

CURRICULUM VITAE

SIGRID JACOBSHAGEN

Department of Biology, Western Kentucky University
 Bowling Green, KY 42101, Phone: 270-745 5994
 E-mail: sigrid.jacobshagen@wku.edu

Current Position: Professor

Office location: Thompson Complex Center Wing 353

EDUCATION

Ph.D. in Biology, Free University of Berlin, Germany 1988. Thesis title: "Evidence for cytosol- and chloroplast-specific class I-aldolases in green algae and their comparison".

M.S. in Biology; Justus-Liebig-University of Giessen, Germany 1985. Thesis title: "Isolation and purification of calmodulin from *Mesotaenium caldariorum* by affinity chromatography".

PROFESSIONAL EXPERIENCE

2010-present	Professor, Department of Biology, Western Kentucky University, Bowling Green, KY.
2004-2007	Director of the Biotechnology Center, Department of Biology, Western Kentucky University, Bowling Green, KY.
2001-2010	Associate Professor, Department of Biology, Western Kentucky University, Bowling Green, KY.
1995-2001	Assistant Professor, Department of Biology, Western Kentucky University, Bowling Green, KY.
1990-1995	Research Associate, Department of Biology, Vanderbilt University, Nashville, TN.
1988-1990	Research Associate, Institute of Plant Physiology, Free University of Berlin, Germany
1986-1988	Graduate Research Assistant, Institute of Plant Physiology, Free University of Berlin, Germany
1984-1985	Teaching Assistant, Institute of Botany I, Justus-Liebig-University, Giessen, Germany.

TEACHING EXPERIENCE

Courses Taught at WKU

BIOL/CHEM 446(G)	Biochemistry I lecture
BIOL 446(G) - online	Biochemistry I lecture on-line,
BIOL/CHEM 447(G)	Biochemistry Laboratory
BIOL/CHEM 467(G)	Biochemistry II lecture
BIOL 400(G)	Plant Physiology lecture and lab
BIOL/CHEM 562	Advanced Biochemistry

BIOL 114	General Biology Lab (Advisement of Student Instructors)
BIOL 399	Research Problems in Biology
BIOL 599	Thesis Research and Writing
BIOL 475	Selected Topics in Biology
BIOL 516	Investigations in Biology
BIOL 675	Independent Topics in Biology: The Circadian Clock
BIOL 675	Independent Topics in Biology: Cloning
BIOL 675	Independent Topics in Biology: The Histone Code
BIOL 398	Undergraduate Seminar
BIOL 588	Nucleic Acids
BIOL 220	Introduction to Cell and Molecular Biology lecture
BIOL 221	Introduction to Cell and Molecular Biology Laboratory
BIOL 120	Biological Concepts lecture
BIOL 121	Biological Concepts Laboratory
BIOL 153	Biotechnology Core Module: Structure and Function of Molecules

Courses Taught at the Free University of Berlin, Germany

Biochemistry of Plants Lecture
 Biochemistry of Plants Laboratory
 Developmental Physiology of Plants Laboratory

RESEARCH EXPERIENCE

PUBLICATIONS

* indicates undergraduate or Master-level graduate student

- J. Forbes-Stovall*, J. Howton*, M. Young*, G. Davis*, T. Chandler*, B. Kessler, C.A. Rinehart, and S. Jacobshagen (2014): *Chlamydomonas reinhardtii* strain CC-124 is highly sensitive to blue light in addition to green and red light in resetting its circadian clock, with the blue-light photoreceptor plant cryptochrome likely acting as negative modulator. *Plant Physiol. Biochem.* 75, 14-23 (NIHMS 549838).
- C. Gaskill*, J. Forbes-Stovall*, M. Young, B. Kessler, C.A. Rinehart, and S. Jacobshagen (2010): Improved automated monitoring and new analysis algorithm for circadian phototaxis rhythms in *Chlamydomonas*. *Plant Physiol. Biochem.* 48, 239-246 (NIHMS171902).
- S. Jacobshagen, B. Kessler, and C.A. Rinehart (2008): At least four distinct circadian regulatory mechanisms are required for all phases of rhythms in mRNA amount. *Journal of Biological Rhythms* 23, 511-524.
- S. Jacobshagen, J. R. Whetstone* and J. M. Boling* (2001): Many but not all genes in *Chlamydomonas reinhardtii* are regulated by the circadian clock. *Plant Biology* 3, 592-597.
- S. Jacobshagen, K.L. Kindle and C.H. Johnson (1996): Transcription of *cabII* is regulated by the biological clock in *Chlamydomonas reinhardtii*. *Plant Mol. Biol.* 31, 1173-1184
- S. Jacobshagen and C.H. Johnson (1994). Circadian rhythm of gene expression in *Chlamydomonas reinhardtii*: circadian cycling of mRNA abundances of *cab II*, and possibly of β -tubulin and cytochrome *c*. *Eur. J. Cell Biol.* 64, 142-152.

- C. Schnarrenberger, B. Pelzer-Reith, H. Yatsuki, S. Freund, S. Jacobshagen and K. Hori (1994): Expression and sequence of the only detectable aldolase in *Chlamydomonas reinhardtii*. Arch. Biochem. Biophys. 313, 173-178.
- C. Schnarrenberger, W. Gross, B. Pelzer-Reith, S. Wiegand and S. Jacobshagen (1992): The evolution of isoenzymes of sugar phosphate metabolism in algae. In: Phylogenetic changes in peroxisomes of algae - Phylogeny of plant peroxisomes. H. Stabenau (ed.), University of Oldenburg Press, Oldenburg, Germany, pp 310-329.
- C. Schnarrenberger, S. Jacobshagen, B. Müller and I. Krüger (1990): Evolution of isozymes of sugar phosphate metabolism in green algae. In: Isozymes: Structure, Function, and Use in Biology and Medicine. M.C. Rattazzi, J.G. Scandalios and G.S. Whitt (eds), Alan R. Liss Inc., New York, pp 743-764.
- S. Jacobshagen and C. Schnarrenberger (1990): Two class I aldolases in *Klebsormidium flaccidum* (Charophyceae) - an evolutionary link from Chlorophytes to higher plants. J. Phycol. 26, 312-317.
- S. Jacobshagen and C. Schnarrenberger (1988): Two class I aldolases in the green alga *Chara foetida* (Charophyceae). Plant Physiol. 87, 78-82.
- S. Jacobshagen, D. Altmüller, F. Grolig and G. Wagner (1986): Calcium pools, calmodulin and light-regulated chloroplast movements in *Mougeotia* and *Mesotaenium*. In: Molecular and cellular aspects of calcium in plant development. A. J. Trewavas (ed.), Plenum press, New York-London-Washington D.C.-Boston, pp 201-209.
- S. Jacobshagen, F. Grolig and G. Wagner (1986): Quantification of *Mesotaenium* calmodulin by improved cyclic nucleotide phosphodiesterase test. In: Molecular and cellular aspects of calcium in plant development. A. J. Trewavas (ed.), Plenum press, New York-London-Washington D.C.-Boston, pp 381-382.

EXTERNAL GRANTS AWARDED

Current External Grants

NSF: "NSF EPSCoR RII Track 1: Powering the Kentucky Bioeconomy for a Sustainable Future". With R. Andrews as main PI, with S. DeBolt, B. Hinds and Y.T. Cheng as Co-PIs, and with about 15 other researchers including S. Jacobshagen. 8/1/14-7/31/19, \$24,000,000.

External Grants Completed

INBRE (NIH) Faculty Fellowship 2012. Title: "The Circadian Clock and Histone Methylation in the Model Organism *Chlamydomonas*". 5/12 to 4/14, \$52,000.

NSF-REU. Title: "Summer Research Experiences in Investigative Biotechnology". 5/10 to 8/12, \$380,543. With Shivendra Sahi and Rodney King as main PIs, and with Sigrid Jacobshagen and about 8 others as contributors.

INBRE (NIH) Bridge Funding 2011. This grant was designed to allow for a renewed application for a NIH-AREA grant, since the old one expired in May of 2011. 5/11-4/12, \$68,250.

NIH-R15 (AREA) grant 2007. Title: "Photoreceptors Involved in *Chlamydomonas reinhardtii* Circadian Entrainment", 6/07-5/11, \$204,750.

INBRE (NIH)-2: Renewal grant to enhance the biomedical research infrastructure in the state of Kentucky, 5/09-4/11, \$98,649. This grant was part of a larger five-year subcontract grant to WKU with Cheryl Davis as the lead investigator and Nancy Rice, Rodney King, Michael Smith, and Sigrid Jacobshagen as Co-PIs.

INBRE (NIH)-1: Grant to enhance the biomedical research infrastructure in the state of Kentucky, 5/07-4/09, \$97,249. This grant was part of a larger five-year subcontract grant to WKU with Cheryl Davis as the lead investigator and Nancy Rice, Rodney King, Jeffrey Marcus, Michael Smith, and Sigrid Jacobshagen as Co-PIs.

INBRE (NIH) Faculty Fellowship 2006. Title: "Action Spectrum for *Chlamydomonas reinhardtii* Circadian Photoentrainment". 5/06 to 4/07, \$12,500.

NSF Kentucky EPSCoR Grant 2002. Title: "Circadian Output Pathway Studies in *Chlamydomonas*", 4/02 to 3/04, \$25,000.

NIH-KBRIN to enhance the biomedical research infrastructure in Kentucky. Main PI Cheryl Davis, Co-PIs Sigrid Jacobshagen, Claire Rinehart, Ken Crawford, and Joe Bilotta. 9/01 to 8/04, \$5,000 per investigator per year.

NSF Kentucky EPSCoR Grant 2000: "Circadian output pathway mutants in *Chlamydomonas*". \$17,486.

NSF Kentucky EPSCoR Grant 1998: "The circadian output pathway system in *Chlamydomonas*". \$16,036.

NSF-ILI equipment grant 1998: "Development of a cell culture facility for undergraduate investigations in eukaryotic gene expression". Laura Roads (main P.I.), Cheryl Davies, Claire Rinehart, Ken Crawford, Sigrid Jacobshagen (co P.I.s). \$27,873.

PRESENTATIONS

Invited Presentations

Seminar Speaker, Department of Biological Sciences, Wayne State University, Detroit, MI, January 14, 2013. Title: "What Can Green Algae Tell Us About Biological Clocks? Regulation and Modeling of Circadian Rhythms in *Chlamydomonas*".

Seminar Speaker, Department of Biology, University of Bielefeld, Germany, August 17, 2009. Title: "Modeling Circadian Gene Expression".

Speaker at the Eighth International Phycological Congress 2005, Durban, South Africa, August 13-19, 2005. Title: "Circadian clock-controlled transcription in the green alga *Chlamydomonas reinhardtii*".

Seminar Speaker, Institute of Biology III, University of Freiburg, Germany, December 16, 2002. Title: "The Circadian Timing System of *Chlamydomonas*".

Seminar speaker, Department of Biology, Central Missouri State University, Warrensburg, October 7, 1999. Title: "Circadian rhythms of gene expression in the green alga *Chlamydomonas reinhardtii*".

Guest speaker at a meeting of the undergraduate honor's society AUG (Association of Undergraduate Geneticists), Biology Department at WKU, October 28, 1998. Title: "Circadian rhythms in *Chlamydomonas*".

Guest speaker at a meeting of the undergraduate honor's society "Tribeta", Department of Biology, October 22, 1996. Title: "Circadian Rhythms in *Chlamydomonas*."

Speaker at the conference "Towards an Understanding of the Molecular Mechanism of Circadian Rhythms", Wohldenberg, Germany, April 10-15, 1994. Title: "Rhythms of cab II, β -tubulin and cytochrome c mRNA abundance in *Chlamydomonas*".

Other Presentations

- "Temporal pattern of trimethylated lysine 4 on histone 3 at rhythmically active promoters in the green alga *Chlamydomonas*." NIH-INBRE Meeting, Louisville, KY, June 4, 2015.
- "Temporal pattern of trimethylated lysine 4 on histone 3 at rhythmically active promoters in the green alga *Chlamydomonas*." 4th Biennial Conference of Rhythms in the Southeast Region (RISER), Lexington, KY, May 23, 2015.
- "The microbe *Chlamydomonas reinhardtii* as model organism for the expression of metabolic genes, including genes circadianly regulated as well as genes likely involved in the synthesis of lignin modifiers." KY EPSCoR 2015 Annual Conference, Lexington, KY, May 22, 2015.
- "Finalizing: Photoreceptors Involved in *Chlamydomonas reinhardtii* Circadian Entrainment; Starting: The Circadian Clock and Histone Methylation in the Model Organism *Chlamydomonas*." NIH-INBRE Meeting, Louisville, KY, October 22, 2012.
- "Photoreceptors that absorb blue, green and red light are involved in circadian clock resetting in *Chlamydomonas*." 15th International Conference on the Cell and Molecular Biology of *Chlamydomonas*, May 14 to May 19, 2012, Potsdam, Germany.
- "Photoreceptors involved in *Chlamydomonas reinhardtii* circadian entrainment." NIH-INBRE Meeting, Louisville, KY, October 11, 2010.
- "The circadian clock affects histone methylation." Departmental Seminar, Western Kentucky University, Bowling Green, KY, March 26, 2010.
- "Modeling Circadian Gene Expression and Identifying *Chlamydomonas*' Clock Photoreceptor." Rhythms in the Southeastern Region Meeting, May 16, 2009, Vanderbilt University, Nashville, TN.
- "Strategies to study input and output pathways of the circadian clock in *Chlamydomonas*." 13th International *Chlamydomonas* Conference and EMBO Workshop on the Cell and Molecular Biology of *Chlamydomonas*, May 27 to June 1, 2008, Hyères-les-Palmiers, France.
- "Circadian Regulation of Rhythms in mRNA Amount is Theoretically Possible Through an Identical Mechanism". UT-ORNL-KBRIN Bioinformatics Summit 2007, April 13 to 15, 2007, Paris Landing State Park, Buchanan, TN.
- "Construction of a New *Chlamydomonas* Phototaxis Machine to Investigate Cryptochrome Involvement in Circadian Clock Entrainment". 12th International Conference on the Cell and Molecular Biology of *Chlamydomonas*, May 9 to 14, 2006, Portland, Oregon.
- "Differential Circadian Regulation of Various Photosynthesis Genes is Theoretically Possible with One Mechanism", 31st Annual Midwest Photosynthesis Meeting, October 28-30, 2005, Turkey Run State Park, IN
- "Circadian transcription: many different regulatory mechanisms or just a few?" Eleventh International Conference on the Cell and Molecular Biology of *Chlamydomonas*, May 11-15, 2004, Kobe, Japan
- "Inputs and Outputs of the Circadian Clock in a Unicellular Model Organism", Seminar Series, Department of Biology, WKU, January 31, 2003, Bowling Green, KY.
- " Screening for *Chlamydomonas reinhardtii* mutants in circadian gene expression", Tenth International Conference on the Cell and Molecular Biology of *Chlamydomonas*, June 11 to 16, 2002, Vancouver, Canada.
- "Minimal number of regulatory mechanisms to achieve rhythms in RNA abundance of all circadian phases", Eighth Meeting of the Society for Research on Biological Rhythms, May 22 to 26, 2002, Jacksonville, FL.

- “ARS2 as a quantitative reporter at the enzyme activity level in *Chlamydomonas* mutant screens”, Ninth International Conference on the Cell and Molecular Biology of *Chlamydomonas*, May 21-26, 2000, Amsterdam, Netherlands.
- “ARS2 as a quantitative reporter at the enzyme activity level in *Chlamydomonas* mutant screens”, Seventh Meeting of the Society for Research on Biological Rhythms, May 10-14, Jacksonville, FL.
- "Unusually numerous and distinct circadian rhythms of mRNA abundance in *Chlamydomonas*", Eighth International Conference on the Cell and Molecular Biology of *Chlamydomonas*, June 2-7, 1998, Lake Tahoe, CA.
- "Unusually numerous and distinct circadian rhythms of mRNA abundance in *Chlamydomonas*", Sixth Meeting of the Society for Research on Biological Rhythms, May 6-10, 1998, Jacksonville, FL.
- "Transcription of *CABII-1* is regulated by the biological clock in *Chlamydomonas reinhardtii*". Seventh International Conference on the Cell and Molecular Biology of *Chlamydomonas*, May 27 - June 1, 1996, Regensburg, Germany.
- "Rhythms of *cab II*, β -tubulin and cytochrome *c* mRNA abundance in *Chlamydomonas* - are they truly circadian, independent of the cell division cycle, and transcriptionally regulated?" Fourth Meeting of the Society for Research on Biological Rhythms, May 4-8, 1994, Jacksonville, FL.
- "Circadian regulation of *Cab* mRNA abundance in *Chlamydomonas*" 32nd Annual Meeting of the American Society for Cell Biology, November 15-19, 1992, Denver, CO (Mol. Biol. Cell 3, 177a)

Student Presentations

- Richard Dawson: “Analysis of Protein Amounts Through Blotting Techniques”, 45th Annual WKU Student Research Conference, March 28, 2015, Bowling Green, KY.
- Brian Goodman: “Amounts of the blue-light photoreceptor plant cryptochrome in *Chlamydomonas* strains that differ in their blue-light sensitivity”, 44th Annual WKU Student Research Conference, March 22, 2014, Bowling Green, KY.
- Robyn Wilson: “Temporal Pattern of Trimethylated Lysine 4 on Histone 3 at Rhythmically Active Promoters in *Chlamydomonas reinhardtii*”, 99th Annual Kentucky Academy of Science Meeting, November 9, 2013, Morehead, KY.
- Gavin Davis: “Ability to reset a circadian rhythm upon light pulses by plant-like cryptochrome knockdown mutants of *Chlamydomonas reinhardtii*”, 43rd Annual WKU Student Research Conference, March 23, 2013, Bowling Green, KY.
- Robyn Wilson: “Temporal Pattern of Trimethylated Lysine 4 on Histone 3 at Rhythmically Active Promoters in *Chlamydomonas reinhardtii*”, 43rd Annual WKU Student Research Conference, March 23, 2013, Bowling Green, KY.
- Paige M. Appleton: "Circadian rhythms of histone methyltransferase expression in *Chlamydomonas reinhardtii*", REU Undergraduate Summer Research Poster Presentations, August 2, 2012, Bowling Green, KY.
- Noelle Spooner: “Using Western Blot Analysis to determine if Cryptochrome expression is reduced in various RNAi strains of *Chlamydomonas reinhardtii*”, 42nd Annual WKU Student Research Conference, March 24, 2012, Bowling Green, KY.
- Jonathan Howton: "Cryptochrome as the candidate photoreceptor for entrainment of the circadian clock by blue light in *Chlamydomonas*", 97th Annual Kentucky Academy of Science

Meeting, November 5, 2011, Murray, KY. (First place in the Graduate Student Competition of the Cellular and Molecular Biology Section.)

Jonathan Howton: "Cryptochrome does not mediate blue light-induced resetting of the circadian clock in *Chlamydomonas reinhardtii*", Rhythms in the Southeastern Region Meeting, May 15, 2011, Vanderbilt University, Nashville, TN.

Jeremy Webb: "Screening RNAi transformants of *Chlamydomonas* for reduced expression of the photoreceptor cryptochrome", 96th Annual Kentucky Academy of Science Meeting, November 13, 2010, Bowling Green, KY.

Margaret Matheny: "Function of the photoreceptors cryptochrome and phototropin in *Chlamydomonas reinhardtii*", REU Undergraduate Summer Research Poster Presentations, July 31, 2010, Bowling Green, KY.

Jennifer Forbes-Stovall: "Blue light can reset the circadian clock in a wild-type strain of *Chlamydomonas reinhardtii*", 14th International Conference on the Cell and Molecular Biology of *Chlamydomonas*, June 6-10, 2010, Norton, MA.

Jonathan Howton: "Investigating cryptochrome as the primary photoreceptor involved in resetting the circadian clock in *Chlamydomonas reinhardtii*". 14th International Conference on the Cell and Molecular Biology of *Chlamydomonas*, June 6-10, 2010, Norton, MA.

Jennifer Forbes-Stovall: "A blue-light photoreceptor is involved in circadian clock resetting in the model organism *Chlamydomonas reinhardtii*". 12th Biannual Meeting of the Society for Research on Biological Rhythms, May 22-26, 2010, Destin, FL.

Shravya Reddy Maddi: "The role of chlamyrodopsin protein in the light entrainment of the circadian clock in *Chlamydomonas reinhardtii*". 95th Annual Kentucky Academy of Science Meeting, November 14, 2009, Newport, KY.

Jonathan Howton: "Testing if cryptochrome is the primary photoreceptor involved in resetting the circadian clock in *Chlamydomonas reinhardtii*." IDeA Regional Meeting, November 10, 2009, Charleston, SC.

Jonathan Howton: "Testing *Chlamydomonas reinhardtii* mutants with reduced cryptochrome for a defective ability to reset their circadian clock". Biology Summer Undergraduate Research Experience Symposium, September 11, 2009, WKU, Bowling Green, KY.

Mira Stoffregen: "Screening RNAi transformants for the reduction of cryptochrome by western blot analysis". Biology Summer Undergraduate Research Experience Symposium, September 11, 2009, WKU, Bowling Green, KY.

Gretchen Frazee: "Detection of the photoreceptor phototropin through western blot analysis." June 5, 2009, 16th Annual National Consortium for Specialized Secondary Schools of Mathematics, Science & Technology Student Research Symposium, Philadelphia, PA.

Jennifer Forbes-Stovall: "Automated Monitoring and Data Analysis of Circadian Phototaxis Rhythms." UT-ORNL-KBRIN Bioinformatics Summit, March 20 to 22, 2009, Fall Creek Falls State Park, TN.

Doran Song and Gretchen Frazee: "Detection of two photoreceptors, phototropin and cryptochrome, through western blot analysis." 39th Annual WKU Student Research Conference, February 1, 2009, Bowling Green, KY.

Jonathan Howton: "Is cryptochrome the light receptor that resets the circadian clock in *Chlamydomonas*?" 39th Annual WKU Student Research Conference, February 1, 2009, Bowling Green, KY.

Jeremy Webb: "Screening RNAi transformants for reduced expression of the photoreceptor cryptochrome." 39th Annual WKU Student Research Conference, February 1, 2009, Bowling Green, KY.

Shravya Reddy Maddi: "The role of chlamyrodopsin protein in the light entrainment of the circadian clock in *Chlamydomonas reinhardtii*." 39th Annual WKU Student Research Conference, February 1, 2009, Bowling Green, KY.

Shobha Silparasetty: "Role of "animal-like cryptochrome" in *Chlamydomonas reinhardtii*." 94th Annual Meeting of the Kentucky Academy of Science, October 31 to November 2, 2008, Lexington, KY.

Jennifer Stovall: "The regular 24-minute switch between the two functions of ECTO-NOX proteins might constitute the pacemaker of the circadian clock." 94th Annual Meeting of the Kentucky Academy of Science, October 31 to November 2, 2008, Lexington, KY.

Jeremy Webb: "Screening RNAi transformants of *Chlamydomonas* for reduced expression of the photoreceptor cryptochrome." Biology Summer Undergraduate Research Experience Symposium, September 5, 2008, WKU, Bowling Green, KY.

Christa Gaskill: "Towards an action spectrum for photoentrainment of the *Chlamydomonas* circadian clock." 13th International *Chlamydomonas* Conference and EMBO Workshop on the Cell and Molecular Biology of *Chlamydomonas*, May 27 to June 1, 2008, Hyères-les-Palmiers, France.

Shobha Silparasetty: "Role of animal-like cryptochrome in *Chlamydomonas reinhardtii*". 38th Annual WKU Student Research Conference, April 12, 2008, Bowling Green, KY.

Daniel Byrd: "Localizing mutations in *Chlamydomonas* insertional mutants defective in circadian transcription." 93rd Annual Kentucky Academy of Science Meeting, November 8-10, 2007, Louisville, KY.

Christa Gaskill: "A new algorithm for analysis of circadian rhythms data generated by a new phototaxis machine." 93rd Annual Kentucky Academy of Science Meeting, November 8-10, 2007, Louisville, KY.

Matthew Young: "Determining the involvement of plant-like cryptochrome in circadian clock entrainment in *Chlamydomonas reinhardtii*." 93rd Annual Kentucky Academy of Science Meeting, November 8-10, 2007, Louisville, KY.

Allison Clark: "Determining the circadian properties of mRNA synthesis from the β -tubulin gene in *Chlamydomonas reinhardtii*." Biology Summer Undergraduate Research Experience Symposium, September 7, 2007, WKU, Bowling Green, KY.

Christa F. Gaskill: "A New Algorithm for Circadian Rhythm Analysis". 37th Annual WKU Student Research Conference, March 31, 2007, in Bowling Green, Kentucky.

Matthew Clifton Young: "RNA Interference Gene Silencing to Study the Circadian Clock in *Chlamydomonas reinhardtii*". 37th Annual WKU Student Research Conference, March 31, 2007, in Bowling Green, Kentucky.

Daniel James Byrd: "Localizing Mutations in *Chlamydomonas* Mutants Defective in Circadian Transcription". 37th Annual WKU Student Research Conference, March 31, 2007, Bowling Green, KY.

Christa Gaskill: "A New Algorithm for Circadian Rhythm Analysis". UT-ORNL-KBRIN Bioinformatics Summit 2007, April 13 to 15, 2007, Paris Landing State Park, Buchanan, TN.

Todd Chandler: "Developing an RNA Interference Construct for Plant-like Cryptochrome in *Chlamydomonas reinhardtii*". WKU Student Research Conference, April 8, 2006, Bowling Green, KY.

Jessica DiLeo: "A PCR Test for the Ble Gene in *Chlamydomonas*". 36th Annual WKU Student Research Conference, April 8, 2006, Bowling Green, KY.

LaJohna Brown and Natasha Dejarnett, "Detection of photoreceptor cryptochrome involved with the biological clock". 34th Annual WKU Student Research Conference, April 3, 2004, Bowling Green, KY

Wesley Smith: "Development of RT-qPCR method for detection of mRNA". 34th Annual WKU Student Research Conference, April 3, 2004 Bowling Green, KY

Wesley Smith: "Development of reverse transcriptase real-time PCR to quantify mRNA amounts in *Chlamydomonas*". Tenth Annual Kentucky EPSCoR Conference, May 13, 2004, Lexington, KY.

Angela Baioni: "Isolating Mutants Defective in Circadian Gene Expression" Ninth Annual Kentucky EPSCoR Conference, May 12, 2003, Lexington, KY.

Mohammad Afnan Khan: "Nuclear Transformation of *Chlamydomonas reinhardtii* to study circadian expression of the beta-tubulin gene". Sigma Xi Student Research Conference, April 6, 2002, WKU.

Nathan Mundell: "Copper-tolerance of *Chlamydomonas reinhardtii* strain CC-125". Sigma Xi Student Research Conference, April 6, 2002, WKU.

Angela Baioni: "*Chlamydomonas reinhardtii*: DNA extraction for mutagen location and frequency determination". Sigma Xi Student Research Conference, April 6, 2002, WKU.

Rebecca Davis: "Extraction of genomic DNA from *Chlamydomonas reinhardtii* mutants to characterize the mutation" Sigma Xi Research Conference at WKU, March 31, 2001.

Afnan Khan: "Study on circadian regulation of the beta-tubulin promoter in *Chlamydomonas reinhardtii* " Sigma Xi Research Conference at WKU, March 31, 2001.

Mingya Huang: "Expression of the ARS gene and CABII-1 gene in *Chlamydomonas reinhardtii* mutants" Sigma Xi Research Conference at WKU, April 1, 2000.

Alex Plocik: "Transformation of *Chlamydomonas reinhardtii* with arylsulfatase reporter constructs for circadian rhythm analysis" Sigma Xi Research Conference at WKU, April 1, 2000.

Katie Leitner: "Separation and identification of the chloroplastic and cytosolic aldolases in *Chlamydomonas reinhardtii*" Sigma Xi Research Conference at WKU, April 1, 2000.

J. Matthew Boling: "Circadian rhythms of the green alga *Chlamydomonas reinhardtii* " Sigma Xi Research Conference at WKU, April 10, 1999.

Wei Yuan: "Study of a circadian rhythm in *Chlamydomonas* by insertional mutation" Sigma Xi Research Conference at WKU, 1998.

Francesco Valenzuela: "Promoter deletion studies of a circadianly controlled reporter gene in *Chlamydomonas reinhardtii*" Sigma Xi Research Conference at WKU, 1998.

Xavier Basseda: "Transformation of *Chlamydomonas reinhardtii* with a β -tubulin promoter and arylsulfatase reporter gene" Sigma Xi Research Conference at WKU, 1998.

Johnathan Whetstine: "Analysis of the *Chlamydomonas reinhardtii* circadian rhythms using radio labeled DNA probes" National Tribeta Meeting at Greenville, SC, 1997.

Johnathan Whetstine: "Analysis of the *Chlamydomonas reinhardtii* circadian rhythms using radio labeled DNA probes" Sigma Xi Research Conference at WKU, 1997.

SERVICE

WKU Service

Chair

Mentoring Committee for Assistant Professor Dr. Ajay Srivastava, Biology Department (2011-present)
Safety Committee, Biology Department (2006-2008, 2011-2013)
Developmental Biologist Search Committee, Biology Department (2010)
Technician Search Committee, Biology Department, Jacobshagen Lab (2007)
Biotechnology Center Director, Biology Department (2004-2007)
Biotechnology Center Coordinator Search Committee, Biology Department (2004, 2005)
Biotechnology Center Codirector, Biology Department (2007-2008)

Member

Tenure and Promotion Committee, Biology Department (2002-present)
Tenure and Promotion Subcommittee, Biology Department (2010-present)
Safety Committee, Biology Department (2001-present)
Curriculum of Biophysics Minor Committee, Physics Department (1997-present)
Sabbatical Committee, Ogden College (2004, 2006, 2011)
Faculty Awards Committee, Ogden College (2002)
Biochemist Search Committee, Chemistry Department (1998, 1999, 2002, 2009)
Vertebrate Physiologist Search Committee, Biology Department (2011-2012)
Microbiologist Search Committee (2001-2002)
Plant Molecular Biologist Search Committee, Biology Department (1997)
Vascular Plant Systematist Search Committee, Biology Department (1998)
Cell Biologist Search Committee, Biology Department (1999)
Post-doc Search Committee, Biology Department, Sahi Lab (2002)
Technician Search Committee, Biology Department, King Lab, (2007)
Recruitment/Public Relations/Scholarships Committee, Biology Department (2000-2008)
Harvard Undergraduate Summer Research Committee (2010-2012)
Bioinformatics and Information Sciences Center, Ogden College (2006-present)
Biotechnology Center, Biology Department (1997-present)
Ad Hoc Committee on Assessment, Biology Department (1999-2002)
Faculty Senate, WKU (1998-1999)
Curriculum Committee, Biology Department (1996-1999)
Facilities and Space Committee, Biology Department (1996-1999)

Biochemistry Major Program Coordinator (1998-present)

Review of Biochemistry Major by WKU (2014)

Organizer of one exercise, Girls in Science Day, WKU (2002)

Member of other Graduate Students' Academic Committee:

Mayank Kapadia (main advisor: Dr. Ajay Srivastava), 2014-
Shawn Smiley (main advisor: Dr. Kinchel Doerner), 2011-2013
Amanda Seaton (main advisor: Dr. Rodney King), 2011-2013
Akhila Bethi (main advisor: Dr. Ken Crawford), 2010-2012

Jitesh Tiwari (main advisor: Dr. Claire Rinehart), 2009-2011
 Jon Faughn (main advisor: Dr. Nancy Rice), 2009-2011
 Amanda Webb (main advisor: Dr. Michael Smith), 2009-2011
 Jahnvi Kancharla (main advisor: Dr. Shivendra Sahi), 2009-2011
 Phani Kunapuli (main advisor: Dr. Shivendra Sahi), 2008-2010
 Alice Wright (main advisor: Dr. Rodney King), 2008-2010
 Eeswarachandra Chamarthi (main advisor: Dr. Claire Rinehart), 2008-2010
 Yinu Wang (main advisor: Dr. Larry Alice), 2007-2011
 S Mapuri (main advisor:), 2007-2009
 Pongsathorn Chotikasemsri (main advisor: Dr. Claire Rinehart), 2007-2009
 Madhuri Jonnalagadda (main advisor: Dr. Rodney King), 2006-2008
 Abhishek Srivastava (main advisor: Dr. Shivendra Sahi), 2004-2006
 Kiranmai Bandaru (main advisor: Dr. Nancy Rice), 2004-2006
 Kalpana Gullapudi (main advisor: Dr. Claire Rinehart), 2003-2005
 Latha Kotha (main advisor: Dr. Claire Rinehart), 2002-2004
 Avinash Baktula (main advisor: Dr. Claire Rinehart), 2002-2004
 Soleil Archila (main advisor: Dr. Nancy Rice), 2002-2004
 Venkata Lakshmi S. Achanta (main adviser: Dr. Ken Crawford), 2001-2003
 B. V. Nandakumar (main advisor: Dr. Cheryl Davis), 2001-2003
 Satish Cheepala (main advisor: Dr. Shivendra Sahi), 2001-2003
 Yong Woon Jung (main advisor: Dr. Claire Rinehart), 2001-2003
 Ravindra Gudavalli (main advisor: Dr. Cheryl Davis), 2001-2003
 Dong Cheng (main adviser: Dr. Cheryl Davis), 2000-2002
 Ronald Chuke (main advisor: Dr. Claire Rinehart), 1997-2000
 Xinnan Niu (main advisor: Dr. Claire Rinehart): 1997-1999
 Kristopher Hodge (main advisor: Dr. Claire Rinehart), 1997-1999
 Susan MacCarthy (main adviser: Dr. Cheryl Davis), 1997-1999
 Angela Scruggs (main adviser: Dr. Laura Rhoads), 1996-1998.

Professional Service

Chair of the Cellular and Molecular Biology Section Kentucky Academy of Science (2007-2008)
 Judge of Presentation Competition, Botany Section, Kentucky Academy of Science (2011)
 Judge at WKU Student Research Conference (1996, 2001, 2002, 2003, 2004)

Ad-hoc manuscript reviews for scientific journals

Biochemistry (2014), Cellular and Molecular Life Sciences (2010, 2011), Journal of
 Biological Rhythms (2007, 2010), Plant Physiology (2005), Plant Molecular Biology (1998,
 1999, 2005), Biological Chemistry (2003), Current Genetics (1998), Journal of Cytometry
 (1997)

Panel Discussion Member, Grant Writing Workshop organized by KBRIN (2010, 2011)

Ad-hoc review of grant proposals

National Institutes of Health (2014), National Science Foundation (2014), Vanderbilt
 University (2009), Natural Sciences and Engineering Research Council of Canada (1997)