JOEL PHILIP STAFSTROM
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Education and Degrees

Postdoctoral Fellow, Department of Biology, Yale University (1986 – 1990); Dr. Ian Sussex, advisor. Supported by an individual NSF Postdoctoral Fellowship. I was also the primary author of a grant funded by USDA-ARS (due to Yale policy, Dr. Sussex was listed as the P.I. on this grant)

Ph.D. in Cell Biology, Department of Molecular, Cellular and Developmental Biology, University of Colorado, Boulder (1985); Dr. L. Andrew Staehelin, advisor. Title: "Structure, function and cellular localization of extensin."

Physiology Course, Marine Biological Laboratory, Woods Hole, MA (summer, 1980).

A.B. in Biology, Dartmouth College (1979). Cum laude, with honors in Biology.

Professional Experience

University Honors Program, Northern Illinois University

Acting Director, July 2015 – present

Department of Biological Sciences, Northern Illinois University

Assistant Professor, 1990 – 1996

Associate Professor, 1996 – present

Plant Molecular Biology Center, Northern Illinois University

Associate Member, 1991 – 1997

Full Member, 1997 – present

Director, 2001 – 2004

Center for Biochemical and Biophysical Studies, Northern Illinois University

Director, January 2008 – 2011

Sabbatical leave, fall semester 2011

I conducted research on heat shock proteins and molecular chaperones in the lab of Prof. Elizabeth Vierling, Department of Biochemistry and Molecular Biology, University of Massachusetts, Amherst. I also began working with the moss *Physcomitrella*, a developing model system for plant molecular biology, in the lab of Prof. Magdalena Bezanilla, Department of Biology, UMass.

University and College Committees (listed in order of earliest service; **boldface = current service**)

Radiation Safety Committee (1992 – present; Chair, 2008 – present); acting Radiation Safety Officer (February – September, 2007)

Dean's Committee for the Recruitment and Retention of Honors Students (1997)

Institutional Animal Care and Use Committee (1999 – 2001)

Honors Committee (2000-2003; chair, 2002 – 2003)

Sigma Xi Honor Society: membership committee (1995, 1998); president-elect (2000 – 2001); president (2001 – 2002)

CLAS College Council (2005 – 2007)

CLAS dean search committee (2007)

University Hearing Panel (2009 – 2010)

UCC, Undergraduate Coordinating Council (2012 – 2015)

CIUE, Committee for the Improvement of Undergraduate Education (2012 – 2013; 2015 – present, *ex officio*)

APASC, Admissions Policies and Academic Standards Committee (2013)

General Education Visioning Task Force and PLUS Task Force (2013 – 2014)

IBC, Institutional Biosafety Committee, Chair (2013 – present)

CLAS Curriculum Committee (2013 – 2015)

CUAE, Committee on the Undergraduate Academic Environment (2014 – 2015)

CLAS Design Workshop (June 2014)

PLUS Implementation Writing Team (2015 – present)

University Scholarship Committee, Chair (2015 – present)

Enrollment Operations Committee (2015 – Present)

Institutional Aid Task Force and Strategic Planning subcommittee (2016 – present)

Conferences on Higher Education

T-Summit. IBM Almaden Research Center, San Jose, CA. March 24-25, 2014.

ePortfolio Conference. NIU. September, 12, 2014.

Association of American Colleges and Universities annual meeting. Washington, DC. January 21-24, 2015.

T-Summit. Michigan State University, E. Lansing, MI. March 16-17, 2015.

Association of American Colleges and Universities conference on "Bringing Equity and Quality Together." Chicago, IL. May 29, 2015.

National Collegiate Honors Council annual conference, Chicago, IL. November 2015.

Honors Council of the Illinois Region (HCIR) annual student conference, Northern Illinois University, DeKalb, IL. NIU's University Honors Program was the host institution for HCIR this year. February 27, 2016.

Department of Biological Sciences Committees

Search Committee, faculty position in Immunology (2011).

Graduate Committee (2005 – 2008)

Microscopy Committee (2000 – present). Helped obtain funding for purchase of a Zeiss Laser Scanning Confocal Microscope. Provide ongoing oversight of EM and confocal microscope facility and personnel.

Search Committee, faculty position in Plant Conservation Biology (2000).

Bioinformatics Committee (1999 – 2001). The department established a new M.S. graduate program that combines a solid foundation in contemporary molecular biology with computer science.

Advisor, Undergraduate Research Apprenticeship Program (1998; 2007 – 2008).

Governance Committee, Personnel Committee (1996 – 1997; 1997 – 1998; 2007 – 2009; chair, 1997 – 1998 and 2008 – 2009; 2014 – 2015).

Bylaws Committee (1995 – 1998). I was primarily responsible for rewriting our department's procedures for self-governance.

Greenhouse/Growth Chamber Committee (1992-2002; Chair, 2000-2002; Co-chair, 2013-2015). Oversight of facilities and personnel.

Search Committee, faculty position in Plant Molecular Biology (1992).

Research Interests and Expertise

Plant molecular, cellular and developmental biology; G proteins; function and cellular localization of DRGs (developmentally regulated GTP binding proteins); plant stress; regulation of ribosome activity and translation initiation; *Physcomitrella patens* (moss) as a model system.

Extramural Funding

NIH/AREA grant #GM54276-01 (Cell Biology Panel). "Expression and functions of developmentally regulated GTP binding proteins in transgenic *Arabidopsis* plants." 1996 – 1999 (no-load extension to 2000). Total award, $105,750.

NIH/AREA grant #GM54276-02 (competitive renewal; Genetics Panel). "Mutational analysis of *Arabidopsis* DRG genes." 2000 – 2003 (no-load extension to 2004). Total award, $144,000.

Recent proposals for extramural funding

USDA-AFRI. "Integrated Research and Education on the Biophysical Basis for Adaptation of Agriculture and Forest Ecosystems to Changing Climate". Proposed funding period: 1/14 – 12/16. Proposed budget: $965,785. I was a Co-PI. Prof. Tom Sims, PI.

NSF. "Herbicidal Studies with MEP Pathway Inhibitors". Tim Hagen from Chemistry was the PI. Jim Horn and I were co-PIs. Proposed funding period: 6/14 – 5/17. Proposed budget: $863,137. The grant was declined due to a technicality associated with its submission.

NSF. "Herbicidal Studies with MEP Pathway Inhibitors". Proposal resubmitted, November 2014.

Recent intramural funding

NIU Venture Grant Competition, Team IspF: "Development of Novel Anti-Infective and Herbicidal Agents". Tim Hagen, PI. Michael Clare, Jim Horn, R. Meganathan and Joel Stafstrom, co-PIs. Presentation was made on April 23, 2014. This project was funded for the full amount possible in April, 2014 ($20,000). In October 2014, an additional $20,000 was awarded to the project.

Honors and Awards

Research and Artistry Award, College of Liberal Arts and Sciences, 2000. "DRG gene knockout mutants in yeast."

Research and Artistry Award, NIU Graduate School, 1997. "Expression and functions of plant DRGs, developmentally regulated GTP binding proteins."

Research and Artistry Award, NIU Graduate School, 1991. "Cloning and expression of dormancy-specific genes from axillary buds of pea."

National Science Foundation Postdoctoral Fellowship in Plant Biology, 1985.

Graduate School Research and Creative Work Award, University of Colorado, 1985.

Eggleston Botany Prize, Dartmouth College, 1979.

Classroom Teaching Experience

A statement describing my Teaching Philosophy may be found at the end of this CV.

Courses that I have taught regularly for several years:

BIOS 208, Fundamentals of Cell Biology. Taught nearly every fall for over 20 years. A requirement for the major. Mostly sophomores.

BIOS 208H, Fundamentals of Cell Biology Honors mini-section.

BIOS 208T, Pre-Med (Pre-Professional Health) Themed Learning Community (in association with Prof. Elizabeth Gaillard, Dept. of Chemistry and Biochemistry)

BIOS 305, Biology of Land Plants. Mostly juniors and seniors. Required for students in the teacher certification program.

BIOS 205, Organismal Diversity. I taught the sections on plants, fungi and protists for several years. The department recently discontinued this course.

BIOS 493, Adventures in Biological Discovery, an upper level Honors seminar for non-majors. Taught in 2013 and 2014.

Courses taught infrequently or not recently:

BIOS 103, General Biology for non-majors (Gen Ed)

BIOS 410, Plant Anatomy (undergraduates and graduate students)

BIOS 493, Plant Developmental Biology (undergraduates and graduate students)

BIOS 591, Recombinant DNA Techniques (undergraduates and graduate students)

Graduate seminars:

Molecular Regulation of the Eukaryotic Cell Cycle

Molecular Biology of Plant Hormone Action

Plant Stress (team taught with 5 others)

Dissertation and Thesis Committees Chaired

Robert J. Srygler. Ph.D. in progress (completion anticipated May, 2017). Assessment of insertional loss-of-function mutations in *DRG*, *DFRP*, and *SLH* genes in the model moss *Physcomitrella patens*.

Matthew Marcec. M.S. 2015. Mutational and cytological analyses of the DRG-DFRP-SLH biochemical and genetic pathway in *Arabidopsis thaliana*. (Matt has been accepted into Ph.D. programs at University of Wisconsin, Madison, Washington State University, and University of Nevada, Reno).

Robert J. Srygler. M.S. 2012. Thesis: "Association of DRG proteins with heat shock granules in heat-stressed Arabidopsis thaliana." Recipient of the department's Sidney Mittler Genetics Award (2013).

Benjamin J. Nelson. Ph.D. 2008. Dissertation: "Subcellular localization of DRG family proteins." Recipient of the department's George Terwilliger Outstanding Graduate Student Award (2008).

Jennifer D. Kubic. Ph.D. 2006. Dissertation: "DRG interacting proteins in *Arabidopsis*." Recipient of the department's Sidney Mittler Genetics Award (2005) and George Terwilliger Outstanding Graduate Student Award (2006).

Jean-Marc Dekeyser. M.S. 2004. Thesis: "Expression and mutagenesis of six members of the Drm1 gene family in *Arabidopsis thaliana*." Recipient of the department's Sidney Mittler Genetics Award (2004).

Mary Dykas. M.S. 2001. Thesis: "Expression patterns and functional characterization of members of the Drm1 gene family in *Arabidopsis thaliana*." Recipient of the department's George Terwilliger Outstanding Graduate Student Award (2002).

Kenneth Maas. M.S. 2000. Thesis: "Membrane localization of developmentally regulated GTP binding proteins (DRGs) in pea and *Arabidopsis*."

Michael Krueger. M.S. 1997. Non-thesis research project: "Nucleotide sequence of an *Arabidopsis* clone related to an auxin down-regulated gene."

Vinita Sarup. M.S. 1995. Thesis: "Approaches toward *in planta* transformation of *Pisum sativum*."

Michelle Devitt. M.S. 1994. Thesis: "Molecular cloning and expression of growth-specific genes in axillary buds of pea."

Jennifer Chase. M.S. 1992. Co-advisor with R. Hauptman. Thesis: "Transient expression of three methotrexate resistant dihydrofolate reductase genes in maize and tobacco protoplasts."

Mary Jo Murphy. M.S. 1992. Non-thesis research project: "Floral Morphogenesis in *Delphinium ajacis*."

Additional graduate students who did not complete a degree or were visitors from other labs (in order of when they began): David Anderson; Anne Fennell; Beth Drake; Mark Jutovsky; Don Lloyd; Chris Eddy; and Hank van Winkle.

Honors Capstone Projects

Jared Trout, B.S. 2013. "Phenotyping, genotyping, and analysis of Arabidopsis knockout mutations in *DFRP1*, *DFRP2* and *SLH* genes." Jared hopes to attend pharmacy school.

Lindsey McKinney, B.S. 2011. "Isolation and analysis of *Arabidopsis thaliana* lines bearing *drg* knock-out mutations and over-expressing GFP protein fusions: Are wildtype *DRG* genes necessary for heat stress granule formation?" Lindsey presented her work at the Biology Department's Phi Sigma research symposium and at NIU's Undergraduate Research Day. She plans to become a veterinarian.

Thomas Kazecki, B.S. 2009. "Expression of AtDRG3 promoter-GUS constructs and analysis of the phenotypes of *drg3* RNAi mutants". At the time of graduation, Thomas was considering medical school.

Matthew Long. B.S. 2006. "Acquiring Skills and Techniques for Molecular Cloning". Matt enrolled in the Ph.D. program at the University of Iowa.

Mary Dykas. B.S. 2000. "Activity of AtDrm1 Promoters in Transgenic *Arabidopsis thaliana*." URAP scholar, 1999. NIU Outstanding Woman Student Award (2000). Mary completed a M.S. degree in 2001 and then went to work in the pharmaceutical industry. She is fully capable of Ph.D. work at a top university.

Paul Ingram. B.S. 1996. "TCA microsatellite repeats in the 5'UTR of the Sat5 gene of pea and related species." Paul worked for several years as a research technician before beginning a Ph.D. program at the University of Chicago. Paul completed his Ph.D. in 2010 and then became a postdoctoral fellow with Dr. Philip Benfey at Duke University. Dr. Benfey is a member of the highly prestigious National Academy of Sciences.

Undergraduates and Students-at-Large.

Many students have carried out independent research projects in my lab. Most were capable of meeting the requirements for University Honors. These students are listed in rough order of when they began their research apprenticeships (list begins in 1990). Lisa Peterson; Jodi Krengel; Sarah Murfey; John Meany; Steve Gulatti; Tiffany Price; Ken Maas; Rebecca Hurd; Paul Ingram; Bret Ripley; Randy Lockner; Donald Lloyd; Bryan Waldo; William Stoudt; Beth Drake; Wade Schneck; Mary Dykas; Jennifer Kubic; Jean-Marc Dekeyser; Jeff Kammer; Jennifer Sternberg; Amber Johnson; Marcin Jungiewicz; Matt Long; Tarik Alshaikh; Jigar Panchal; Sam Jones; Katie Harmata; Brian Park; Rob Srygler; Sasha Zatserklyana; Brian Cox; Joe Eversole; Thomas Kazecki; Shane Theado; Jackie Do; Nerihan Hadji; Scott Gregersen; Lindsey McKinney; Ryan

Kuebler; Jared Trout; Matthew Marcec; Amber Carrick; Stephen Guzzetta; Lauren Galat; Ryan Hicks; Corey Czarnecki; Andrew Conner; Asim Muhammad; Chukwuma Okafor; and Irina Yatsik. 51 outstanding undergraduates … and counting.

Sabbatical Visitor to My Laboratory

Dr. Rodney Scott, Associate Professor of Genetics, Wheaton College. Fall, 2004

Service on Graduate Committees of Biological Sciences Students

Ryan Meyers. Ph.D. in progress. Dr. Ana Calvo, advisor.

Shane Theado. M.S. in progress. Dr. Mel Duvall, advisor.

Thomas Hajek. M.S. 2015. Dr. Mel Duvall, advisor.

Joanna Sztuba. M.S. 2008, Ph.D. 2010. Dr. Jozef Bujarski, advisor.

Jennifer Rohrson. M.S. 2010. Dr. Ana Calvo, advisor.

Rafal Wierzchoslawski. Ph.D. 2004. Dr. Jozef Bujarski, advisor.

Maya Ordonic. Ph.D. 2001. Dr. Thomas Sims, advisor.

Hank Van Winkle. Ph.D. 2001. Dr. Neil Blackstone, advisor.

Richard Swiech. M.S. 2000. Dr. Gabriel Holbrook, advisor.

Michael DeFranco. M.S. 1997. Dr. Christopher Hubbard, advisor.

Judit Pogany. Ph.D. 1996. Dr. Jozef Bujarski, advisor.

Jessica Graustein. M.S. Dr. Carl von Ende, advisor.

David Stevenson. Ph.D. Dr. Patricia Vary, advisor.

Jeff Borgwardt. M.S. Dr. Gabriel Holbrook, advisor.

Jamie Turner. M.S. Dr. Gabriel Holbrook, advisor.

Service on Graduate Committees in other NIU Departments

Brian Hartnett. Ph.D. in progress. Chemistry and Biochemistry, NIU. Drs. Timothy Hagen and James Horn, advisors.

Zhang Zheng. Ph.D. 2014. Chemistry and Biochemistry, NIU. Dr. Timothy Hagen, advisor.

Christopher Smith. Ph.D. 2014. Chemistry and Biochemistry, NIU. Dr. James Horn, advisor.

David Kettlestrings. Ph.D. 2012. Mathematics, NIU. Dr. Jeffrey Thunder, advisor (Dean's designee).

Sean Fanning. Ph.D. 2012. Chemistry and Biochemistry, NIU. Dr. James Horn, advisor.

Tigabu Kassa. Ph.D. 2007. Chemistry and Biochemistry, NIU. Dr. Oliver Hofstetter, advisor.

John Carr. Ph.D. 2006. Chemistry and Biochemistry, NIU. Dr. Jon Carnahan, advisor.

Stacy Kelly Ed.D. 2004. Special & Early Education, NIU. Dr. Gaylen Kapperman, advisor (Dean's designee).

Service on Graduate Committees outside of NIU

David Chakravorty. Ph.D. 2012. University of Queensland, Australia. "*Functional characterisation of Arabidopisis thaliana heterotrimeric G proteins.*" I was recruited as an outside reader to assess and report on the written dissertation. Dr. Jose Botella, advisor.

Gary Symons. Ph.D. 2000. University of Tasmania, Australia. I was recruited to assess and report on the written dissertation. Dr. John Ross, advisor.

Kevin Folta. Ph.D. 1997. Biology, University of Illinois, Chicago. Dr. Lon Kaufman, advisor.

Professionally Oriented Public Service

Grant Review Panels

NIH/AREA (R15), Cell and Developmental Biology Panel, Washington DC (1996).

NIH/AREA (R15), Cell and Developmental Biology Panel, Washington DC (1997).

Grant Reviewer

I typically review a couple of grant proposals per year, predominantly for NSF (Integrative Plant Biology Panel) and USDA (Plant Growth and Development Panel). I also have reviewed grant proposals for the Israeli Ministry of Agriculture and Rural Development and for the Australian Research Council.

Manuscript Reviewer

I have reviewed manuscripts for The Plant Cell, Plant Physiology, Plant Molecular Biology, Trends in Plant Science, American Journal of Botany, Journal of the American Society for Horticultural Science, Annals of Botany, Plant Cell and Environment, Biochimica Biophysica Acta (Gene Expression), and others.

Invited Research Seminars

Biology Department, Smith College, Northampton, MA. "Dirty Rotten G-Proteins: Highly Conserved Proteins in Search of a Function". December, 2011.

Plant Sciences Program, University of Massachusetts, Amherst, MA. "DRGs: Highly Conserved Proteins in Search of a Function". November, 2011.

Department of Biological Sciences, Northern Illinois University. "DRGs: Development, Ribosomes and Granules." April, 2009.

Department of Biology, Wheaton College, Wheaton, IL. "Dirty Rotten G-Proteins: The Saga of Arabidopsis DRGs." March, 2005.

Second International Symposium on Plant Dormancy, Angers, France. "Regulation of growth and dormancy in axillary buds." July, 1999.

Red River Valley Agricultural Research Center, USDA-ARS, Fargo, ND. "Molecular Regulation of Axillary Bud Development." May, 1998.

Department of Environmental & Plant Biology, Ohio University. "Molecular Regulation of Axillary Bud Development." April, 1998.

Chicago Plant Science Group, University of Chicago. "Axillary Bud Development in Pea: From Cell Cycle Regulation to Plant Architecture." February, 1994.

Horticulture Department, Oregon State University, Corvallis, OR. "Regulation of the Cell Cycle and of Dormancy Cycles in Axillary Buds of Pea." February, 1994.

Workshop on Plant Stems: Physiology and Functional Morphology, Newport, OR. "Developmental Potential of Shoot Buds." February, 1994.

Department of Biology, Loyola University, Chicago, IL. "Molecular Characterization of Growth-Dormancy Cycles in Axillary Buds of Pea." December, 1994.

Department of Plant Science, University of Illinois, Urbana, IL. "Axillary Bud Development in Pea." March, 1993.

Other Presentations

Presentation on contemporary research in cell biology, AP Biology class, DeKalb HS. May, 2007.

"Understanding Genetically Modified Crops." Presented to various groups and organizations in the DeKalb area, 2000-2002.

Forum on "Conflicts Between Science and Religion?" Panel member and discussion leader; Westminster Presbyterian Church, DeKalb, IL. April, 1994.

Conference on "New Ideas in Science." Sponsored by External Programming, Northern Illinois University. This Conference introduced high school teachers to contemporary research activities. Presentation title: "Differential Gene Expression: The Problem of Development." October, 1993.

Symposium on "The Basics of Biotechnology." Sponsored by the West Suburban Regional Academic Consortium. I delivered 3 hours of lectures on molecular cloning techniques to high school science teachers. April, 1992.

Publications

Journal Articles – in preparation

Kubic JD, and Stafstrom JP. DRG1/DFRP1 and DRG2/DFRP2 form specific interacting pairs *in vivo*.

Nelson BJ, and Stafstrom JP. DRG1 and DRG2 are components of HSGs (heat stress granules) in *Arabidopsis* and pea.

Srygler RJ, and Stafstrom JP. Arabidopsis DRG1- and DRG2-GFP fusion proteins aggregate in heat stress granules in wildtype and *drg* mutant plants.

Book Chapters (All were peer reviewed and contained new, previously unpublished data)

Stafstrom JP (2000). Regulation of growth and dormancy in axillary buds. *In* Dormancy in Plants: From Whole plant Behavior to Cellular Control, J-D Viémont and J Crabbé, eds., CAB International, Wallingford UK; pp 331-346.

Stafstrom JP (1995). Developmental potential of shoot buds. *In* Plant Stems: Physiology and Functional Morphology, BL Gartner, ed., Academic Press, San Diego; pp 257-279.

Stafstrom JP (1993). Axillary bud development in pea: apical dominance, growth cycles, hormonal regulation and plant architecture. *In* Cellular Communication in Plants, RM Amasino, ed., Plenum Press, New York; pp 75-86.

Journal Articles (All were peer reviewed)

Nelson BJ, Maas KJ, Dekeyser JLM, and Stafstrom JP (2009). Association of DRG1 and DRG2 with Ribosomes from Pea, *Arabidopsis* and Yeast. Intl. J. Plant Sci. **170**:834-844.

Stafstrom JP (2008). Expression Patterns of *Arabidopsis DRG* genes: Promoter::GUS fusions, quantitative RT-PCR and patterns of protein accumulation in response to environmental stresses. Intl. J. Plant Sci. **169**:1046–1056.

Stafstrom JP, and Ingram P (2004). TCA microsatellite repeats in the 5'UTR of the Sat5 gene of wild and cultivated accessions of *Pisum* and of four closely related genera. Intl. J. Plant Sci. **165**:273-280.

Stafstrom JP, and Sarup VB (2000). Development of Supernumerary Buds from the Axillary Meristem of Pea, *Pisum sativum* (Fabaceae). Aust. J. Bot. **48**:271-278.

Devitt ML, Maas KJ, and Stafstrom JP (1999). Characterization of developmentally regulated GTP binding protein (DRG) cDNAs from pea and *Arabidopsis*. Plant Mol. Biol. **39**:75-82.

Stafstrom JP, Ripley BD, Devitt ML, and Drake B (1998). Dormancy-associated gene expression in pea axillary buds. Cloning and expression of PsDRM1 and PsDRM2. Planta **205**:547-552.

Stafstrom JP, Krueger MT, and Stoudt W (1998). Nucleotide sequence of cDNA and genomic clones of AtDRM1 (Accession Nos. AF053746 and AF053747), an *Arabidopsis* homologue of a pea dormant bud-associated gene. Plant Physiology **117**:718.

Devitt ML, and Stafstrom JP (1995). Cell cycle regulation during growth-dormancy cycles in pea axillary buds. Plant Mol. Biol. **29**:255-265.

Stafstrom JP (1995). Influence of bud position and plant ontogeny on the morphology of branch shoots in pea (*Pisum sativum* L. cv. Alaska). Ann. Bot. **76**:343-348.

Stafstrom JP, and Devitt ML (1995). Nucleotide sequence of four ribosomal protein L27 cDNAs from growing axillary buds of pea. Plant Physiol. **107**:1031-1032.

Sarup VB, and Stafstrom JP (1995). Identification of a high copy number, retrotransposon-like sequence: Results from an unsuccessful PCR search for a pea homologue of the p53 tumor suppressor gene. Pisum Genetics **27**:14-19.

Stafstrom JP, Altschuler M, and Anderson DH (1993). Molecular cloning and expression of a MAP kinase homologue from pea. Plant Mol. Biol. **22**:83-90.

Stafstrom JP, and Sussex IM (1992). Expression of a ribosomal protein gene in axillary buds of pea. Plant Physiology **100**:1494-1502.

Stafstrom JP, and Sussex IM (1988). Patterns of protein synthesis in dormant and growing vegetative buds of pea. Planta **176**:497-505.

Stafstrom JP, and Staehelin LA (1988). Antibody localization of extensin in cell walls of carrot storage roots. Planta **174**:321-332.

Stafstrom JP, and Staehelin LA (1987). A second extensin-like hydroxyproline-rich glycoprotein from carrot cell walls. Plant Physiol. **84**:820-825.

Stafstrom JP, and Staehelin LA (1986). Cross-linking patterns in salt-extractable extensin from carrot cell walls. Plant Physiol. **81**:234-241.

Stafstrom JP, and Staehelin LA (1986). The role of carbohydrate in maintaining extensin in an extended conformation. Plant Physiol. **81**:242-246.

Stafstrom JP, and Staehelin LA (1984). Are annulate lamellae in the Drosophila embryo the result of overproduction of nuclear pore components? J. Cell Biol. **98**:699-708.

Stafstrom JP, and Staehelin LA (1984). Dynamics of the nuclear envelope and nuclear pore complexes during mitosis in the Drosophila embryo. Eur. J. Cell Biol. **34**:179-189.

Published Abstracts (with the advent of the internet, meeting abstracts are seldom published in the print copies of journals any more)

Maas KJ, Devitt ML, and Stafstrom JP (1997). Characterization of DRGs, developmentally regulated GTP binding proteins, from pea and Arabidopsis. Plant Physiol. **114s**:287.

Stafstrom JP, Ripley B, Drake B, Devitt ML, Stoudt W, Krueger MT, and Lloyd DA (1997). Dormancy-associated gene expression in pea axillary buds. Plant Physiol. **114s**:311.

Devitt ML, Price T, and Stafstrom JP (1994). Mitotic arrest during dormancy cycles in pea axillary buds. Plant Physiol. **105s**:31.

Stafstrom JP, Altschuler MA, Anderson DH, and Devitt M (1993). Molecular cloning and expression of a MAP Kinase homologue from pea. 12th Plant Biochemistry, Molecular Biology and Physiology Symposium, University of Missouri, Columbia, MO, "Plant Protein Phosphorylation, Plant Protein Kinases and Phosphatases and Plant G-Proteins"; p 159.

Stafstrom JP (1993). Gene expression during cycles of growth and dormancy in axillary buds of pea. *IN* Cellular Communication in Plants, RM Amasino, ed., Plenum Press, New York; p 154.

Devitt M, and Stafstrom JP (1993). Characterization of growth-specific cDNA clones from pea axillary buds. *IN* Cellular Communication in Plants, RM Amasino, ed., Plenum Press, New York; p 166.

Stafstrom JP (1991). Expression of a ribosomal protein gene in pea axillary buds. Plant Physiol. **96s**:20.

Stafstrom JP, and Sussex IM (1988). Patterns of protein synthesis in growing and quiescent buds of pea. Cell. Biochem. suppl. **12C**:205.

Stafstrom JP, and Staehelin LA (1986). Antibody localization of extensin in carrot cell walls. J. Cell. Biochem. suppl. **10B**:40.

Moore PJ, Stafstrom JP, and Staehelin LA (1986). Immunocytochemical localization of xyloglucan, rhamnogalacturonan I and extensin in plant cell walls. J. Cell. Biochem. suppl. **10C**:17.

Stafstrom JP, and Staehelin LA (1985). Biochemical and morphological studies on extensin structure. Plant Physiol. **77s**:72.

Stafstrom JP, and Staehelin LA (1984). Structural studies on extensin, the major structural protein of plant cell walls. J. Cell Biol. **99**:244a.

Stafstrom JP, and Staehelin LA (1982). Nuclear division in the syncytial blastoderm embryo of *Drosophila*. J. Cell Biol. **95**:304a.

Additional Presentations at Professional Meetings and Conferences

Stafstrom JP, Nelson BJ, Kubic JD, Srygler RJ, and Marcec M (2013). Genetic analysis of the *drg-dfrp-slh* pathway in *Arabiodpsis*: Possible involvement in translational initiation. Conference on Post-Translation Gene Regulation in Plants, July 25-26, Providence, RI. I was invited to make an oral presentation. My abstract was presented, but I was unable to attend the meeting due to the death of my father-in-law a few days before the conference.

Stafstrom JP, and Bezanilla, M (2012). Preliminary Genetic Studies on the DRG Pathway in *Physcomitrella patens*. MOSS 2012, International conference on molecular, cellular and genetic features of bryophyte evolution and development. New York Botanical Garden, Bronx, NY. June 16-18, 2012.

Stafstrom JP, Nelson BJ, Kubic JD (2011). Arabidopsis DRGs: Ribosome association, interacting partners, association with heat stress granules, and possible involvement in translation initiation. 22nd International Conference on Arabidopsis Research, Madison, WI, June 22-26, 2011.

Stafstrom JP, Nelson BJ, Kubic JD (2009). All about DRGs. Conference on "Cellular Signaling: Advances and Applications", Donald Danforth Plant Science Center, St. Louis, MO, September 23-25, 2009.

Stafstrom JP (2007). Expression of *Arabidopsis Drg* genes. Promoter::GUS fusions, quantitative RT-PCR and patterns of protein accumulation. Joint conference of the American Society of Plant Biologists and the Botanical Society of America, Chicago, IL; July, 2007.

Nelson BJ, and Stafstrom JP (2007). Ribosome association and GTP binding properties of pea and *Arabidopsis* DRG proteins. Joint conference of the American Society of Plant Biologists and the Botanical Society of America, Chicago, IL; July, 2007.

Kubic JD, Devitt ML, and Stafstrom JP. Expression and mutagenesis of DRI, a DRG-interacting protein. Cellular Mechanisms in Plant Development Symposium, Donald Danforth Plant Science Center, St. Louis, MO; September, 2004.

Stafstrom J. Arabidopsis DRGs, a small family of highly conserved G proteins. 14th Annual Arabidopsis Conference, Madison, WI; June, 2003.

Stafstrom, JP. Developmentally regulated GTP binding protein genes in *Arabidopsis*: Expression and mutagenesis. FASEB Conference on Mechanisms in Plant Development, Saxtons River, VT; August, 2002

Stafstrom JP, Maas KJ, and Devitt ML. Genetic and Biochemical Characterization of DRGs, Developmentally Regulated GTP Binding Proteins. #2-17, pg. 8th Annual Arabidopsis Conference, Madison, WI; July, 1997.

Stafstrom JP. Developmental regulation of growth and dormancy. Retirement Symposium Honoring Dr. Ian Sussex. University of California, Berkeley; June, 1997.

Stafstrom JP, Ripley BD, Drake B, and Devitt ML. Regulation of growth and dormancy states in developing axillary buds. Gordon Conference on Plant Cell Genetics and Development; Brewster Academy, Wolfboro, NH; June, 1995.

Devitt ML, Price T, and Stafstrom JP. Mitotic arrest during growth-dormancy cycles in pea axillary buds. First International Symposium on Plant Dormancy, Corvallis, OR; August, 1994.

Stafstrom JP, Devitt M, and Anderson D. Gene expression in axillary buds of pea. Annual Meeting, Midwest Section, American Society of Plant Physiologists, Northern Illinois University; April, 1992.

Stafstrom JP. Molecular analysis of cycles of growth and dormancy during pea meristem development. Northeast Developmental Biology Meeting, Woods Hole, MA; April, 1990.

Stafstrom JP, and Staehelin LA. Structural studies on the cell wall glycoprotein extensin. The Molecular Basis of Plant Disease, University of California, Davis; August, 1984.

Stafstrom JP, and Staehelin LA. Structural studies on the cell wall glycoprotein extensin. The Cell Surface in Plant Growth and Development, Sixth John Innes Symposium, Norwich, England; September, 1984.

Workshops and Other Activities Related to the Improvement of Teaching

"Blackboard I". Half-day workshop on the basics of using Blackboard for course management. January 9, 2012. Organized by the NIU Faculty Development Office.

"Designing a Writing-Enhanced Course". Full-day workshop, May 21, 2012. Organized by the NIU Faculty Development Office. Presented by Dr. Bradley Peters, Department of English, NIU.

"A Classroom in Your Pocket: Mobile Teaching and Learning". Full-day workshop at NIU. June 1, 2012. Organized by the NIU Faculty Development Office. Presented by David Gagnon and John Martin from the University of Wisconsin, Madison.

"Genomics in Education Faculty Workshop". Two-day workshop held at the University of Wisconsin, Madison, August 22-23, 2012. Sponsored by iPlant Collaborative, which is funded by an NSF grant to the Cold Harbor Laboratory, Cold Spring Harbor, NY. The workshop included extensive work with "DNA Subway" software, which can be used to annotate, compare and analyze large datasets of DNA sequences. A wet part of the workshop demonstrated "DNA barcoding", which includes isolating DNA, carrying out PCR reactions, agarose gel electrophoresis, and preparations for DNA sequencing. Post-workshop activities included analyzing the sequences that were generated by all workshop attendees.

"Writing Across the Curriculum VALUES Rubric assessment." As of April, 2014, this assessment is ongoing. I have attended a workshop with Dr. Brad Peters. I am in the process of applying this rubric to student papers from my BIOS 493 Honors Seminar course. The purpose is to test the efficacy of this rubric and thereby improve it.

A Brief Statement on Teaching Philosophy (composed ca. 2000)

College teaching has many faces: lecturing to hundreds in an auditorium or to a small handful in an intimate classroom; discussing esoteric topics in advanced seminars; demonstrating techniques in labs; and directing independent research projects, both at the graduate and undergraduate levels. I have considerable experience with each type of teaching.

Many on this campus will remember Prof. Arnold Hampel. Arnie grew up in nearby Burlington, was an NIU undergraduate, and later became a highly distinguished member of the faculty. He was a member of NIU's first class of Presidential Research Professors in 1982 and he also won awards for outstanding teaching. Arnie made an offhand remark to me many years ago which I've never forgotten: **"let the students know that you care."** This simple admonition has helped to guide me in many ways.

Be fair, clear and consistent. Maintain good humor. Admit mistakes. These also are good rules for living.

Challenge students to work hard and to exceed their own expectations. I expect a lot of my students, so I'm not surprised that they sometimes complain that my exams are *too challenging*. In the long run, though, students remember and appreciate teachers who teach well and teach much.

Be prepared. It is embarrassing and unprofessional to do otherwise. This is a lesson many of us have learned the hard way. Once, I put off final preparation of a lecture until just before it was to be presented. As I was driving to work, my car was hit by a driver who had run a red light; thankfully, damage was minor for both of us. I got to my lecture on time, but I was not happy with my performance. Coincidentally, the other driver was a student in my class: I guess she was running late too!

Maintain an appropriate level of authority. I always strive to be open, available and friendly, but I don't attempt to be a buddy to my students.

Share the excitement! Many of us get energized through our research; bringing this energy into the classroom has very positive effects. In evaluating my performance, students frequently comment on my enthusiasm.

Dr. Andrew Staehelin, my Ph.D. advisor at the University of Colorado, was a gifted teacher as well as a renowned scholar. But the former skill didn't come easily to him, as he described when he was recognized by the university in 1984 … for his outstanding teaching! When Andrew retired in 2007, I had the honor of presenting an after dinner tribute, which I built around old photographs and haikus (admittedly, "poetry lite"). One such offering was:
Teaching is caring. Demanding much of oneself, and of one's students.