

## HAROLD J. HOOPS

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### Professional Positions:

Full Professor, Biology Department, SUNY-Geneseo	September 1999 to present
Associate Professor, Biology Department, SUNY-Geneseo	September 1993 to September
Assistant Professor, Biology Department, SUNY-Geneseo	September 1987 to September 1994
Senior Research Associate, Worcester Foundation for Experimental Biology Experimental Biology, Shrewsbury MA	July 1985 to September 1987
Research Associate, The Worcester Foundation for Experimental Biology, Shrewsbury MA.	January 1982 to July 1985

### Education:

The Ohio State University Ph.D., Botany	Sept. 1978 to Dec. 1981
The Ohio State University. M.S., Botany	Sept. 1976 to Sept. 1978
Carroll College, Waukesha, Ws. B.S., Major: Biology	Sept. 1972 to Dec. 1975

### Teaching Experience:

SUNY- Geneseo	September 1987 to present
Bio 104 - Human Biology Laboratory	Spring 1991, Fall 1991, Spring 2000
Bio 117 - General Biology Lecture	Fall 1999-2002
Bio 118 - General Biology Laboratory I	Fall 1990-94, 1996-97
Bio 120/124 - General Biology Laboratory II	Spring 1989, 96
Bio 188 - Freshman Experience in Biology	Fall 2002
Bio 222 (lab) - Microbiology Laboratory	Spring 1991, 94
Bio 364 (lab) - Animal Physiology Laboratory	Fall 1995, 98
Bio 370/300 - Cell Biology	Fall 1987-02, Spring 1992-2003
Bio 373/301 - Cell Biology Laboratory	Spring 1992-93, Fall 1988-91, 1994-2002
Bio 378 - Microscope Techniques	Fall 1987-2002
Bio 380 - Seminar in Biology	Spring 1996-99, 2002
Bio 390 - Biological Techniques: Electron Microscopy	Spring 1988-2003
Bio 470/400 - Advanced Cell Biology	Fall 1987-Fall 97
Bio 473/401 - Advanced Cell Biology Laboratory	Fall 1988, 89, 94, Spring 93, 2002

Bio 478 - Microscope Techniques	Fall 1988-00
Bio 484 - Limnology	Spring 1990
Bio 590 - Biological Techniques: Cell Biology	Fall 1987
Bio 590 - Biological Techniques: Electron Microscopy	Spring 1989-97
Bio 381, 382, 399 - Undergraduate Research	Fall 1987-Spring 89, Spring, 1990-Spring 2002
Bio 499, 599, 699 - Graduate Research in Biology	Fall 1987-Spring 89, Spring 1991-Spring 92

The Ohio State University	Sept. 1976 to Jan. 1980
Botany/Zoology 110 - General Biology	
Botany 112 - General Botany	
Botany 644 - Phycology	
Botany 614 - Plant Cell Ultra structure	

### Research Experience:

Assistant Professor; Associate Professor, Full Professor Biology Department, SUNY-Geneseo.  
 Research on the physiology and functions of flagella and flagellar associated structures. This includes the isolation and characterization of monoclonal antibodies directed against basal apparatus components of flagellates, detailed three-dimensional flagellar apparatus reconstructions for use in determining structure-function relationships and phylogenetic analysis, high-speed cine analysis of flagellar motility, and the structural and functional bases for simple behaviors in the colonial Volvocales. Also research on behavioral responses in unicellular and colonial green algae including mechanisms of phototactic and chemotactic sensing and steering.

Visiting Scientist, University of Rochester. Research on the molecular and genetic components of mitosis in yeast. Although many individual proteins have been identified that are involved in spindle positioning, the way these proteins work together to accomplish orientation and subsequent chromosomal separation is unknown. I have used multiple techniques to investigate these interactions in vitro and in vivo. These include yeast two-hybrid analysis of wild-type and mutant strains, generation of random mutations in segments of a particular gene by error prone PCR and homologous recombination, immunoprecipitation and site directed mutagenesis.

Research Associate; Senior Research Associate, Worcester Foundation for Experimental Biology.  
 Research on the physiology and function of flagella and flagellar associated structures. This included cinephotomicrography, TEM and SEM of motility mutants of *Chlamydomonas*, isolation and reactivation of flagellar apparatuses, and study of basal body- and fiber-less, yet motile, flagella in a related alga. In addition, this research involved the rapid-freeze, deep-etch replica technique and immunogold localization using monoclonal antibodies

Presidential Fellow, Ohio State University. Research on the flagellar apparatus and flagellar motion in colonial green algae. This involved reconstruction of flagellar apparatuses from serial thin-sections and cinephotomicrography of free-swimming and trapped colonies.

Predoctoral research, Ohio State University. Research on the ultra structure of freshwater and marine green algae. This included culturing the algae, inducing given stages in life cycles, fixation, and study with light microscopy, TEM and SEM.

**Honors:**

Inducted into BBB as Honorary member April 20, 2004 (student nominated)  
Keynote speaker for BBB (Biological Honor Society), April 20, 2004  
Keynote speaker for first annual Undergraduate Scholar's Symposium, April 16, 2004.  
Awarded the Lockhart Professorship Fall 2001-Spring 2004  
Inducted into Phi Eta Sigma National Honor Society, Oct. 7, 2003 (student nominated)  
Symposium speaker, Northeast Algal Symposium, Plymouth, MA. April 18, 1999  
Awarded the Chancellor's Award for Excellence in Teaching, Fall 1999  
Nominated for the Chancellor's Award for Excellence in Teaching Fall 1994, Fall 1995, Fall 1999  
Symposium speaker, Second International Phycological Congress, Copenhagen. August 1985.  
Botany Department Graduate Student of the Year Award 1980-1981  
Presidential fellow O.S.U. 1981  
Phi Kappa Phi Honor Society OSU Chapter

**Outside Grants Received:**

Acquisition of Scanning Electron Microscope for Introductory and Advanced Course Work and Faculty/ Undergraduate Research: Biology, Geological Sciences, Anthropology. NSF Instrument Development and Requisition. NSF contribution \$59,080 (with Dr. D. Jeffrey Over, Geology). Oct. 1, 1994 to Sept. 30, 1996.  
Flagellar Apparatus Structure and Phylogeny in the Colonial Volvocales. NSF Research in Undergraduate Institutions Program. NSF RUI \$73,685. April 1, 1991 to March 31, 1995. BSR9020013.  
Curriculum development at SUNY-Geneseo: replacement of the obsolete electron microscope. NSF Instrumentation and Laboratory Improvement Program. NSF contribution \$84,343, Equal amount matched by SUNY-Geneseo. June 15, 1989 to May 31, 1991. USE-8950871.  
N.I.H. Young Investigator Award: Composition and Function of the Flagellar Basal Apparatus. July 1, 1985 to July 1, 1989 1 R23 HL34638.  
N.I.H. National Research Service Award (post-doctoral): Physiology and Function of Flagellar Striated Fibers. June 1982 to June 1985. GMO8761  
Graduate Student Alumni Research Award: Flagellar Apparatus and Motility in Selected Colonial Volvocalean Algae: Cinematography and Ultrastructure. 1981.  
Sigma XI: Ultrastructural Studies of Selected Colonial Volvocalean Algae. 1980-1981.  
Sigma Xi: Auxospore Development in the Centric Diatom *Cyclotella meneghiniana*. 1977-1978

**Major Grants Submitted but not funded:** (includes only those submitted at SUNY-Geneseo):

Renovation of Biology Research Laboratories at SUNY-Geneseo. NSF Research Facilities Program. (with Robert Simon) March 1 1990. Requested NSF contribution: \$146,193.  
Flagellar Basal Structures; Composition and Function. NIH AREA program. June 20, 1989.  
Total direct costs: \$74,931.

## Professional Organizations:

The American Phycological Society

## Publications: (Does not include abstracts):

- Poliakov, A., C.W. Russell, L. Ponnala, H.J. Hoops, Q. Sun, A.E. Douglas, K.J. van Wijk. 2011. Large-Scale Label-Free Quantitative Proteomics of the Pea aphid-*Buchnera* Symbiosis. *Molec. Cell. Proteomics* 10(x): xx-xx.
- Yokoyama, K., H. Cho, S.P. Cullen, M. Kowalik, N. M. Briglio, H. J. Hoops, Z. Zhao and M. A. Carpenter. 2009. Microscopic investigation of reversible nanoscale surface size dependent protein conjugation. *Int. J. Mol. Sci.* 10(5): 2348-2366
- Meednu, N. H.J. Hoops, S. D'Silva, L. Pogorzala, I., S. Wood, D Farkas, M, Sorrentino. E. Sia, P. Meluh, and R. K. Miller. 2008 The spindle positioning protein Kar9p interacts with the sumoylation machinery in *Saccaromyces cerevisiae*. *Genetics* 180: 2033–2055.
- Hoops, H.J., I. Nishii and D.L. Kirk. 2006. Cytoplasmic bridges in *Volvox* and its relatives. In F. Baluska, F., D. Volkmann and P.W. Barlow eds. *Cell-cell channels*. Eurekah, Georgetown, TX, pp. 65–84. ISBN 1-58706-065-5.
- Hoops, H.J., A.E. Cocina, D.S. Binder and A. Widjaja 2002. Acetate is a chemoattractant for the colonial green alga *Astrephomene gubernaculifera* (Chlorophyceae). *J. Phycol.* 38:1009-1105.
- Hoops, H.J., M. Brighton, S. Stickles and P.R. Clement. 1999. A test of two possible mechanisms for phototactic steering in *Volvox carteri* (Chlorophyceae). *J. Phycol.* 35: 539-547.
- Hoops, H.J. 1997. Motility in the colonial and multicellular Volvocales: structure, function and evolution. *Protoplasma* 199:99-112.
- Hoops, H.J. 1995. Fixation and thin-sectioning of flagella. In W. Dentler and G.B. Witman (eds.) *Methods in Cell Biology: Cilia and Eukaryotic Flagella*. 47:193-197.
- Hoops, H.J., J.J. Long, and E.H. Hile. 1994. Flagellar apparatus structure is similar but not identical in *Volvulina steinii*, *Eudorina elegans*, and *Pleodorina illinoisensis*: implications for the volvocine evolutionary lineage. *J. Phycol.* 30:679-689.
- Prasad, A.V., M.W. Miller, C. Cox, E.L. Carstensen and H.J. Hoops. 1994. A test of the influence of cyclotron resonance exposures on diatom motility. *Health Physics* 66:305-312
- Hoops, H.J. 1993. Flagellar, cellular and organismal polarity in *Volvox carteri*. *Journal of Cell Science* 104:105-117.
- Chappell, D.F., H.J. Hoops and G.L. Floyd. 1989. A scale-like covering revealed on "wall-less" *Asteromonas* (Chlorophyceae). *J. Phycol.* 25: 197-199.
- Hoops, H.J. 1988. Use of LPD-4 film for rapid production of high-contrast slides (Letter to the Editor). *Laboratory Medicine* 20:53.
- Taylor, M.G., G.L. Floyd and H.J. Hoops. 1985. Development of the flagellar apparatus and flagellar position in the colonial green alga *Platydorina caudata* (Chlorophyceae). *J. Phycol.* 21: 533-546
- Hoops, H.J. and G.B. Witman. 1985. Basal bodies and associated structures are not required for normal flagellar motion or phototaxis in the green algae *Chlorogonium elongatum*. *J. Cell Biol.* 100: 297-309.

- Hoops, H.J., R.L. Wright, J.W. Jarvik and G.B. Witman. 1984. Flagellar waveform and rotational orientation in a *Chlamydomonas* mutant lacking normal striated fibers. *J. Cell Biol.* 98: 818-824.
- Hoops, H.J. 1984. Somatic cell flagellar apparatuses in two species of *Volvox* (Chlorophyceae). *J. Phycol.* 20: 20-27.
- Hoops, H.J. and G.B. Witman. 1983. Outer doublet heterogeneity reveals structural polarity related to beat direction in *Chlamydomonas* flagella. *J. Cell Biol.* 97: 902-908.
- Hoops, H.J. and G.L. Floyd. 1983. Ultrastructure and development of the flagellar apparatus and flagella motion in the colonial green algae *Astrephomene gubernaculifera*. *J. Cell Sci.* 63: 21-41.
- Hoops, H.J. and G.L. Floyd. 1982. Ultrastructure of the flagella apparatus of *Pyrobotrys* (Chlorophyceae). *J. Phycol.* 18: 455-462.
- Hoops, H.J. and G.L. Floyd. 1982. Ultrastructure and taxonomic position of the rare volvoclean algae, *Chlorcorona bohemica*. *J. Phycol.* 18: 462-466.
- Hoops, H.J. and G.L. Floyd. 1982. Mitosis, cytokinesis and colony formation in the colonial green algae *Astrephomene gubernaculifera*. *Br. Phycol. J.* 17: 297-310.
- Hoops, H.J., G.L. Floyd and J.A. Swanson. 1982. Ultrastructure of the motile cell of *Ulvaria oxysperma* and its phylogenetic significance. *Amer. J. Bot.* 69: 150-159.
- Floyd, G.L., H.J. Hoops and J.A. Swanson. 1980. Fine structure of the zoospore of *Ulothrix belkiae* with emphasis of the flagellar apparatus. *Protoplasma* 104: 17-131.
- Hoops, H.J. and G.L. Floyd. 1979. Ultrastructure of the centric diatom, *Cyclotella meneghiniana*: Vegetative cell and auxospore development. *Phycologia* 18: 424-435.

**Other scholarly contributions:**

- Pickett-Heaps, J.D. 1995, "Cellular Evolution in the Green Algae" (Videodisc) Cryptographics. <http://www.cytographics.com>. I supplied substantial information and some graphics that were in this commercial videodisc. (Unfortunately at \$600.00 this cost too much for us to order!)

**Papers in revision:**

**Papers in preparation:**

- Meednu, N. H.J. Hoops, L. Jablonski, I., E. Sia, and R. K. Miller The dynein pathway proteins Pac1p and Bik19p interact with sumoylation machinery in *Saccharomyces cerevisiae* for spindle positioning. In preparation for *Genetics*.

**Professional meetings attended** (since coming to SUNY-Geneseo):

- 44<sup>th</sup> Annual Northeast Algal Symposium. Rockport ME, April 15-17 2005. (With three Geneseo students).
- 42<sup>st</sup> Annual Northeast Algal Symposium. Saratoga Springs, NY, April 25-27 2003. (With three Geneseo students).
- 41<sup>st</sup> Annual Northeast Algal Symposium at Durham, NH, April 20-21 2002. (With one Geneseo student).
- The annual meeting of the Phycological Society of America, Madison, WI Aug. 4-7, 2002.

40<sup>th</sup> Annual Northeast Algal Symposium at Plymouth MA April 21-22, 2001. (With two Geneseo students).

Phycological Society of America annual meeting, San Diego, California July 15-20, 2000.

39<sup>th</sup> Annual Northeast Algal Symposium at Whispering Pines, Rhode Island April 8-9, 2000  
(With two Geneseo students.)

American Association of Higher Education, Organizing for Learning, March 20-23, 1999

38<sup>th</sup> Annual Northeast Algal Symposium at Plymouth MA April 17-18, 1999. (With four Geneseo students).

37<sup>th</sup> Annual Northeast Algal Symposium at Plymouth MA April 4-5, 1998. (With five Geneseo students).

American Association of Higher Education conference on assessment at Cincinnati, OH. June 13-16

Phycological Society of America annual meeting, Northern Arizona University, Flagstaff, AZ Aug 3-8, 1998.

International Society for Evolutionary Protistology, Northern Arizona University, Flagstaff, AZ Aug 1-3, 1998.

The annual meeting of the American Phycological Society University of California, Santa Cruz, July 14-19, 1996.

34<sup>th</sup> Annual Northeast Algal Symposium at the Woods Hole Oceanographic Institution, Woods Hole MA. April 29-30, 1995. (With two Geneseo students.)

CELS IV: Successful teaching and learning in undergraduate life sciences, Madison, Wisconsin June 1-3, 1995.

33<sup>rd</sup> annual Northeast Algal Symposium at the Woods Hole Oceanographic Institution, Woods Hole MA. April 23-24, 1994. (With two Geneseo students and one high school student who has worked in my lab over three summers.)

The Sixth International Conference on the Cell and Molecular Biology of *Chlamydomonas*. Lake Tahoe, CA May 17-22, 1994.

32<sup>nd</sup> annual Northeast Algal Symposium at the Woods Hole Oceanographic Institution, Woods Hole MA. April 23-24, 1993. (With two students)

The annual meeting of the Phycological Society of America. Ames, Iowa Aug 2-5, 1993.

31<sup>st</sup> Annual Northeast Algal Symposium at the Woods Hole Oceanographic Institution, Woods Hole MA. April 24-26, 1992. (With two students)

The annual meetings of the Phycological Society of America and the Botanical Society of America, Honolulu, HI. Aug 9-13, 1992.

The Fourth International Phycological Congress, Duke University, Durham, NC, Aug 4-10, 1991.

The annual meeting of the Phycological Society of America, The University of Maryland, June 25-28, 1990.

Combined Botanical Society of America and Phycological Society of America. Toronto Canada. Aug 6-10, 1989.

Gordon Research Conference on "Cellular and Molecular Biology of the Plant and Fungal Cytoskeleton" Andover, NH Aug. 7-12, 1988.

**Seminars and Symposiums given** (since coming to SUNY-Geneseo):

Symposium presentation on “(Ultra) structure - function relationships in the green algal flagellar apparatus”, 38th Annual Northeast Algal Symposium, April 19, 1999.

Seminar on “Flagellar and organismal motility in *Volvox*.” SUNY Brockport, Brockport NY Oct. 14, 1993.

Symposium presentation on “Diversity in the green algae.” The International Society for Evolutionary Protistology. The University of Maryland. June 28, 1990.

Seminar on “Flagellar basal structures in *Chlorogonium*” at Case Western Reserve Medical School, Cleveland, OH Jan 12, 1989.

Seminar on “Evolution of the colonial green algae.” University of Vermont, March 1988.

**Presentations with Abstracts** (since coming to SUNY-Geneseo):

D`Silva, S., N. Meednu, H. Hoops, R. K. Miller. 2007. Bik1p, a plus-end microtubule binding protein, interacts with the machinery for sumoylation. Presentation given at the Cold Spring Harbor Yeast Cell Biology meetings, Aug 15-19, 2007. (abstract)

Meednu, N., H. Hoops, L. Pogożala, E. Sia, and R.K. Miller. 2006. Kar9p interacts with Smt3p and the machinery for sumoylation in yeast. The Amer. Soc. Cell Biol. Meeting, San Francisco, CA. December 2005

Meednu, N., H. Hoops, L. Pogożala, E. Sia, and R.K. Miller. 2006. Kar9p interacts with Smt3p and the machinery for sumoylation in yeast. The Yeast Genetics and Molecular Biology Meeting, Princeton University, Princeton, NJ, 2006.

Meednu, N., H. Hoops, S. D`Silva, L. Pogożala, A. Barbi, E. Sia, and R.K. Miller. 2006. Interactions between Kar9p and SUMO/Smt3p in spindle positioning. Amer. Soc. Cell Biol. Meeting, San Diego, CA. (abstract).

Greene, B.J., K. Natale and H.J. Hoops. 2005. Calcium blockers inhibit the acetate chemoresponse of the colonial green alga *Astrephomene gubernaculifera*. Presented at the 44th Annual Northeast Algal Symposium at Rockport ME, April 15-17 2005, and published in the Northeast Algal Symposium Abstracts 11.

Rowswell, R.B., A.L. Gastle and H.J. Hoops. 2005. Investigating the mechanism of chemoaccumulation in *Astrephomene gubernaculifera*. Presented at the 44th Annual Northeast Algal Symposium at Rockport ME, April 15-17 2005, and published in the Northeast Algal Symposium Abstracts 33.

Meednu, N. H.J. Hoops, L. Jablonski, I., E. Sia, and R. K. Miller. 2005. Kar9p and Bim1p/yEB and Kar9p Interact with Smt3p and the machinery for sumoylation in yeast. Presented at the Poster at the American Cell Biol. Meeting, San Francisco, CA. December 10-14 2005, and published in: Mol. Biol. Cell 16: 221a. (abstract)

Pike, M. and H.J. Hoops. 2003. *Astrephomene gubernaculifera* is chemoattracted to nitrate. Presented at the 42st Annual Northeast Algal Symposium at Saratoga Springs, NY, April 25-27 2003, and published in the Northeast Algal Symposium Abstracts.

Moore, J. S. D`Silva, N. Meednu, A. Barbi, H. Hoops and R. Miller. 2003. Kar9p binds to Bik1p, a CLIP170 homologue, in *S. cerevisiae*. Presented at the Poster at the American Cell Biol. Meeting, San Francisco, CA. December 2003, and published in: Mol. Biol. Cell 14: 316a.

Gallo, A. and H.J. Hoops. 2002. Caged acetate as a probe for the mechanism of chemoaccumulation in the colonial green alga *Astrephomene gubernaculifera*. Presented at

- the 41<sup>st</sup> Annual Northeast Algal Symposium at Durham, NH, April 20-21 2002, and published in the Northeast Algal Symposium Abstracts: 16.
- Hoops, H.J. and S.A. Gifford 2002. Cell signaling in the chemoaccumulation response of the colonial green alga *Astrephomene gubernaculifera*. Presented at the 56th annual meeting of the Phycological Society of America, Aug. 4-7, 2002. The abstract has been published on the web (<http://www.botany2002.org/section8/abstracts/15.shtml>) and in J. Phycol. 38 (Suppl.)
- Gifford, S.M. and H.J. Hoops. 2001. Cell signaling in the colonial algae *Astrephomene gubernaculifera*. Presented at the 40th Annual Northeast Algal Symposium at Plymouth, MA April 21-22, 2001, and published in the Northeast Algal Symposium Abstracts:13.
- Hurchla, M.A. and H.J. Hoops. 2001. Swimming behavior of *Astrephomene gubernaculifera* under changing acetate concentrations. Presented at the 40th Annual Northeast Algal Symposium at Plymouth, MA April 21-22, 2001, and published in the Northeast Algal Symposium Abstracts:14.
- Dabroski, S. and H.J. Hoops. 2000. Possible mechanisms of chemoaccumulation in *Astrephomene gubernaculifera*. Presented at the 39th Annual Northeast Algal Symposium at Whispering Pines, RI April 8-9, 2000, and published in the Northeast Algal Symposium Abstracts:16.
- Shelley, A. and H.J. Hoops. 2000. The mechanism of phototaxis in *Volvox* section *Volvox*. Presented at the 39th Annual Northeast Algal Symposium at Whispering Pines, Rhode Island April 8-9, 2000, and published in the Northeast Algal Symposium Abstracts:30.
- Hoops, H.J., Cocina, A.E., Binder, D.S. and Widjaja, A. 2000. The colonial green alga *Astrephomene gubernaculifera* displays a chemoresponse to acetate. Presented at the meetings of the Phycological Society of America, San Diego, California and published in J. Phycol. 35 (Suppl.):31-32.
- Galioto, R.A., and H.J. Hoops. Aerotaxis in *Astrephomene gubernaculifera*. Presented at the 38th Annual Northeast Algal Symposium at Plymouth MA April 17-18, 1999, and published in the Northeast Algal Symposium Abstracts:14.
- Shelley, A.J. and H.J. Hoops. 1999. The mechanism of phototactic steering in *Volvox* section *Volvox*. Presented at the 38th Annual Northeast Algal Symposium at Plymouth MA April 17-18, 1999, and published in the Northeast Algal Symposium Abstracts:26.
- Simmons, L.M., and H.J. Hoops. 1999. The rate and direction of fluid flow around swimming *Volvox carteri*. Presented at the 38th Annual Northeast Algal Symposium at Plymouth MA April 17-18, 1999, and published in the Northeast Algal Symposium Abstracts:26.
- Widjaja, A., A.E. Cocina, and H.J. Hoops. 1999. The mechanism of chemoaccumulation in *Astrephomene gubernaculifera*, a colonial green alga. Presented at the 38th Annual Northeast Algal Symposium at Plymouth MA April 17-18, 1999, and published in the Northeast Algal Symposium Abstracts:33.
- Hoops, H.J. 1999. (Ultra) structure-function relationships in the green algal flagellar apparatus. Presented at the 38th Annual Northeast Algal Symposium at Plymouth MA April 17-18, 1999, and published in the Northeast Algal Symposium Abstracts:17.
- Armstrong, D., S.J. Ray, and H.J. Hoops. 1998. Size scaling in motility of colonial volvoclean algae. Presented at the 37th Annual Northeast Algal Symposium at the Plymouth MA April 4-5, 1998 and published in the Northeast Algal Symposium Abstracts:8.

- Binder, D.S., A.E. Cocina and H.J. Hoops. 1998. Chemotaxis in the colonial green alga *Astrephomene gubernaculifera*. Presented at the 37th Annual Northeast Algal Symposium at the Plymouth MA April 4-5, 1998 and published in the Northeast Algal Symposium Abstracts:9.
- Doser, D. and H.J. Hoops. 1998. Particle flow over *Volvox carteri*. Presented at the 37th Annual Northeast Algal Symposium at Plymouth MA April 4-5, 1998 and published in the Northeast Algal Symposium Abstracts:10.
- Armstrong, D., S.J. Ray, and H.J. Hoops. 1998. Size scaling in motility of colonial volvocalean algae. Presented at the meetings of the Phycological Society of America, Northern Arizona University, Flagstaff, AZ, August 3-8, 1998 and published in J. Phycol. 33(Suppl.): 25.
- Brighton, M., P. Clement, S. Stickles. 1996 and H.J. Hoops. The mechanism for phototactic turning in *Volvox carteri*. Presented at the meetings of the Phycological Society of America, University of California, Santa Cruz, July 14-19, and published in J. Phycol. 31(Suppl.): 8-9.
- Moran, J.P. and H.J. Hoops. 1995. Flagellar apparatus structure in the colonial Volvocales: *Pleodorina californica* and *Volvox spermatozophora*. Presented at the 34th Northeast Algal Symposium, April 29-30 and published in the Northeast Algal Symposium Abstracts:18.
- Nordman, E.E. and H.J. Hoops. 1995. Flagellar apparatus structure in the colonial Volvocales: *Pandorina morum* and *Volvox capensis*. Presented at the 34th Northeast Algal Symposium, April 29-30 and published in the Northeast Algal Symposium Abstracts:19.
- Hoops, H.J., J.P. Moran and E.E. Nordman. 1995. The flagellar apparatus and evolutionary relationships in the genus *Volvox*: *V. spermatozophora*, *V. capensis*, *V. rousseletii* and *V. carteri* f. *weismannia*. Presented at the meetings of the Phycological Society of America in Breckenridge, Colorado, August 6-10, 1995, and published in J. Phycol. 31 (Suppl.): 7.
- Thompson, M, J. Moran and H.J. Hoops. 1994. Further investigations on the flagellar apparatuses of colonial Volvocales: *Yamagishiella unicocca* and *Volvox spermatozophora*. Presented at the 33rd Northeast Algal Symposium, April 23-24 and published in the Northeast Algal Symposium Abstracts:21.
- Brighton, M. and H.J. Hoops. 1994. A test of two models for phototactic turning in *Volvox carteri*. Presented at the 33rd Northeast Algal Symposium, April 23-24 and published in the Northeast Algal Symposium Abstracts:9.
- Hoops, H.J., D. Nydam, K. Feathers and M. Brighton. 1994. Polarity of the flagellar apparatus is correlated with flagellar motion and swimming behavior in *Volvox carteri*. Presented at the Sixth International Conference on the Cell and Molecular Biology of *Chlamydomonas*, May 17-22, 1994, and published in their proceedings: 28.
- Hile, E.H. and H.J. Hoops. 1993. Further investigations on the flagellar apparatuses of colonial Volvocales. Presented at the 32nd Northeast Algal Symposium, April 24-25 and published in the Northeast Algal Symposium Abstracts:10.
- Nydam, D. and H.J. Hoops. 1993. Flagellar waveform and beat direction in *Volvox carteri* and *Pleodorina californica*. Presented at the 32nd Northeast Algal Symposium, April 24-25 and published in the Northeast Algal Symposium Abstracts:11.
- Hoops, H.J., D. Nydam and K. Feathers. 1993. Flagellar waveform and beat direction in *Volvox carteri* and *Pleodorina californica*. Presented at the the meetings of the Phycological Society of America in Ames Iowa, Aug 1-5 and published in J. Phycol. 29 (Suppl.): 20.

- Hoops, H.J., J.J. Long and T.W. Rech. 1992. Is there a core volvocine lineage? Evidence from flagellar apparatus structure in *Volvulina steinii*, *V. boldii*, *Eudorina elegans* and *Pleodorina illinoisensis*. Presented at the Annual Meeting of the Phycological Society of America and published in *J. Phycol.* 28(Suppl.):5.
- Feathers, K. and H.J. Hoops. 1992. Flagellar motion in the colonial Volvocalean algae *Pleodorina californica* and *Volvox carteri*. Presented at the The 31st Northeast Algal Symposium and published in the Northeast Algal Symposium Abstracts:6.
- Long, J.J. and H.J. Hoops. 1992. Flagellar apparatus structure in *Volvulina steinii*, *V. boldii*, *Eudorina elegans* and *Pleodorina illinoisensis*. presented at the The 31st Northeast Algal Symposium and published in the Northeast Algal Symposium Abstracts:15.
- Hoops, H.J. and M.A. Chiulli. 1991. Structural polarity of the flagella, cells and colony of *Volvox carteri* f. *weismannia*. *J Phycol.* 27(Suppl):32.
- Young, T.B. R.D. O'Donnell and H.J. Hoops. 1989. A monoclonal antibody against a *Chlamydomonas* flagellar membrane antigen. (Abstract) *J. Phycol.* 25(Suppl.):9.

**Student Presentations:** (Does not include student presentations/ posters at the Undergraduate Poster Session/Get Together, nor presentations in Bio 381.) Each of these students has spent from one to five semesters in my laboratory carrying out a research project.

**In Bio 382:** Shelly Sitzman Mueller (Spring 1988), Lisa Renadette (Fall 1988), Dianne Snedecker (Spring, 1990), Eric Weimer (Spring 1991), Anjmun Sharma (Spring 1990, Fall 1991), Kim Feathers (Fall 1991), Rebecca Schultz (Fall 1991), Thomas Sweeney (Fall 1991), Elizabeth Hile (Spring 1992), Siobhan Hayden (Fall 1992), Daryl Nydam (Fall 1992), Jeannie Iwanski (Fall 1992), Janice Thimble (Fall 1992), Linda Veltz (Fall 1993), Ginny Kocher (Fall 1993), Jigna Patel (Fall 1993, Spring 1994, Fall 1994), Melissa Thompson (Fall 1993), James Moran (Fall 1993, Fall 1994), Erik Nordman (Fall 1994), Dan Rosell (Spring 1994, Fall 1994), Phil Clement (Spring 1995), Joe Rappon (Spring 1995, Fall 1995), Matt Stupple (Fall 1995, Fall 1996, Spring 1997), Scott Stickels (Fall 1995), Jennifer Stafford and Elisa Velez (Fall 1996), Chris Scanion (Fall 1996), Steven Ray and Denise Armstrong (Spring 1997; Fall 1997), David Binder and Amy Cocina (Fall 1997), Rob Galito (Fall, 1998), Armand Widija (Fall 1998), Andrea Shelly (Fall 1998, 1999), Sue Dabrowski (Fall 1999), Russell Aluisio (Fall 2000), Anthony Gallo (Fall 2000), Michelle Hurschla (Fall 2000), Shawn Gifford (Fall 1999, Fall 2000), Matt Pike (Spring 2002), Kirsten Reale (Spring 2002), Ross Gruber (Spring 2002).

**In the Undergraduate Research Symposium of the Natural Sciences:** Audra Hanley (1988), Lisa Renadette (Spring 1989), Steven Zlotkus (1992), Rebecca Schultz (1992), Kim Feathers (1992), Jennifer J. Long (Spring 1992), Jeannie Iwanski (Spring 1993), Linda Veltz (1994), Matt Stupple (1996), Scott Stickels (Spring, 1996)<sup>1</sup>, Joe Rappon (1996), Elisa Velez and Jennifer Stafford (1997), David Binder and Amy Cocina<sup>2</sup> (1998), Steven Ray and Denise Armstrong

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<sup>1</sup> Scott was a co-winner of the best poster presentation at the symposium.

<sup>2</sup> Dave and Amy were co-recipients of the Mark Diamond Research Award for the oral presentation of their research.

(1998), Amy Doser (1998), Armand Widjaja and Amy Cocina (1999), Laura Simmons<sup>3</sup> (1999), Andrea Shelley (1999), Rob Galioto (1999), Andrea Shelley (2000), Susan Dabrowski<sup>4</sup> (2000), Shaun Gifford<sup>5</sup> (2001), Michelle Hurchla<sup>6</sup> (2001), Anthony Gallo (2002), Matt Pike (2003)<sup>7</sup>, Ross Gruber (2003), Dan Fisher (2003). **In the Undergraduate Scholars Symposium:** Benjamin Greene (2004), Kristen Natale (2004), Rachael Rowswell and Amy Gastle (2005). **In Great Day:** Schuyler Wood and Arcadiy Yaretskiy (2007), Emily Carroll and Nate Kaplan, Laura DePouli, Christina Szalinski, Joe Vollo (2008)<sup>8</sup>, Alex Coots and Allison Cornwall (2010), Mitch Costa and Eric Lenhard (2010), Nate Cornish and Rachael Scott (2011)

**At the All College Student-Faculty Research Poster Session:** Elizabeth Hile (1992), Daryl Nydam (1992), James Moran and Erik Nordman (1994), Jigna Patel (1994), Denise Armstrong and Steven Ray (1997).

**At the Northeast Algal Symposium, (meetings in MA, RI, NY, ME).** Kim Feathers (1992), Jennifer J. Long (1992), Elizabeth Hile (1993), Daryl Nydam (1993), Mark Brighton (1994), Melissa Thompson (1994), James Moran (Spring 1994), Erik Nordman (1995), James Moran (1995)<sup>9</sup>, Denise Armstrong and Steven J. Ray (1998), Amy Doser (1998), David S. Binder and Amy E. Cocina (Spring, 1998), Rob Galioto (1999), Andrea Shelley (1999), Laura Simmons (1999), Armand Widjaja and Amy Cocina (1999)<sup>10</sup>, Andrea Shelley<sup>11</sup> (2000), Susan Dabrowski (2000), Shaun Gifford (2001), Michelle Hurchla (2001), Anthony Gallo<sup>12</sup> (2002), Matt Pike (2003) Ben Greene, (2005) Rachael Rowswell and Amy Gastle (2005).

**Advisor for College Honors theses:**

Jeremy Edmonton, Intercellular transport of cholera toxin. (2000-2001)

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<sup>3</sup> Laura was the recipient of the Mark Diamond Research Award for her poster presentation of her research.

<sup>4</sup> Susan was the recipient of the Mark Diamond Research Award for her poster presentation of her research.

<sup>5</sup> Shaun was the recipient of the Mark Diamond Research Award for his oral presentation of his

<sup>6</sup> Michelle was the recipient of the Mark Diamond Research Award for her poster presentation of her research.

<sup>7</sup> Matt was the recipient of the Mark Diamond Research Award for his poster presentation of his research.

<sup>8</sup> Joe was the recipient of the Mark Diamond Research Award for his poster presentation of his research.

<sup>9</sup> James was the honorable mention (= first runner up) in the student poster competition. This is significant because most of the student presentations were graduate students, many from research universities.

<sup>10</sup> Amy was presented with the first ever winner of the Northeast Algal Society President's Award for undergraduate research based on this work.

<sup>11</sup> Andrea was the honorable mention (= first runner up) for the Northeast Algal Society President's Award for undergraduate research based on this work.

<sup>12</sup> Anthony was the presented the Northeast Algal Society President's Award for undergraduate research based on this work.

Heidi Liebert, The effect of second-generation antihistamines on HERG and I<sub>Kr</sub> potassium channels (1999-2000)

Eric Stops, Motility proteins in mitosis (1996-97)

**Advisor for Biology Departmental Honors theses:**

Joe Vollo, The role of tropomodulin in *C. elegans* intestinal development (2007-2008).

Matthew Pike, *Astrephomene gubernaculifera* (Chlorophyceae) is chemoattracted to nitrate. (2002-2003)

Anthony Gallo A Caged acetate approach to studying chemotaxis in *Astrephomene gubernaculifera*. (2001-2002)

Shaun Gifford, Cell Signaling in the colonial green algae *Astrephomene gubernaculifera*. (2000-2001)

**Committee member for Biology Honors theses and for Biology Master's theses.**

Committee member for Biochemistry Honors Thesis, Vincent Cannataro Spring 2010

Committee member for Biology Honors Thesis, Karen Rossi Spring. 2004

Graduate student major advisor for Mr. Tom Young (M.S. Summer 1989), Mr. Michael Chuilli (M.S. Spring 1999) and Mr. Terry Rech (M.S. candidate) varied

Graduate Committee for the following M.S. or M.A. Students: Ms. Kim Brown, Ms. Kim Wheeler, Mr. Timothy Flick, Ms. Mary Jane Warner, Ms. Frances Stanwix, Ms. Lisa Bearfoot. varied

**Departmental Service:**

Committee Work:

Departmental Personnel Committee	Member	1997-present
	Chair	1997-98, 05-07
Ad Hoc Committee for Review of Departmental Guidelines for Promotion and Tenure	Member	2008-2009
Biology Pre-professional Committee	Member	1999-present
Faculty Search (Cell/Systems)	Member	2006-07
Graduate Committee	Member	1987-88, 1991-93, 1994-95, 1997-98, 2002-04
	Chair	2001-02
Undergraduate Committee	Member	1987-89, 2000-02
Facilities and Budget	Member	1988-94, 2001-03
	Chair	2009 –present, 2001-02
Biology Department Program Review Committee		
Committee	Member	1993-94; 1999-2000, 2010-11
Executive Committee	Member	1995 2001
	Chair	1996 -97; 2000-01
Curriculum Committee	Member	1990-95, 2001-03, 05-07, 08-10
Co-Chair		1994-95
Pre-Professional Committee	Member	1992-present
Ad Hoc Computer Committee	Member	1991-99

		1992-93
Faculty Search (Animal Physiologist)	Chair	2000-01
Faculty Search (Pl. Mol. Biol.)	Chair	1992-93
Library Committee	Member	1987-90
Chair		1988-89

Other Departmental Service:

Director of transmission electron microscopy facility.		Fall 1987-present
Student advisement of Biology and Biochemistry Majors (presently 41 advisees).		
Coordinator for Medical Technology Program.		Fall 1993-2004
Gave a presentation on "How to Give a Short Talk" to students in Bio 381,382 Before students present their findings at the Undergraduate Research Symposium		Spring 1989, Spring 1990, Fall 1998
Held a workshop on making presentation materials for students who were participating in the symposium		Spring 1989.
Carried out hands-on demonstrations of electron microscopy to students enrolled in the introductory biology laboratory (Bio 118) and other interested students.		Oct. 23, 24, 25, 1990 Oct. 28, 29, 30,31, 1991, Nov. 10,11,12, 1992
Guest lecturer Bio 217 (Plant Diversity): 3 lectures and 1 laboratory.		Fall 1990, 1991
Prepared material for 2-3 laboratories per year in Bio 118 and Bio217		Fall 1989-2000
Submitted, received and carried out College Planning Council Grant "Video Equipment for Enhanced Undergraduate Teaching". (with G.M. Briggs and J. Haynie)		
Initiated and coordinated a session on "How to Succeed in Biology" in conjunction with BIOS		Fall 1994
Initiated and coordinated a session on "How to Succeed in Biology" in conjunction with BBB		Fall 1995; Fall 1996

Inter-Departmental Service:

Biochemistry Committee	Coordinator	2010-present
	member	1994 – present
	Co-coordinator	2005-06
	Program review (Co-chair)	2005-06
	Program review (Chair)	
Co-director of scanning electron microscopy facility (Jeffrey Over, Geology).		1995 - present
Interdepartmental Science Core Course Committee member		1996-97
Dept of Education Faculty Search Committee (2 Math/Science educators)		Fall 1998-Spring 1999

College and University Service:

Committee Work:

Chair Geneseo Institutional Biosafety Committee		Spring 2008-present
Premedical Committee		Spring 2008-present
College Honors Program		Fall 2008-present

SUNY-Geneseo Radiation Safety Committee	Member	Fall 1987 – present
College Sabbatical Leave Committee	Chair	Fall 2009-Spring 2010
	Member	Fall 2007 - Spring 2010
Policy sub-committee (College Senate)	Member	Fall 2005 - Spring 2006
	Member	Fall 2000 - Spring 2002
	Chair	Fall 2003 - Spring 2004
College Senate	Member	Fall 2005- Spring 2006
	Member	Fall 2003- Spring 2004
	Member	Fall 2000- Spring 2002
	Member	Fall 1998 - Spring 1999
	Member	Fall 1994 - Spring 1995
	Member	Fall 1989 - Spring 1991
Member of Excellence Awards/Distinguished Ranks committee		Fall 1999, 2001, 2005
Steering Committee, NCATE (School of Education Accreditation)		Fall 2002-Spring 2004
College Personnel Committee		Spring 2003
Committee member for Biochemistry Honors Thesis, Rick Hoffmaster		Spring, 2003
College Assessment Committee	Member	Fall 1999-Spring 2001
Carnegie Program Working Group (Helena Waddy, chair)	Member	Fall 1999-Spring 2000
SOFI Working Group (Helena Waddy, chair)	Member	Fall 1998 - Spring 1999
Faculty Affairs sub-committee (College Senate)	Member	Fall 1989 - Spring 1991
	Member	Fall 1998 - Spring 1999
	Member	Fall 1994 - Spring 1995
Quantitative Reasoning Interest Group	Member	
(considered revisions to critical reasoning portion of core)		Fall 1997 - Spring 1998
Faculty Development Committee	Member	Spring 1993 - Spring 1994
	Chair	Spring 1993 - Spring 1994
SUNY-Geneseo Research Council	Member	Fall 1989 - Spring 1992
Student Grants Subcommittee of the Research council.	Member	Fall 1991 - Spring 1992

Other:

Led discussion on “Science: evolution and its (alleged) alternatives – a discussion.”		Nov. 27, 2006, Nov. 29, 2008
Participated in a faculty dining discussion “The Politics of Evolution, Creationism and Intelligent Design.”		March 23, 2006
Academic Standards		Spring 1997 - Spring 2003

**Community Service:**

Gave talk to 4 <sup>th</sup> – 5 <sup>th</sup> grade students on Poison Dart Frogs		Spring 2001-02
Assisted in Vivarium tour for 4 <sup>th</sup> – 5 <sup>th</sup> grade students	Fall 1999, 2000, 01, 03	
Gave a talk on “Microscopes” to 3-4 Multiage classroom (Ms. Beswick)		March 25, 1999
Gave a talk on “Dinosaurs” to 3 sections of 2ed graders (Ms. Gretz)		March 23, 1998
Gave a talk on “Cells and Microscopes” to 4 sections of 6th grade Biology class (M. Greene)		Jan. 20, 1998
	Jan. 21, 1999	
Geneseo “Focus on Science” (a four week program that puts minority students into		

the laboratory of science faculty where they work on a research project)	Summer 1997
Member of Restructuring Committee, Gifted and Talented Program, Geneseo Central Schools	Summer 1995
Assisted in Vivarium tour for St. Michael's Nursery School	May 24, 25, 1994
Organized a trip for the Geneseo kindergarten class to visit the department	Jan. 14, 15, 1992
Demonstration of electron microscopy to area students. In the past few years these included:	
A.P. Biology of Avon (Jim Eardle)	Spring, 1995
A.P. Biology of Avon (Jim Eardle)	June 18, 1994
Biology Club, Honeoye (Nancy Wright)	Oct. 27, 1990
7th and 9th graders, Avon Christian School (Hope Decker)	Oct. 26, 1990
Mt. Morris Regents Biology (Cathy Hallinan)	Nov. 5, 1990
Parents day weekend	Oct. 27 1990
BOCES Workshops on Electron Microscopy	March 24 - 26, 1988, July 10 - 21, 1989, April 2 - 3, 1991 July 9 - 11, 1992, July 12 - 16, 1993, Nov 14 - Dec 5, 1995, Feb 12 - March 19, 1998

**Professional Service:**

Curator, Phycological Society of America slide teaching collection	Fall 1997-Spring 2011
Grant Reviewer, NSF systematics section.	
Grant Reviewer, CUNY research grant.	
Reviewer for <i>Journal of Phycology</i> .	
Reviewer for <i>Environmental and Experimental Biology</i> .	
Reviewer for <i>J. of Eukaryotic Microbiol.</i>	
Reviewer for <i>Proceedings of the National Academy of Sciences U.S.</i>	
Reviewer for the journal <i>Protist</i>	
Reviewer for the journal <i>Cytoskeleton</i>	
Reviewer for the journal <i>Journal of the Royal Society Interface</i>	
Program review, SUNY-Brockport Department of Biological Sciences,	Spring 2004
Judge for the best student oral and poster presentations at the 42th Annual Northeast Algal Symposium at Saratoga Springs	April 25-27, 2003
Session co-chair, of Phycological Society of contributed papers on "Algal Cell Biology and Physiology" at American Phycological Society annual meeting, San Diego, California	August 6, 2002.
Judge for the best student oral and poster presentations at the 40th Annual Northeast Algal Symposium at Plymouth MA	April 21-22, 2001
Member of the NE Algal Society Executive Committee	Spring 1998-2001
Co-convener NE Algal Society Annual Meeting	Spring 2000
Symposium chair, contemporary uses of electron microscopy in phycology NE Algal Society Annual Meeting	April 19, 1999
Judge for the Bold Award (best student presentation) for the Phycological Society of America at the Phycological Society of America annual meeting, Northern Arizona University, Flagstaff, AZ	Aug 3-8, 1998
Judge for the best student oral presentation at the 37th Annual Northeast Algal Symposium at Plymouth MA	April 4-5, 1998
Chair Phycological Society of America Grants and Fellowships Subcommittee	Fall 1995 to Fall

Member of Psychological Society of America Grants and Fellowships Subcommittee Spring 1994 to Fall 97

Co-chair session of contributed papers on "Evolution - Molecular" at The Fourth International Psychological

Congress, Aug 4-10, 1991.

Duke University, Durham, N.C.

Aug. 9, 1991

Judge for the Bold Award (best student presentation) for the Psychological Society of America at The

Fourth International Psychological Congress,

Duke University, Durham, N.C.

Aug 4-10, 1991