presentations of final projects for his course (12/03)
- Department Representative accompanying 10 Davidson Students to give presentations at the North Carolina Academy of Sciences Annual Meeting. UNC-Wilmington, Wilmington, NC (3/03)
- 2002 Technology and teaching: AAG Brownbag lunch series (9/02)
- 2002 Blackboard: Teaching with Technology Showcase. (5/02)
- 2002 “Information Fluency: Click early and often” Teaching with Technology Presentation (3/02) co sponsored by NOAH, Academic Affairs and Information Technology Services.
- 2002 “Discussing ‘the Heart of the matter’: The use of animals in biomedical research” (3/13/02) Discussion of the ethics of animal research and of using the results of animal research as part of Speas Symposium on Bioethics.
- 2002 Teaching with Technology: Blackboard Fall Institute opening speaker (12/01)
- 2001 Class of 1941 Panel speaker Homecoming weekend: (9/01) Spoke with alumni about developments in the biology department and the biology major.
- 2001 Department Representative accompanying 4 Davidson Students to give presentations at the North Carolina Academy of Sciences Annual Meeting at UNC-Greensboro (3/01)
- 2001 Presidential Parents’ Weekend Speaker (2/01): “A Question of Relevance: ‘Hands-On’ science cements theory in application”
- 1998 Guest lectures in Davidson classes:
 "Graduate School: Why? How? and when?" Biology Senior Colloquium panel speaker
 "Choosing a science career in academia—and what we did to get there"
 Biology Senior Colloquium panel speaker
 “Our birth plans past and future." Childbirth Seminar panel
speaker with K.A. Bernd (husband), J. Bernd (son), M S Kopecek (my mother)
presentation at beginning of my second trimester of pregnancy)
- 1999 "Genetic screens and selections: How? Why? And what can we learn?"

Howard Hughes Summer Internship Program (7/99)

- 1998 Alumnae Leadership Conference (10/98)
Introduce Alumni to Watson Life Science Building and current directions of Biology Department at Davidson College
- 1998 Trustees Meeting (10/98)
Led table luncheon discussion and guided tours of Watson Life Science Building.

4. Advising responsibilities

- 2002-present First Year Student Registration contact
One of four faculty members fielding questions from incoming students and their parents regarding course loads, course selection, W courses and tree registration.
- 1998-present Academic advisor for 41 students during their first two years
Biology major advisor for 106 students
Primary major advisor for 6 students through Center for Interdisciplinary Studies (majors in Bioethics, Biophysics, Biophysical Chemistry)
- 2001-2012; 'Master teacher' mentor as part of the NSF Preparing Future Professors/ Teaching Certificate program. Meet bimonthly, critique guest lectures, maintain contact by email, help develop teaching portfolio, develop teaching skills and resources.
- 2011+ Heidi Cedercoln, Graduate Student, Duke University Biology Department
- 2004- 2008 Samantha Kerry, Ph.D. Postdoctoral fellow, Duke University Microbiology Department
- 2001-2004 Jennifer Nelson, Graduate Student, Duke University Biology Department