

Deborah Bell-Pedersen

Professor & Associate Department Head of Operations
Department of Biology
BSBW 210
Texas A&M University
College Station, TX 77843-3258
Telephone: (979) 847-9237
Fax (979) 845-2891
Email: dpedersen@mail.bio.tamu.edu
<http://www.bio.tamu.edu/FACMENU/faculty/bell-pedersen.htm>
<http://www.bio.tamu.edu/clocks/>

Education:

1980 - 1983 B.S. Biology, State University of New York at Albany
1984 - 1987 M.S. Molecular Biology, State University of New York at Albany
1987 - 1991 Ph.D. Molecular Biology, State University of New York at Albany

Professional Experience:

1984 - 1991 Graduate Research Assistant, New York State Health Department
1987 - 1988 Graduate Teaching Assistant, Recombinant DNA, and Anatomy, SUNY Albany
1991 - 1997 Postdoctoral Research Fellow, Department of Biochemistry, Dartmouth Medical School
1997 - 2002 Assistant Professor of Biology, Texas A&M University
1997 - present Member of the Genetics Faculty, Texas A&M University
1997 - present Member of the Program for the Biology of Filamentous Fungi (PBoFF), Texas A&M University
2003 - 2007 Associate Professor of Biology, Texas A&M University
2003 - 2007 Member of the Center for Environmental and Rural Health
2003 - present Executive Member of the Center for Research on Biological Clocks
2007 - present Professor of Biology, Texas A&M University
2014 - present Associate Department Head of Operations, Biology Department

Honors, Awards and Fellowships:

1984 - 1991 Graduate Research Assistantship, Health Research Inc., Albany, NY
1990 Student Research Award, American Society for Microbiology, Northeastern NY Branch
1991 Distinguished Doctoral Dissertation Award
1992 - 1995 NRSA Postdoctoral Research Fellowship, Dartmouth College, Hanover, NH
2001 Selected as a Texas A&M University Howdy Camp Namesake
2005 Jo Ann Treat Award for Excellence in Research, Texas A&M Research Foundation
2007 Distinguished Achievement Award in Teaching from the Association of Former Students, College of Science Texas A&M University
2007 Invited Fellow; Kavli Institute for Theoretical Physics workshop on Biological Switches and Clocks, Santa Barbara, CA (July-August)
2010 University Distinguished Lecturer, "How Organisms Tell Time" Texas A&M University
2010 Sigma Xi Distinguished Lecturer
2010 Ethel Ashwood Tsutsui Memorial Award Lecture

2011 Davidson Award Lecture, Baylor College
 2013 TAMU Women Former Students' Network Eminent Scholar Award
 2014 Elected Fellow American Academy of Microbiology
 2014-2015 TAMU ADVANCE Administrative Fellow
 2015 TAMU Association of Former Students Distinguished Achievement Award for Research

National and International Service:

1997 - present Reviewer for journals including; Science, Nature, Genetics, PNAS, EMBO, Molecular Microbiology, Journal of Biological Rhythms, Molecular and Cellular Biology, Eukaryotic Cell, Genes and Development, Journal of Biological Chemistry, PLoS Biology, PLoS Genetics.
 Reviewer for several granting agencies including: NIH, NSF, Israel Science Foundation, German-Israeli Foundation, The Wellcome Trust, NWO Genomics, US-Israel Binational Science Foundation.

1999 - 2001 Advisory Board Member for the Journal of Biological Rhythms
 2000 - 2003 Co-chair Neurospora Transcriptional Profiling Working Group
 2000 - 2006 NSF Predoctoral Fellowship Panel Member
 2000 NASA Life Sciences Grant Panel Reviewer (Ground and Flight Based)
 2001 Chair, Chronobiology and Photobiology, Fungal Genetics Conference
 2002 - 2003 OCAST Grant Panel Member
 2002 - 2004 SRBR Program Committee Member
 2002 - 2006 Elected member of the Neurospora Policy Committee
 2002 - 2004 Elected Chair of the Neurospora Policy Committee
 2003 - 2004 Scientific Meeting Co-Organizer, Neurospora 2004 Meeting, Asilomar CA
 2003 - 2005 NIH Panel Member Neurogenesis and Cell Fate
 2004 - 2005 Scientific Session Organizer, Photobiology and Circadian Clocks, 23rd Fungal Genetics Meeting

2004 - present Associate Editor, Fungal Genetics and Biology
 2004 - 2010 Develop and Edit Neurospora Methods Manual (see <http://www.fgsc.net/Neurospora/NeurosporaProtocolGuide.htm>)

2006 - 2009 NIH Neurogenesis and Cell Fate Special Emphasis Panel Member
 2008 - 2015 Editorial Board, Eukaryotic Cell
 2009 Co-organizer 2010 MBI workshop on Circadian Clocks in Plants and Fungi, Ohio State University October 25-29, 2010
 2009 Co-organizer for 9th Mycological Congress IMC9: The Biology of Fungi; Edinburg Scotland

2009 - 2010 Society for Research on Biological Clocks Program Committee Member
 2009 - 2010 NIH Cell Biology IRG Panel Reviewer
 2010 Invited editor of special edition of Fungal Genetics and Biology, on Photobiology
 2010 - 2014 NIH Cellular Signaling and Regulatory Systems Study Section Panel Member
 2011 - 2012 Society for Research on Biological Clocks Program Committee Chair
 2012 - 2014 Society for Research on Biological Rhythms Fundraiser
 2013 - 2015 Society for Research on Biological Rhythms Elected Board Member
 2012 - 2014 Review Editor, Fungal Genetics and Biology
 2014 - present Associate Editor, Journal of Biological Rhythms
 2016 - present NIH NIGMS MIRA Panel Reviewer
 2016 - 2017 Co-organizer, Time of Our Life Symposium, Dartmouth College
 2017 - present Elected Board Member, Fungal Genetics Policy Committee

2018 External Program Review, Department of Biology, Texas Tech University
 2018 - 2019 Journal of Biological Rhythms Editor in Chief Search Committee
 2018 - present NIH P41 grant internal advisory board member "Resource for Native Mass Spectrometry Structural Biology" OSU, TAMU, and WVU

Academic Service Committees:

1998 Department of Plant Pathology Fungal Ecology Faculty Search Committee
 1998 - 2000 Program for the Biology of Filamentous Fungi Student Recruiting and Admissions Committee Chair
 1998 - 2001 Biology Department Seminar Committee
 1999 - 2001 Genetics Faculty Membership Committee
 1999 - 2004 Judge and Chair for Undergraduate Honors Research Competitions
 Judge for Graduate Student Research Competitions
 2000 - 2006 Biology Graduate Programs Committee Chair
 2000 - 2004 Program in Microbial Genetics and Genomics Student Recruiting and Admissions Committee Chair
 2001 - 2003 Biology Department Faculty Search Committee
 2002 - 2004 Department of Plant Pathology Fungal Biology Faculty Search Committee (2 terms)
 2002 - 2008 Genetics Recruiting and Admissions Committee
 2004 Chair Biology Search Committee
 2004 Tenure and Promotion Committee, Brian Shaw Plant Pathology Dept.
 2003 - 2011 Executive Committee, Biology Department, Texas A&M University
 2005 - 2009 Elected Member Council of Principal Investigators, Texas A&M University
 2005 - present Biology Graduate Student Association Faculty Advisor, Texas A&M University
 2006 Biology Department Faculty Search Committee, Texas A&M University
 2007 - 2010 College of Science Faculty Advisory Committee
 2007 - 2010 Council of Principal Investigators Executive Committee
 2008 Department of Biology Prokaryotic Biology Search Committee
 2008 - 2010 Time and Effort Committee
 2008 - 2009 Research Roadmap Committee
 2008 - 2009 Council of Principal Investigators elected Vice Chair
 2009 - 2009 Council of Principal Investigators, elected Chair
 2011 - 2015 Biology Seminar Committee
 2011 - present Biology Dept. Awards Committee
 2011 - 2015 NSF ADVANCE Speaker Committee
 2013 - present Biology Dept. Annual Review Committee
 2013 - present Biology Dept. Executive Committee
 2014 - 2015 College of Science Dean Search Committee
 2014 - present Faculty Mentor, 2 Biology Assistant Professors
 2016 - 2017 Faculty of Genetics Interdisciplinary Program Membership Committee
 2016 - 2017 Association of Former Students Awards Committee
 2017 - 2018 Executive Committee Faculty of Genetics Interdisciplinary Program
 2017 - 2018 Faculty of Genetics Interdisciplinary Program Membership Committee Chair
 2017 RetainU Faculty Mentor, College of Science
 2018 AFS Guidelines Committee Member
 2018 - present Co-chair TAMU Biological Sciences Strategic Planning Team
 2018 - 2019 Organizer for Poster Award Judging for the 2019 Fungal Genetics Society Meeting

Leadership Positions:

- 2003 - present Executive Member of the Center for Research on Biological Clocks, TAMU
I am currently leading an effort to create and fund the TAMU Institute for Circadian Health at TAMU College Station, with participation from the TAMU Institute of Biosciences and Technology in the Houston Medical Center, to facilitate interactions between basic, translational, and clinical researchers to apply the principals of circadian biology to human health.
- 2008 - 2009 Council of Principal Investigators (CPI) Vice Chair and Chair. I served as Vice Chair and Chair of the TAMU CPI, whose mission is to enhance the research enterprise at Texas A&M University.
- 2011-present I have held several leadership positions in the Society for Research on Biological Rhythms (SRBR) and the Fungal Genetics Society, with a mission of increasing diversity in the field. I was the program director for the 2012 biannual SRBR Meeting, and in this role, I emphasized diversity in the speakers for the plenary and concurrent sessions. While serving on the SRBR board, I initiated an awards program to recognize the achievements of junior faculty in the field. I also served as co-chair of the 2017 biannual Fungal Genetics meeting, and again I emphasized representation of women and minorities speaking at the meeting. In addition, I established training workshops and mixers for our students and postdocs. I now serve as an elected board member of the Fungal Genetics Policy Committee.
- 2014-2015 TAMU ADVANCE Fellow. I was selected as an ADVANCE Administrative Fellow, which was a program to help women in STEM fields succeed in administrative positions.
- 2014 - present Associate Department Head of Operations, Biology Department
In this position, I am in charge of developing and overseeing our faculty mentoring program, which assists junior and mid-career faculty. I also coordinate our awards program, and chair our Tenure and Promotion and Annual Review Committees. I also started a Microbiology Masters Program with opportunities for internships in companies to help students interested in careers in Biotechnology, or to help prepare students for medical and other professional schools.
- 2015 – 2018 Executive Member of the Interdisciplinary Program in Genetics and Genomics TAMU. In this role, I served as the chair of the Membership Committee, and I provided input on curricula, budgets, integration of the program with other programs on campus, graduate student admissions and recruitment, and awards.

Teaching:

New Courses Developed

BIOL 682	1 cr	Graduate Student Research Seminar Series
BIOL 601	3 cr	Videoconference course on Biological Clocks
BIOL 491	3 cr	Fungal Functional Genomics Research Lab for Undergraduates (with Dr. Matthew Sachs)

Courses Taught

MICR 445	3 cr	The Biology of Viruses
BIOL 681-602	1 cr	Seminar in Departmental Colloquium
BIOL 681-604	1 cr	Seminar in Circadian Clocks
MICR 614	3 cr	Microbial Development
MICR 689-602	3 cr	Special Topics in Signaling

BIOL 601 3 cr Biological Clocks
MICR 351 3cr Microbiology

Research Interests

Research in my lab focuses on determining how the circadian clock functions in organisms to regulate daily rhythms in gene expression, behavior, and physiology. Because of the ability to combine biochemistry and a powerful suite of genetic tools, we use the fungus *Neurospora crassa* as a model system. Clock dysfunction in humans is associated with a wide range of diseases, including cardiovascular disease, cancer, metabolic disorders, mental illness, sleep disorders, and aging. In addition, daily changes in metabolism and cell division rates influence the efficacy and toxicity of many pharmaceuticals, including cancer drugs. Therefore, knowing how clocks work to control rhythmic gene expression, and what genes are regulated by the clock, is critical for the development of therapeutics.

Research Support:

Current:

08/01/99-07/31/19 NIH/GM R01 GM058529 (Bell-Pedersen, PI)
Molecular Genetic Analysis of Fungal Circadian Rhythms
Annual Direct \$237,500

01/01/15-12/31/20 NIH/GM R01 GM113673 (Bell-Pedersen, PI)
Systems Biology of the Circadian Clock Output Network
(coPI James Galagan, Boston University)
Annual Direct \$326,596

01/15/18-01/14/19 CoS STRP (Bell-Pedersen, PI)
Chronotherapeutics in glioblastoma: leveraging circadian rhythms in p38
MAPK activity
Total Direct \$50,000

05/01/18-04/30/23 NIH/GM R35 GM126966 (Bell-Pedersen, PI)
Mechanisms of Circadian Clock Control of mRNA Translation
Annual Direct \$487,872

08/01/18-07/31/19 NIH/GM R35 GM126966 Administrative Supplement (Bell-Pedersen, PI)
Mechanisms of Circadian Clock Control of mRNA Translation
Direct \$58,209

Past:

08/01/16-07/31/17 NIH/GM R01 GM058529 Administrative Supplement (Bell-Pedersen, PI)
Molecular Genetic Analysis of Fungal Circadian Rhythms
Direct \$28,175

08/01/16-07/31/17 NIH/GM R01 GM113673 Administrative Supplement (Bell-Pedersen, PI)
Systems Biology of the Circadian Clock Output Network
Annual Direct \$71,657

NIH/GM R01 GM106426 (Bell-Pedersen, PI)
*Determining the Mechanism of Temperature Compensation of the
Circadian Clock*

10/01/15-9/30/17 JGI-EMSL Collaborative Science Initiative (JECISI)
Specialized Ribosomes: A New Frontier in Gene Regulation

9/01/16-8/31/17 TAMU Strategic Areas Interdisciplinary Research Seed Grants

- New tools for mining transcriptomics data: Identification of light- and clock-regulated.*
- 09/01/10-08/31/15 NSF DUE (J. Walton, PI)
UBM Integrated Undergraduate Research Experiences in Biological and Mathematical Sciences
Co- PIs Deborah Bell-Pedersen, A. Dabney, M. Fujiwara, K. Fu, M. Boggess
- 04/01/09-03/31/15 NIH P01 GM068087 (Dunlap, PI)
Functional Analysis and Systems Biology of Filamentous Fungi
Co-PIs Katherine A. Borkovich, James Galagan, Louise N. Glass, Heather Hood, Stephen Osmani, Michael Plamann, Matthew Sachs, Eric Selker, Jeffery Townsend, Deborah Bell-Pedersen, Michael Freitag.
- 7/1/00 – 6/30/12 NIH/NINDS PO1 HL114576
Coordination of Circadian Physiology of Diverse Species.
PI Deborah Bell-Pedersen, Co-PI's Vincent Cassone, Susan Golden, David Earnest, Terry Thomas, and Mark Zoran.
- 09/01/04-03/31/06 Center for Environmental and Rural Health Pilot Program, Texas A&M University
A Circadian-Based Approach to Treating Aspergillus
PI Deborah Bell-Pedersen
- 3/30/99 - 3/30/00 Interdisciplinary Research Initiative Grant, Texas A&M University.
Determination of Fungal Mating Pheromone Response and Function.
Co-PI's Daniel Ebbole and Neal VanAlfen.
- 2001 Life Sciences Research Instrumentation. Texas A&M University 2001.
Deborah Bell-Pedersen, PI.

Past Trainer for the following:

- 2000-2003 Life Sciences Training Program, Texas A&M University
Development of the Graduate Program in Microbial Genetics and Genomics.
Jim Hu, PI.
- 2001-2003 Life Sciences Training Program, Texas A&M University
Biological Clocks Training Program.
Vincent Cassone, PI.

INVITED SEMINARS (1998-present):

- 1998 6th Meeting of the Society for Research on Biological Rhythms, Amelia Island, FL
6th International Mycological Congress, Jerusalem, Israel
Genetics Department, Texas A&M University
Heart of Texas Microbiology Meeting, UT Houston Medical School
Lost Pines Molecular Biology Conference, Bastrop TX
Southeastern Texas Clocks Meeting, College Station, TX
- 1999 British Mycological Society: Sensory responses of fungi. Manchester, U.K.
Gordon Conference on Chronobiology, Barga Italy
International Congress on Chronobiology, Washington DC
PBoFF Symposium, Texas A&M University
20th Fungal Genetics Conference, Asilomar, CA
University of Texas, Houston Medical School

2000 University of Houston, Department of Biology and Biochemistry
Mycological Society of America, Burlington VT
Neurospora 2000, Asilomar, CA
Complex Clocks, Edinburgh Scotland

2001 Department of Plant Pathology and Microbiology, Texas A&M University
Genomics in Neurospora, Albuquerque, NM
Chronobiology Gordon Conference, Newport RI
21st Fungal Genetics Conference, Asilomar CA

2002 University of Texas, Houston, Microbiology and Molecular Genetics Department
8th Meeting of the Society for Research on Biological Rhythms, Amelia Island FL
Neurospora 2001, Asilomar, CA
PBoFF Symposium, Texas A&M University
Southeastern Texas Clocks Meeting, Houston, TX
SUNY Plattsburg, Plattsburg, NY, Biology Dept.
Southwestern University, TX
Regional Mycology Meeting, San Antonio TX
Neurospora Sequence Analysis Workshop, Whitehead Institute MIT, Boston

2003 University of Oklahoma, Dept of Zoology
University of Wisconsin, Madison, Dept of Plant Pathology
22th Fungal Genetics Conference, Asilomar, CA
Bradley University, Biology Department
Texas A&M University, Department of Chemistry

2004 9th Meeting of the Society for Research on Biological Rhythms, Amelia Island FL

2005 Chronobiology Gordon Conference, Newport RI
University of Michigan, East Lansing, Dept of Plant Pathology
University of Oregon, Corvallis, Institute of Molecular Biology
National Academy of Science 17th Annual Frontiers of Science Symposium,
Irvine CA

2006 University of Virginia, Dept of Biology Charlottesville VA Invited by Graduate
Students

2007 UCLA, Los Angeles CA, Department of Chemistry and Biochemistry
XXIII Fungal Genetics Conference in 2007, Invited Plenary Speaker
Cold Spring Harbor Symposium on Quantitative Biology May 30-June 4,
KALVI Institute for Theoretical Physics –Clocks and Switches 3 weeks, July 2007
University of Stavanger, Norway
University of Oregon, Biochemistry Dept

2008 York University
Session Organizer, Fungal Genetics Gordon Conference
Neurospora 2008, Asilomar CA

2009 Plant Sensing, Response and Adaptation to the Environment, Keystone Meeting, MO
Fungal Genetics Meeting, Asilomar, CA.
Rice University, Biochemistry Dept
Frontiers in Fungal Biology, Ensenada Mexico

2010 Neurospora Meeting, Asilomar CA
IMC9, Edinburg Scotland

2011 Chronobiology Gordon Conference, Barga Italy
UCSD, Chronobiology Conference

2012 Neurospora 2012, Asilomar CA
Jenelia Farms, Chronobiology
Molecular and Cellular Fungal Biology Gordon Conference

	EMSL, Pacific Northwest Labs
	University of Georgia, Dept. of Microbiology
2013	Albert Einstein College of Medicine, Dept. of Genetics
	Virginia Tech, Molecular Cell Biology and Biotechnology
	UT Houston, Dept. of Biochemistry
	State University of New York at Albany
2014	Society for Research on Biological Rhythms Meeting, Big Sky MT
2015	University of Delaware
	CSH Asia Clock Meeting, Shouzhou China
2016	Neurospora 2016, Asilomar CA
	Genetics Program, TAMU
	Society for Research on Biological Rhythms Meeting, Tampa FL
	TAMU Math Conference
2017	North Carolina State, Biochemistry Dept.
	ASM Meeting, New Orleans
	European Microbiology Meeting, Edinburgh Scotland
	Fungal Stress Response Conference, Brazil
	Chronobiology Gordon Conference Discussion Leader, Stowe VT
2018	Photosensory Receptors and Signal Transduction GRC, Barga Italy
	Virginia Tech University, Biology Dept
	University of Pennsylvania, Center for Sleep and Neurobiology Invited Seminar
	Society for Research on Biological Rhythms Meeting, Amelia Island, FL
	Neurospora Meeting, Asilomar CA
2019	International Symposium on Fungal Stress, Brazil

Professional Affiliations:

American Association for the Advancement of Science
 Society for Research on Biological Rhythms
 Genetics Society of America
 American Society for Microbiology (ASM)

Publications (Google Scholar h-index 35; Scopus h-index 33):

- 1) Gott, J.M., Zeeh, A., Bell-Pedersen, D., Ehrenman, K., Belfort, M., and Shub, D.A. (1988). Genes within genes: Independent expression of phage T4 intron ORF's and the genes in which they reside. Genes Devel. 2: 1791-1799.
- 2) Quirk, S.M., Bell-Pedersen, D., Tomaschewski, J., Ruger, W., and Belfort, M. (1989). The inconsistent distribution of introns in the T-even phages indicates recent genetic exchanges. Nucl. Acid. Res. 17: 301-325.
- 3) Quirk, S.M., Bell-Pedersen, D., and Belfort, M. (1989). Intron mobility in the T-even phages: High frequency inheritance of group I introns promoted by intron open reading frames. Cell 56: 455-465. *The first two authors contributed equally to this study.
- 4) Bell-Pedersen, D., Quirk, S.M., Aubrey, M., and Belfort, M. (1989). A site-specific endonuclease and coconversion of flanking exons associated with the mobile *td* intron of phage T4. Gene 82: 119-126.
- 5) Bell-Pedersen, D., Quirk, S.M., Clyman, J., and Belfort, M. (1990). Intron mobility in phage T4 is dependent upon a distinctive class of endonucleases and independent of DNA sequences encoding the intron core: mechanistic and evolutionary implications. Nuc. Acid. Res. 18: 3763-3770.

- 6) Bell-Pedersen, D., Quirk, S.M., Bryk, M., and Belfort, M. (1991). I-*Tev*I endonuclease encoded by the mobile td intron recognizes binding and cleavage domains on its DNA target. Proc. Natl. Acad. Sci. USA 88: 7719-7723.
- 7) Bell-Pedersen, D., Galloway, J.G.S., and Belfort, M. (1991). A transcriptional terminator in the *thyA* structural gene of *Escherichia coli* and construction of a viable *thyA::KmR* deletion. J. Bact. 173: 1193-1200.
- 8) Bell-Pedersen, D., Dunlap, J.C., and Loros, J.J. (1992). The *Neurospora* circadian clock-controlled gene, *ccg-2*, is allelic to *eas* and encodes a fungal hydrophobin required for formation of the conidial rodlet layer. Genes Devel. 6: 2382-2394.
- 9) Dunlap, J.C., Loros, J.J., Aronson, B.D., Johnson, K.A., Liu, Q., Lindgren, K.M., Bell-Pedersen, D., Garceau, N. (1994). Genetic and Molecular Analysis of the *Neurospora* Clock. Brain Research Reviews 18: 329-330.
- 10) Bell-Pedersen, D., Shinohara, M., Loros, J.J., and Dunlap, J. (1996). Clock-controlled genes isolated from *Neurospora crassa* are late night- to morning-specific. Proc. Natl. Acad. Sci. USA. 93: 13096-13101.
- 11) Bell-Pedersen, D., Dunlap, J.C., and Loros, J.J. (1996). Distinct cis-acting elements mediate clock, light and developmental regulation of the *Neurospora crassa eas (ccg-2)* gene. Mol. Cell. Biol. 16: 513-521.
- 12) Bell-Pedersen, D., Garceau, N., and Loros, J.J. (1996). Circadian rhythms in fungi. Journal of Genetics. 75: 387-401.
- 13) Loros, J. J., Dunlap, J. C., Crosthwaite, S., Bell-Pedersen, D., Garceau, N., Shinohara, M., Cho, H. (1996) Light responsive genes, and the mechanism of the circadian clock in *Neurospora*, in Landmarks in Photobiology from Proceedings of the 12th International Congress on Photobiology :129-133
- 14) Bell-Pedersen, D. (1998) Keeping pace with *Neurospora* circadian rhythms. Microbiology 144: 1699-1711.
- 15) Bell-Pedersen, D. (2000) Circadian rhythmicity in *Neurospora crassa*. Fungal Genet Biol. 29: 1-18.
- 16) Bell-Pedersen, D., Crosthwaite, S. K., Lakin-Thomas, P.L., Merrow, M., Vinsjevik, M. (2001) The *Neurospora* circadian clock-simple or complex. Philos. Trans. R. Soc. Lond. 356: 1697-1709.
- 17) Morgan, L. Feldman, J., and Bell-Pedersen, D. (2001) Genetic interactions between clock mutations in *Neurospora crassa*: can they help us to understand complexity. Philos. Trans. R. Soc. Lond. 356: 1717-1724.
- 18) Bell-Pedersen, D., Lewis, Z.A., Loros, J.J., and Dunlap, J.C. (2001) The *Neurospora* circadian clock regulates a transcription factor that controls rhythmic expression of the output *eas(ccg-2)* gene. Mol. Micr. 41: 897-909.
- 19) Shrode, L., Lewis, Z.A., White, L.C., Bell-Pedersen, D., Ebbole, D.J. (2001) *vvd* is required for light adaptation of conidiation-specific genes of *Neurospora crassa*, but not circadian conidiation. Fungal Genet Biol 32: 169-181.
- 20) Zhu, H., Nowrousian, M. Kupfer, D., Colot, H.V. Berrocal-Tito, G., Bell-Pedersen, D., Roe, B., Loros, J.J., and Dunlap, J. C. (2001) Analysis of ESTs from two starvation time of day-specific libraries of *Neurospora crassa* reveals novel clock-controlled genes. Genetics 157: 1057-1065.
- 21) Correa A., and Bell-Pedersen, D. (2002) Distinct signaling pathways from the circadian clock participate to regulate rhythmic conidiospore development in *Neurospora crassa*. Euk. Cell 1: 273-280.
- 22) Shinohara, M.L., Correa, A., Bell-Pedersen, D., Dunlap, J.C., and Loros, J.J. (2002) *Neurospora* clock-controlled gene-9 (*ccg-9*) encodes trehalose synthase: Circadian regulation of stress responses and development. Euk Cell 1: 33-43.

- 23) Bobrowicz, P. Pawlak, R., Correa, A., Bell-Pedersen, D., and Ebbole, D. (2002) The *Neurospora crassa* pheromone precursor genes are regulated by the mating type locus and the circadian clock. Mol. Micro. 45: 795-804.
- 24) Lewis, Z.A., Correa, A., Schwerdtfeger, C., Link, K., Xie, X., Gomer, R., Thomas, T., Ebbole, D. and Bell-Pedersen, D. (2002) Overexpression of WHITE COLLAR-1 (WC-1) activates circadian clock-associated genes, but is not sufficient to induce most light-regulated gene expression in *Neurospora crassa*. Mol. Micro 45: 917-931.
- 25) Greene, A. V., Keller, N., Haas, H., and Bell-Pedersen, D. (2003) A circadian oscillator in *Aspergillus spp.* regulates daily development and gene expression Euk. Cell 2: 231-237.
- 26) Morgan, L., Greene, A.V. and Bell-Pedersen, D. (2003) Circadian and light-induced expression of luciferase in *Neurospora crassa*. Fungal Genetics and Biology. 38: 327-332.
- 27) Galagan, J., Calvo, S.E., Borkovich, K., Selker, E., Read, N., FitzHugh W., Ma, L-M., Smirnov S., Purcell S., Rehman B, Elkins,T. Engels,R., Wang, S., Nielsen, C.B., Roy, A., Ianakiev, P., Davis, R., Nelson, MA, Werner-Washburne, M., Mewes, W., Kinsey, J., Braun, E., Zelter, A., Shulte U., Kothe, G., Jedd, G., Bell-Pedersen, D., Staben, C., Marcotte, E., Greenberg, D., Selitrennikoff, C.P., Foley, K., Naylor, J., Stange-Thomann, N., Barrett, R., Butler, J., Gnerre, S., Jaffe, D., Qui, D., Kamvysselis, M., Kamal, M., Metzenberg, R., Perkins, D., Dunlap, J., Glass, L., Yarden, O., Plamann, M., Seiler, S., Radford, A., Orbach, M., Berglund, J.A., Voelker, R., Mannhaupt, G., Natvig, D., Aramayo, R., Ebbole, D., Freitag, M., Paulsen, I., Sachs, M., Lander, E.S., Nusbaum, C., and Birren, B. (2003) The genome sequence of the filamentous fungus *Neurospora crassa* Nature 422: 859-869.
- 28) Bailey, M.J., Beremand, P.D., Hammer, R., Bell-Pedersen, D., Thomas, T.L. and V.M. Cassone (2003) Transcriptional profiling of the chick pineal gland, a photoreceptive circadian oscillator and pacemaker. Mol. Endocrinol. 17: 2084-2095.
- 29) Correa, A. Lewis, Z.A, Greene, A.V., March I.J., Gomer, R. and Bell-Pedersen, D. (2003) Microarray profiling reveals multiple oscillators regulate circadian gene expression in *Neurospora*. Proc. Natl. Acad. Sci. USA. 100: 13597-602.
- 30) Vitalini, M., Morgan, L., March, I.J., and Bell-Pedersen, D. (2004) A genetic selection for circadian output pathway (cop) mutations in *Neurospora crassa*. Genetics 167: 119-29.
- 31) Borkovich, KA, Alex, LA, Yarden, O., Freitag, M., Turner, G.E., Read, N.D., Seiler, S., Bell-Pedersen, D. Paietta, J. Plesofsky, N. Plamann, M., Goodrich-Tanrikulu, M., Schulte, U., Mannhaupt, G., Nargang, F.E., Radford, A., Selitrennikoff, C, Galagan, J.E., Dunlap, J.C., Loros, J.J., Catcheside, D., Inoue, H., Aramayo, R., Polymenis, M., Selker, E.U., Sachs, M.S., Marzluf, G.A., Paulsen, I., Davis, R., Ebbole, D.J., Zelter, A., Kalkman, E., O'Rourke, R., Bowring, F., Yeadon, J., Ishii, C., Suzuki, K., Sakai, W., Pratt. R. 2004 Lessons from the genome sequence of *Neurospora crassa*: Tracing the path from genomic blueprint to multicellular organism. MMBR 68, 1-108.
- 32) Xie X, Wilkinson HH, Correa A, Lewis ZA, Bell-Pedersen D, Ebbole DJ. (2004) Transcriptional response to glucose starvation and functional analysis of a glucose transporter in *Neurospora crassa*. Fungal Genet Biol. 41(12):1104-19.
- 33) Allen GC, Farnell Y, Bell-Pedersen D, Cassone VM, Earnest DJ.(2004) Effects of altered Clock gene expression on the pacemaker properties of SCN2.2 cells and oscillatory properties of NIH/3T3 cells. Neuroscience. 127(4):989-99.
- 34) Pogue A.M., Price-Lloyd, N., Bell-Pedersen, D., Heintzen, C., Loros, J.L., Dunlap, J.C. (2005) Assignment of an essential role for the *Neurospora frequency* gene in circadian entrainment to temperature cycles. Proc. Natl. Acad. Sci. USA 102: 2210-2215
- 35) Bell-Pedersen, D, Cassone, VM, Earnest, DJ, Golden SS, Hardin, PE, Thomas TL, Zoran, MJ (2005) Circadian rhythms from multiple oscillators: lessons from diverse organisms.

- Nat Rev Genet. 6:544-556.
- 36) Galagan, JE, Calvo SE, Cuomo C, Ma L-J, Wortman, J, Batzoglou S, Lee S-I, Baştürkmen M, Spevak CC, Clutterbuck J, Kapitonov V, Jurka J, Scazzocchio C, Farmam, M, Butler J, Purcell S, Harris S, Braus GH, Draht O, Busch S, D'Enfert C, Bouchier C, Goldman GH, Bell-Pedersen D, Griffiths-Jones S, Doonan JH, Yu J, Vienken K, Pain A, Freitag M, Selker EU, Archer DB, Peñalva MA, Oakley BR, Momany M, Tanaka T, Kumagai T, Asai K, Machida M, Nierman WC, Denning DW, Caddick M, Hynes M, Paolett, M, Fischer R, Miller B, Dyer P, Sachs MS, Osmani SA, & Birren, B. (2005) Sequencing of *Aspergillus nidulans* and Comparative Analysis with *A. fumigatus* and *A. oryzae* Nature 438: 1105-1115.
 - 37) de Paula, R., Lewis, Z.L., Greene, A., Seo, K.S., Vitalini, M., Morgan, L., Bennett, L., Gomer, R.H., and Bell-Pedersen, D. (2006) Two circadian timing circuits in *Neurospora crassa* cells share components and regulate distinct rhythmic processes. J. Biol. Rhythms 21:159-68.
 - 38) Liu, Y. and Bell-Pedersen, D. (2006) Circadian rhythms in *Neurospora* and other filamentous fungi. Euk Cell, 5:1184-1193.
 - 39) Vitalini, MW, dePaula, RM, Bell-Pedersen, D. (2006). The rhythms of life: circadian output pathways in *Neurospora* J. Biol. Rhythms 21: 432-444.
 - 40) dePaula, R.M., Vitalini, M.W., Gomer, R.H., and Bell-Pedersen, D. (2007) Complexity of the *Neurospora crassa* circadian clock system: Multiple loops and oscillators. Cold Spring Harbor Symposia on Quantitative Biology: Clocks and Rhythms, Volume 72:345-51
 - 41) Vitalini, M., dePaula, R., Goldsmith, C., Jones, C., Borkovich, K., and Bell-Pedersen, D. (2007) Circadian rhythmicity mediated by temporal regulation of the activity of a p38 MAPK. Proc. Natl. Acad. Sci USA 104(46):18223-8
 - 42) dePaula, R.M., Lamb, T.M., Bennett, L., and Bell-Pedersen, D. (2008) A connection between MAPK pathways and circadian clocks. Cell Cycle 7:2630-4.
 - 43) Bell-Pedersen, D., and Borkovich, K.A. (2009) The 2009 George W. Beadle Award Jay C. Dunlap. Genetics 181: 831-833
 - 44) Smith, K.M., Sancar, G., Dekhang, R., Sullivan, C.M., Li, S., Bredeweg, E.L., Priest, H., McCormick, R.F., Tag, A., Thomas, T., Sancar, C., Carrington, J.C., Bell-Pedersen, D., Brunner, M., Stajich, J.E., Freitag, M. (2010) Transcription factors in light and circadian clock signaling networks revealed by genomewide mapping of direct targets for *Neurospora* white collar complex. Euk Cell 9: 1549-1556.
 - 45) Bell-Pedersen, D. (2010) Fungal Photobiology, Introduction. Fungal Genet Biol. 47(11):879-80.
 - 46) Lamb TM, Goldsmith CS, Bennett L, Finch KE, Bell-Pedersen D. (2011) Direct Transcriptional Control of a p38 MAPK Pathway by the Circadian Clock in *Neurospora crassa*. PLoS One. 6(11):e27149.
 - 47) Lakin-Thomas PL, Bell-Pedersen D, Brody S. (2011) The genetics of circadian rhythms in *Neurospora*. Adv Genet. 2011;74:55-103.
 - 48) Lamb, TM, Finch, KE, and Bell-Pedersen, D. (2012) The *Neurospora crassa* OS MAPK pathway-activated transcription factor ASL-1 functions to generate circadian rhythms In pathway responsive clock-controlled genes. Fungal Genet Biol. 49(2):180-18.
 - 49) Bennett, LD, Beremand, P, Thomas TL, and Bell-Pedersen, D (2013) Circadian activation of the mitogen-activated protein kinase MAK-1 facilitates rhythms in clock-controlled genes in *Neurospora crassa*. Euk Cell 12:59-69. PMID: PMC3535850
 - 50) Lamb, TM, and Bell-Pedersen, D. (2013). Regulation of gene expression in *Neurospora crassa* with a copper responsive promoter. G3. 3: 2273-2280 PMID: PMC3852388
 - 51) Goldsmith, CS and Bell-Pedersen, D. (2013) Diverse roles for MAPK signaling in circadian clocks. Adv. Genet. 84: 1-39 PMID 24262095

- 52) Wu, C, Yang, F, Smith KM, Petersen M, Dekhang R, Zhang Y, Zucker, J, Bredeweg, EL, Mallappa, C, Zhou X, Townsend, JP, Galagan, JE, Freitag, M, Dunlap, JC, Bell-Pedersen, D, Sachs, MS. (2014) Genome-wide characterization of light-regulated genes in *Neurospora crassa*. G3 4: 1731-1745.
- 53) Hurley JM, Dasgupta A, Emerson JM, Zhou X, Ringelberg CS, Knabe N, Lipzen A, Lindquist E, Daum C, Barry K, Grigoriev IV, Smith K, Galagan J, Bell-Pedersen D, Freitag M, Cheng C, Loros J, Dunlap JC (2014) Analysis of clock regulated genes in *Neurospora* reveals widespread post-transcriptional control of metabolic potential. Proc. Natl. Acad. Sci USA 111: 16995-17002
- 54) Nsa I, Karunarathna, N, Liu, X, Huang, H, Boettger, B, and Bell-Pedersen, D. (2015) A novel cryptochrome-dependent oscillator in *Neurospora crassa*. Genetics 199: 233-245
- 55) Caster, SZ, Castillo, K, Sachs MS, Bell-Pedersen, D. (2016) Circadian clock regulation of mRNA translation through eukaryotic elongation factor eEF-2. Proc. Natl. Acad. Sci USA. 113: 9605-9610.
- 56) Dekhang, R, Wu, C, Smith, KM, Lamb TM, Petersen, M., Bredeweg, E, Ibarra O, Emerson, JM, Karunarathna, N, Lyubetskaya A, Azizi, E, Hurley, JM, Dunlap, JC, Galagan, J, Freitag, M, Sachs, MS, and Bell-Pedersen, D. (2017) The *Neurospora* transcription factory ADV-1 transduces light signals and temporal information to control rhythmic expression of genes involved in cell-fusion. G3 7:129-142.
- 57) Ivanov I, Wei J, Caster S, Smith K, Michel A, Zhang Y, Firth A, Freitag M, Dunlap J, Bell-Pedersen D, Atkins A, and Sachs M (2017) Translation initiation from conserved non-AUG codons provides additional layers of regulation and coding capacity. MBio 8: 844-817.
- 58) Hughes ME, Allada R, Anafi R, Arpat AB, Asher G, Baldi P, de Bekker C, Bell-Pedersen, D, Blau J, Brown S, Ceriani MF, Chen Z, Chiu J, Cox J, Crowell AM, Dijk DJ, DiTacchio L, Duffield GE, Dunlap JC, Eckel-Mahan K, Esser KA, Gachon F, Gatfield D, de Goede P, Golden SS, Green C, Harer J, Harmer S, Haspel J, Hastings MH, Herzel H, Herzog ED, Hoffmann C, Hong C, Hughey JJ, Hurley JM, Johnson C, Kay SA, Koike N, Kornacker K, Kramer A, Lamia K, Leise T, Lewis SA, Li J, Li X, Liu AC, Loros JJ, Martino TA, Menet JS, Meroow M, Millar AJ, Mockler T, Naef F, Nagoshi E, Nitabach MN, Olmedo M, Nusinow DA, Rand D, Reddy AB, Robles MS, Roenneberg T, Rosbash M, Rund SSC, Sassone-Corsi P, Sehgal A, Sherrill-Mix S, Skene DJ, Storch KF, Takahashi JS, Ueda HR, Weitz C, Westermarck P, Wijnen H, Wu G, Yoo SH, Young M, Zielinski T, Hogenesch, JB. (2017) Guidelines for genome-scale analysis of biological rhythms. J Biol Rhythms 32:380-393
- 59) Wu, C., Dasgupta, A., Shen, L., Bell-Pedersen, D., Sachs, M (2018) The cell free protein synthesis system from the model filamentous fungus *Neurospora crassa*. Methods S1046-2023
- 60) Goldsmith, CS, Kim, SM, Karunarathna, N., Farnell, Y, Neuendorff, N, Toussaint, LG, Earnest, DE, and Bell-Pedersen, D. (2018) Inhibition of p38 MAPK activity leads to cell type-specific effects on the molecular circadian clock and time-dependent reduction of glioma cell invasiveness. BMC Cancer 18: 43

Manuscripts submitted or in preparation

- 1) Baek, M, Virgilio, S, Lamb, T., Ibarra, O, Andrade, JM, Bell-Pedersen, D, Bertonlini, MC, and Hong, C. (in revision PNAS) Circadian clock regulation of the glycogen synthase (*gsn*) gene by the transcription factor WCC is critical for rhythmic glycogen metabolism in *Neurospora crassa*.
- 2) Karunarathna, N, Lamb, T, Baker, C, Hong, CI, Moyes, R, Dunlap, JC, and Bell-Pedersen, D. (in preparation) Coupled oscillators control circadian rhythms in *Neurospora crassa*.

- 3) Castillo, K, Karki, S, Ding, Z, Caster, S, and Bell-Pedersen, D. (in preparation) Mechanism of circadian-clock-specific mRNA translation in *Neurospora crassa*
- 4) Karki, S, Ding, Z, and Bell-Pedersen, D. (in preparation) Mechanism of circadian clock regulation of translation initiation by eIF2- α .
- 5) Caster, S, Werry, M, Castillo, K, Sachs, M, Bell-Pedersen, D (in preparation) The effects of light on translation in *Neurospora* cells.
- 6) Malaki-Tabriz, N, Jung, J, Sachs, M, Bell-Pedersen, D, Galagan, J (in preparation) Modeling a circadian transcription factor network that regulates rhythmic phase
- 7) Jung, J, Werry, M, Galagan, J, Sachs, M, Bell-Pedersen, D (in preparation) Rhythmic phase of transcription factor ADV-1 and its outputs is controlled by a transcription factor network .w

Invited Book Chapters:

- 1) Dunlap, J.C., Loros, J.J., Aronson, B.D., Johnson, K.A., Liu, Q, Lindgren, K.M., Bell-Pedersen, D., Garceau, N. (1992). *Genetic and Molecular Analysis of the Neurospora Circadian Clock* ed. Tudzynski, P. and Stahl, U. Verlag Chemie, Berlin. 253-265.
- 2) Dunlap, J.C., Loros, J.J., Aronson, B. Merrow, M, Crosthwaite, S., Bell-Pedersen, D., Lindgren, K., Garceau, N., and Johnson, K. (1995). Genetic Basis of the Circadian Clock. (1995) in *Circadian Clocks and Their Adjustment*, ed. J. Waterhouse. John Wiley & Sons, Chichester. Ciba Foundation Symposium No. 183: 3-17.
- 3) Dunlap, J.C., Loros, J.J., Merrow, M., Crosthwaite, S., Bell-Pedersen, D., Garceau, N., Shinohara, M. Cho, H., and Luo, C. (1996). The Genetic and Molecular Dissection of a Prototypic Circadian System. *Progress in Brain Research* (Elsevier), Vol. III (eds. Buijs, R.M.) pp 11-27.
- 4) Dunlap, J.C., Loros, J.J., Crosthwaite, S., Liu, Y., Bell-Pedersen, D., Garceau, N., Shinohara, M., Luo, C., Collett, M., Cole, A.B., Heintzen, C. (1997). The Circadian Regulatory System in *Neurospora*. *Soc. for Gen. Micro.* (Cambridge University Press)
- 5) Bell-Pedersen, D. (2001) Circadian Rhythms in *Neurospora crassa*. In *Molecular Biology of Fungal Development*. ed. Osiewacz, H. Marcel Dekker, New York. pp 187-214.
- 6) Correa, A., Lewis, Z.A., Greene A.V., and Bell-Pedersen, D., (2003) Molecular genetics of circadian rhythms in *Neurospora* *Applied Mycology and Biotechnology-Fungal Genomics* (vol. 3). Elsevier Science pp.43-63.
- 7) Correa, A., Lewis, Z.A., Greene, A.V., Vitalini, M., Morgan, L., Seo, Kyung Suk ,and Bell-Pedersen, D. (2005) Diverse circadian output pathways in *Neurospora crassa*. *The Circadian Clock in Eukaryotic Microbes*. Eurekah Bioscience.
- 8) Vitalini, M.W., Dunlap, J.C., Heintzen, C., Liu, Y., Loros, J.J., and Bell-Pedersen (2010) Circadian Rhythms. In *Cellular and Molecular Biology of Filamentous Fungi*. Borkovich and Ebbole, Eds. ASM press. P442-466.