Society for Developmental Biology
2013-2014 Election

FOR EACH CATEGORY, VOTE FOR ONE CANDIDATE ONLY
Online Election Deadline: May 20, 2013

Candidates for President-elect

LEE NISWANDER

EDUCATION: Ph.D. (Genetics) Case Western Reserve Univ, Cleveland, OH, 1990. M.S. (Biochemistry, Biophysics and Genetics) University of Colorado Health Sciences Center, Denver, 1985. B.A. (Chemistry) University of Colorado, Boulder, 1980.

APPOINTMENTS: Professor, Pediatrics Dept, Section Head of Developmental Biology, University of Colorado and Children's Hospital Colorado, Denver CO, 2004-present. Investigator, Howard Hughes Medical Institute, 1997-2014. Member and Professor, Sloan-Kettering Institute and Cornell University Medical College, 2003-2004. Associate Member and Associate Professor, Sloan-Kettering Institute and Cornell University Medical College, 1998-2003. Assistant Member and Assistant Professor, Sloan-Kettering Institute and Cornell University Medical College, 1993-1998. Postdoctoral Fellow, Univ. of California, San Francisco (with Gail Martin), 1990-1993.

HONORS: Howard Hughes Medical Institute Investigator, 1997-2014; Harvey Society Lecture, 2008; Harland Winfield Mossman Developmental Biologist Award, 2002; Irma T. Hirschl-Monique Weill-Caulier Trusts Career Scientist Award, 1997-2001; Presidential Early Career Award for Scientists and Engineers, 1996; Frederick R. Adler Chair for Junior Faculty, 1996-1997; NIH, James A. Shannon Director's Award, 1995; Pew Scholars in the Biomedical Sciences Award, 1995-1999; American Cancer Society Junior Faculty Research Award, 1995-1997; American Cancer Society Postdoctoral Fellowship, 1991-1993; NIH NRSA Predoctoral Traineeship, 1984-1989.

PROFESSIONAL ACTIVITIES: Scientific Advisory Board, Whitney Laboratory for Marine Bioscience, Univ of Florida, 2013-2018; Leader, Developmental Origins of Health and Disease Research Program, Children's Hospital Colorado, 2011-2015; Editorial Committee for Annual Review of Cell and Developmental Biology, 2010-2015; Instructor, Woods Hole Marine Biological Laboratories Embryology Course, 1997-present; Reviewer for the NIH Director's New Innovator Award Program, 2010-2012; Cancer Prevention and Research Institute of Texas (CPRIT) scientific review comm., 2009-2012;

TRUDI SCHUPBACH

EDUCATION: PhD (Biology) University of Zurich, Switzerland 1978. Masters Diploma (Zoology), University of Zurich 1974.

APPOINTMENTS: Henry Fairfield Osborn Professor of Biology, Department of Molecular Biology, Princeton University (1994 – pres), HHMI Investigator 1999-present, Associate Professor of Molecular Biology (1990-1994), HHMI Associate Investigator (1994-1999), Research Biologist, Princeton University (1985-1990), Postdoctoral Fellow, Department of Biology, Princeton University (1981-1984), Postdoctoral Fellow and Oberassistant, University of Zurich (1979-1981).

HONORS: Honorary Degree, University of Zurich, Switzerland, 2011; Fellow, American Association for the Advancement of Science, elected 2007; Edwin F. Conklin Medal, Society for Developmental Biology (2006); National Academy of Sciences, elected 2005; Associate Member European Molecular Biology Organization, elected 2000; Fellow, American Academy of Arts and Sciences, elected 1999; Alfred Schlafli Prize for thesis research awarded by Swiss Zoological Society 1981.

PROFESSIONAL ACTIVITIES: Associate Editor Genetics (1988 – pres), Editorial Board PNAS (1995 – pres.) Editorial Board Developmental Cell (2001 – pres), President of the Genetics Society of America (2008), Vice President of the Genetics Society of America (2007), Member, Board of Directors, Genetics Society of America (2002-2005), President of the Drosophila Board (2001-2002); Lecturer, Embryology Course, MBL, Woods Hole, MA, (2004;2005;2006;2008)
1996; Chair, Damon Runyon Scientific Advisory Committee (1996-1997); Chair Gordon Conference of Developmental Biology 1991.

RESEARCH INTERESTS: The genetic and molecular mechanisms that establish developmental asymmetries in the egg and embryo of Drosophila. In particular we have

Associate Director, Graduate Program in Biomedical Sciences Program, Univ of CO, 2007-2012; Co-Director Embryology Course, Marine Biological Laboratory, Woods Hole, MA, 2006-2011; Weizmann Institute Scientific advisory committee of Developmental Biology Program (2010); Damon Runyon Scientific Advisory Committee, 2006-2009; NIH Developmental Biology, Genetics, and Teratology (DBGT) Branch Report to Council Advisory Panel, 2006; Co-organizer, Santa Cruz Conference on Developmental Biology, 2004; Director, Molecular Biology Program, Cornell Univ. Medical College Graduate School, 2001-2004; Member, NIH CDF5 & Developmental 2 Study Section, 2001-2005 (Chair 2004-2005); Northeast Representative and Board of Directors, Society for Developmental Biology, 1999-2005; Swedish Foundation for Strategic Research, 2002, 2004; Member, American Cancer Society Scientific Advisory Panel on Development, Differentiation and Cancer, 1997-2000; National Research Council on Space Biology and Medicine - developmental biology workshop, 1996, 1999; Co-organizer, SDB Northeast Regional Developmental Biology meeting, 1996; Ad Hoc reviewer for NIH, NSF, Wellcome Trust, Rett Syndrome Foundation, multiple study sections and Program Project Grants, 1996-present. Editorial Boards, *genesis* (2000-2008), *Developmental Biology* (2005-present), *Nature Review Genetics* Highlights Advisory Panel (2002-2004).

RESEARCH INTERESTS: Our research over the years has spanned limb and lung development, neural patterning, neural tube closure and brain development, locomotor circuits, and skeletal formation in model (mouse, chick) and non-model (bat) systems. Our current focus is on using our strengths in developmental biology and embryology to uncover the mechanisms underlying birth defects, especially neural tube defects. We have discovered a number of novel genes that are required for neural tube closure and determined their mechanisms of action. We have developed a robust live imaging system to visualize mammalian neural tube closure to understand the cellular basis of normal and abnormal development. Our most recent focus has turned to gene-environment interactions and epigenetic regulation of neural development.

STATEMENT: I have long been associated with SDB and I strongly support its mission in education, professional development, and as an intellectual home for developmental biologists that study a great diversity of organisms. I have served in numerous capacities that promote Developmental Biology at many levels: national (SDB board, NIH & NSF review panels), international (Woods Hole Embryology Course, Annual Reviews Cell & Developmental Biology), regional (SDB Northeast representative, now in the SDB Southwest region), and local (high school science co-sponsor, summer lab experiences for high school and college students) and I have a strong commitment to graduate education (graduate program director and student advisor at Sloan-Kettering/Cornell and at Univ of Colorado) and as a research mentor (32 former and focused on signaling between the germline and the surrounding follicle cells which involves the Drosohila epidermal growth factor receptor, and plays a central role in anterior-posterior and dorsoventral patterning of the egg and the embryo. More recently we have also worked on meiotic checkpoints, piRNA pathways, and we have used the follicle cell epithelium in the Drosophila ovary as model system to study cellular polarity establishment and maintenance.

STATEMENT: Developmental Biology is an exciting area of science, which is as true today as it was when I first encountered classical developmental experiments in my undergraduate education. The study of complex multicellular processes requires a multifacetted approach and a willingness to think “out of the box”, as the multitude of developmental forms and shapes of cells, organs and organisms continues to surprise and challenge us. In recent years the advances in microscopy coupled to quantitative image evaluation, the advances in sequencing and large data set analysis, as well as new methods to probe the genetic underpinnings of development, have allowed us to revisit many of the important developmental processes and understand them at stunning new levels.

The full benefit of these new approaches has, however, to come from fruitful interactions, collaborations and discussions that take place within the community. The Society for Developmental Biology plays a crucial role in fostering such interactions and in disseminating results through its annual meetings and publications in its journal, Developmental Biology. I am honored to have been nominated for the position of SDB president. I would like to support and enhance the synergies that derive from bringing scientists together who use different approaches and different organisms to study common themes. I would like to ensure that the annual meeting as well as the regional meetings continue to be important events where experts from all different parts of our field meet, exchange information, start discussing possible collaborations and come away newly energized and excited. I would also like to promote opportunities for graduate students and postdoctoral fellows to present their work and to participate in practical workshops where they will be exposed to new techniques and new ideas. In addition, the Society’s work in education and outreach are also important undertakings that I would like to further support and expand.

WEBSITES: http://www.molbio1.princeton.edu/schupbach

http://molbio.princeton.edu/faculty/molbio-faculty/127-schupbach

current trainees, all of whom have remained in scientific careers).

I value the diversity of model, non-model and newly-emerging organisms that are being used to inform an understanding of developmental mechanisms and evolution. SDB provides a powerful format to bring together this collective wisdom and to share ideas and experimental methodologies to enhance studies in all systems. The national and regional meetings are vibrant venues that expand the opportunities for communicating results, learning new approaches, and networking with scientists at all career levels. I strongly applaud the focus on early career researchers. One challenge that we must address in this age of tightened lab budgets and far-flung regions is maintaining the vibrancy and regional representation at these meetings. Public outreach is also vital in this time of shrinking financial resources and changing political and educational climate. It is important that the voices of scientists are heard in the debates and in public policy decisions. Much can be gained by engaging the public and policy makers and helping them to learn about how research in developmental biology can uncover the mechanistic basis of birth defects and cancer and lead to ideas for potential therapies, how we can begin to understand the wonders of unexplored biodiversity within our oceans and outside our back door, and the potential for our studies to inform research in regenerative medicine. It is an honor to be nominated for President of SDB and, if chosen to serve, I am excited to represent SDB and Developmental Biology within our community and to the public.

WEBSITE:
http://www.hhmi.org/research/investigators/niswander.html

Candidates for Junior Faculty

ALEX NECHIPORUK

EDUCATION: Ph.D. University of Utah, Salt Lake City, UT (Human Genetics) 2002; M.S. UCLA, Los Angeles, CA (Biomathematics) 1996; B.S. Moscow Medical University, Moscow, Russia (Biology) 1991.

APPOINTMENTS: Assistant Professor, Department of Cell and Developmental Biology, Oregon Health & Science University, Portland, OR, 3/1/08 - present; Postdoctoral Fellow, Department of Biostructure, University of Washington, Seattle, WA, 4/1/2003-2/28/2008

HONORS: American Cancer Society Research Scholars Award, 2013; Basil O'Connor Award, 2010, Pathway to Independence Award, 2007; Individual NRSA Award, 2004;

PROFESSIONAL ACTIVITIES: NWDB Conference co-organizer, 2013; Panel member, NIH special emphases study section ZRG1 CB-Z, 2013; Panel member, NSF Animal Developmental Systems cluster, 2009; Ad-Hoc Reviewer, NIH and NSF, 2009 - present; Lecturer, MBL Zebrafish course, 2008; Member, Society for Developmental Biology, 2000 – present; Member, American Society for Cell Biology, 2011 – present.

RESEARCH INTERESTS: Development of the peripheral nervous system in vertebrates; role of axonal transport during axon extension and maintenance.

STATEMENT: I am honored to run for a junior faculty representative of the Society for Developmental Biology. My career as a developmental biologist began in 1997 when I took on studying organ regeneration in adult zebrafish as a graduate student. As a postdoc, I used classical embryological and genetic approaches to study development of the vertebrate peripheral nervous system. I continue working on various aspects of the nervous system development as an independent investigator. Over the years, I have witnessed how the field transformed itself and now it is truly an exciting time to be a developmental biologist, as advances in microscopy, gene editing, high throughput sequencing and other technologies make our dream experiments come true. On the other hand, we are now facing deep federal budget cuts that will have painful consequences for many laboratories around the country. That is why I believe it is of outmost importance to educate public in value of biomedical science, especially basic research. Thus, if elected I will not only continue a long-standing SDB tradition to promote research and career development, I will also work with SDB to advocate for basic research and use SDB infrastructure to enhance public outreach. Finally, as someone

JOEL SMITH

EDUCATION: Ph.D. (Oncological Sciences) University of Utah 2000, B.S. (Biochemistry) University of California, Davis 1993.

APPOINTMENTS: 2010-present, Assistant Scientist, Eugene M. Bell Center for Regenerative Biology and Tissue Engineering and Assistant Scientist, Josephine Bay Paul Center for Comparative Molecular Biology, Marine Biological Laboratory; 2011-present, Assistant Professor (MBL), Department of Molecular Biology, Cell Biology, and Biochemistry, Brown University; 2007-2010, California Institute of Regenerative Medicine Fellow, Division of Biology, California Institute of Technology; 2004-2007, Postdoctoral Scholar, Division of Biology, California Institute of Technology (with Eric Davidson); 2000-2004, Postdoctoral Fellow, Cell Biology Department, Memorial Sloan-Kettering Cancer Center (with Malcolm Moore).

HONORS: 2007-2010, California Institute for Regenerative Medicine Stem Cell Training Award; 1996-1997, Brain Tumor Research Fellowship, Huntsman Cancer Institute, University of Utah; 1994-1995, Ministry of Education, Culture, Sports, Science and Technology (Japan) Monbusho Research Scholar Award, Tsukuba University, Japan.

PROFESSIONAL ACTIVITIES: 2012-present, Marine Biological Laboratory (MBL) Bell Center and Bay Paul Center Seminar Series Co-Organizer; 2013, NESDB Regional Meeting Poster/Presentation Judge; 2011-2012, MBL Next-Gen Sequencing Interest Group Co-Organizer; 2011, Evo-Devo Journal Club Co-Organizer; 2011-2012, MBL Bell Center Faculty Search Committee Chair; 2010, MBL Gene Regulatory Network Course Presenter; 2011, MBL History and Philosophy of Science Seminar Facilitator; 2005-2009, California Institute of Technology Summer Undergraduate Research Fellow Mentor (>12 students over five years); 2005-2008, Caltech Gene Regulatory Network Summer Undergraduate Research Fellows Course Director; 2007, Caltech, Division of Biology, Evolution of Development Tutorial Instructor; *ad hoc* reviewer for numerous journals including *Developmental Biology*, for NSF, etc.

RESEARCH STATEMENT: My laboratory seeks to elucidate regulatory mechanisms controlling pattern formation during early embryogenesis. We take a

who fairly recently finished his postdoctoral work, I recognize that transition from a postdoc to independent investigator could be somewhat stressful, as you navigate through the process of searching for jobs and obtaining extramural funding. If elected I would like to increase opportunities for postdoctoral fellows to get more exposure through short talk presentations at the national SDB meeting; I also want to give postdocs more opportunities to interface with the senior faculty who can advise them on how to apply for extramural funding and put together a job application package.

WEBSITE: http://www.ohsu.edu/academic/nechiporuk-lab

comparative approach, analyzing the gene regulatory networks governing cell fate specification in diverse animals. Establishing new model systems for developmental biology studies is therefore a central part of our research. The "omics" tools are great enabling technologies in this respect, opening the way to many new models for developmental biology. As important as large-scale global assays are in establishing systems, our research focus continues to be on fine-scale, mechanistic experiments testing network function and organization. In looking at detailed network dynamics, we have identified certain network motifs that perform discrete "tasks". We are interested in how this modular structure contributes to both the robust nature of developmental networks and their evolutionary adaptability and have recently defined testable network models in animals from diverse and understudied phyla.

STATEMENT: I am honored to be nominated for the position of SDB Junior Faculty Representative. I am an enthusiastic advocate of diverse animal/plant systems for developmental biology, broadly defined, with a partuclar interest in new and emerging models, and of career mentoring for young scientists. Organizing the poster competition at the annual meeting as Junior Faculty Representative is a great opportunity for pursuing both goals. My own career path has involved a number of "noncanonical pathways", a beginning in physics and biochemistry, a masters program in Japan in biosystems, one of the first of its kind anywhere, graduate studies in stem cell and cancer biology, and a transition from human and rodent models to some of the more exotic reaches of the animal tree (as one of my colleagues quipped, the wrong direction along the funding gradient). My exposure to many fields drives my appreciation for the importance of diverse models. Along the way, I mentored a number of students, though this was never an obligation of any position I held. By the time I took my first faculty position, I realized I had already mentored well over 20 students. It would therefore be my privilege to continue SDB's tradition of career support for junior scientists. I would also be honored to take part in community and resource building activities. I believe it is clear developmental biology is entering a transformative era made possible by new technologies, one that will see a far deeper mechanistic understanding of the regulation of complex system behaviors, at least in part due to the establishment and expansion of new and emerging plant and animal model systems. With this potential however come challenges in developing interdisciplinary ties. I would be interested as a member of the SDB board to support efforts in establishing new model systems and indeed novel approaches and practices, as well as in welcoming practitioners from other fields. In addition to moves already in place to have the annual meeting reflect these needs for multiple approaches, one practical step might be

the establishment of web-based bioinformatics resources, “Bases” such as FlyBase and WormBase, but for newer research organisms, along with easily accessible analytical tools. I would be honored to have the opportunity to take part in these and the many other important society activities.

WEBSITES: www.joelsmithlab.org

http://www.mbl.edu/bell/current-faculty/joel-smith

Candidates for Mid-Atlantic Representative

GERALDINE SEYDOUX

EDUCATION: Ph. D. (Genetics) Princeton U., 1991; B. S. (Biochemistry) U. of Maine, 1986.

APPOINTMENTS: Professor of Molecular Biology and Genetics, Johns Hopkins University School of Medicine, 2004 to present. Investigator, Howard Hughes Medical Institute 2005-present. BCMB graduate program, Policy Committee, 2003-present. Associate Professor, Johns Hopkins, 2000-2004. Assistant Professor, Johns Hopkins, 1995-2000. Postdoctoral Fellow, Carnegie Institute of Washington, 1991-1995.

HONORS: Professors' Award for Excellence in Teaching, 2009. John D. and Catherine T. MacArthur Fellowship, 2001. Kirsch Investigator Award, 2001. Presidential Early Career Award for Scientists and Engineers, 1999. Searle Scholar, 1996. David and Lucile Packard Fellow, 1996. American Cancer Society, Junior Faculty Research Award, 1996. Basil O'Connor Starter Scholar Research Award, 1996. Helen Hay Whitney Post-Doctoral Fellowship, 1991.

PROFESSIONAL ACTIVITIES: Editor: *Development*, 2011-present; *WormBook*, 2004-11. Editorial Boards: *Cell*, *Developmental Cell*. Advisory Boards: Searle Scholars, 2011-present, Life Science Research Foundation, 2011-present, Genetic Society of America, 2005-8. NIH Study Sections: DEV1, 2003-2008, 2011, 2013; Reproductive Biology, 2002-2003; Genetics, 2001. Meeting Organizing Committees: ASCB Annual Meeting, 2013; SDB 69th Annual Meeting, 2010; RNA Granules Workshop, 2008; International *C. elegans* Meeting, 2003 and 2005; CSHL Germ Cells Meeting, 2000.

RESEARCH INTERESTS: My lab studies the development of the germline. Ongoing projects include: regulation of the oocyte-to-embryo transition by the MBK-2 kinase, specification of germ cell fate by Nanos, and the role of germ granules in RNA regulation.

STATEMENT: I have been a developmental biologist since a graduate student in the late 80s, and have been most pleased to see our field grow to embrace all the disciplines of modern biology, from genetics to cell and structural biology, and from biochemistry to modeling and systems biology. Throughout the years, SDB has facilitated interactions among this diverse group through international meetings and educational outreach and I look forward to supporting these long-standing goals. The current funding climate also calls for a renewed commitment to mentoring and advocacy. I am particularly interested in creating new mentoring opportunities for post-

MARK VAN DOREN

EDUCATION: PhD (Biology) 1994 University of California, San Diego; BA (Biochemistry) 1987 Cornell University

APPOINTMENTS: Professor (2011-present), Associate Professor (2006-2011), Assistant Professor (1999-2006), Department of Biology, Johns Hopkins University; Co-Director CMDB Graduate Program, Johns Hopkins University (2006-2013); Postdoctoral Fellow (1994-1997), Dr. Ruth Lehmann, Whitehead Institute, MIT and Skirball Institute, NYU Medical Center.

HONORS: Pew Scholar in the Biomedical Sciences (2000-2003); American Cancer Society Postdoctoral Fellow (1995-1997); Society for Developmental Biology Award for Achievement in Embryology (1992).

PROFESSIONAL ACTIVITIES: Organizer, 55th Annual Drosophila Research Conference (2014, San Diego); Organizing Committee EMBO Workshop on the Molecular and Developmental Biology of Drosophila (2010-2014, Crete, Greece); Organizer, National Institute for Basic Biology 60th Annual Conference (2012, Okazaki, Japan); Workshop Organizer, Annual Drosophila Research Conference (2009-present); Session Chair, Annual Drosophila Research Conference (2007, 2010); Organizer, Mid-Atlantic Society for Developmental Biology Meeting (2006); Grant Review Panels (NIH: DEV1, DEV2, CMIR, NICHD Developmental Biology Sub-committee, NSF, Wellcome Trust). Manuscript reviews (too many to count).

RESEARCH INTERESTS: My lab studies the development of the germ cells and gonad and how sexual determination is used to create sexual dimorphism.

STATEMENT: As is the case for many students, the MBL Woods Hole Embryology Course was transformative for me and I consider my life as a Developmental Biologist starting at that point. Since then, my research and teaching interests have never strayed far from that home. Among the many important missions of the SDB, I believe that one of the most critical at this time is to be a strong voice in support of basic research to the general population, our government, and our own NIH. While no one doubts the importance of translational research, where will translational research be when there aren't enough basic discoveries left to translate? We need to remind even some of our own scientific leaders of the role of basic research in driving human discovery and improving human health. Related to this is a need to remind these same groups of the power of the individual investigator. There are times and

docs and junior faculty, and in fostering new ties between our society and NIH and NSF to strengthen funding for model systems research. I am honored to be nominated for Mid-Atlantic Representative and hope to have the opportunity to represent you.

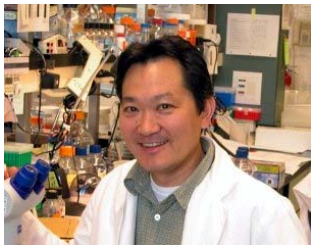
WEBSITE: http://www.bs.jhmi.edu/MBG/SeydouxLab

places for large projects—but they can also be very distracting. Because they sound grand, they are readily latched onto for political purposes even when they might not always represent the best use of limited resources. It is, after all, the incredible creativity and innovation of individuals and small groups—"parallel processing" if you will—that has made our nation's biomedical research program so successful.

WEBSITE: http://www.bio.jhu.edu/Faculty/VanDoren

Candidates for Northwest Representative

CHRIS AMEMIYA



EDUCATION: Ph.D. (Genetics), Texas A&M University, College Station, TX, 1987. B.S. (Genetics), Purdue University, West Lafayette, IN, 1981. Postdoctoral Fellow, Tampa Bay Research Institute (formerly Showa University Research Institute), St. Petersburg, FL, 1987 – 1990. Postdoctoral Fellow, Biomedical Sciences Division, Lawrence Livermore National Laboratory, Livermore, CA, 1990 – 1993.

APPOINTMENTS: Full Member, Benaroya Research Institute at Virginia Mason, Molecular Genetics Program, Seattle, WA, 2004 – present. Full Professor (Affiliate appointment), Department of Biology, University of Washington, Seattle, WA, 2004 – present. Full Member, Cell and Molecular Biology Program, University of Washington, Seattle, WA, 2005 – present. Training Program, Genome Sciences, University of Washington, Seattle, WA, 2006 – present. Program Director, Developmental Systems and Evolution & Development, Integrative and Organismal Systems, National Science Foundation, 2007-2008. Participating Faculty, Institute for Stem Cell & Regenerative Medicine, University of Washington, Seattle, WA, 2007 – present. Associate Member, Benaroya Research Institute at Virginia Mason (formerly Virginia Mason Research Center), Molecular Genetics Program, Seattle, WA, 2001 – 2003. Joint appointment (Associate Professor), Department of Microbiology and the Immunology Training Program, Boston University School of Medicine, MA, 1999 – 2001. Director of Developmental Genetics, Center for Human Genetics, Boston University School of Medicine, Boston, MA, 1998 – 2001. Associate Professor of Human Genetics and Pediatrics, Center for Human Genetics, Boston University School of Medicine, Boston, MA, 1997 – 2001. Assistant Professor of Human Genetics and Pediatrics, Center for Human Genetics, Boston University School of Medicine, Boston, MA, 1993 – 1997.

HONORS: Director's Award, National Science Foundation, "Excellence in Program Management," 2008. Postdoctoral Fellowship in Molecular Studies of Evolution, Alfred P. Sloan Foundation, New York, NY, 1988 – 1990. Postdoctoral Fellowship, Individual National Research Service Award, NIH, Bethesda, MD 1988. Tom Slick Graduate Research Fellowship, Texas A&M University, College Station, TX, 1985 – 1986. Stoye Award, best student presentation in genetics, development

CECILIA MOENS

EDUCATION: PhD (Molecular Genetics) University of Toronto, Canada, 1993. B.Sc. York University (Toronto) 1987.

APPOINTMENTS: Assistant (1998-2003), Associate (2003-2007), Full Member (2007-present), Division of Basic Sciences, Fred Hutchinson Cancer Research Center; Investigator, HHMI 2000-2012. Post-doctoral Fellow, Institute of Neuroscience, University of Oregon (with Charles Kimmel) 1993-1998.

HONORS: Presidential Early Career Award (2000); Basil O'Connor Starter Scholar Award, March of Dimes (1999), Medical Research Council of Canada "Centennial" Fellowship (1997-1998); Human Frontiers Science Program Long Term Research Felloswhip (1994-1996); Natural Sciences and Engineering Research Council of Canada Scholarship (1987-1991); Governor General of Canada Award for Undergraduate study (1998).

PROFESSIONAL ACTIVITIES: Reviewing**:** Member, NIH Dev-1 Study Section, 2005-2007; Ad-Hoc Reviewer: NIH Dev-1 (2012), ZRG (2009, 2013), Canadian Institutes of Health (Genomics, 2009). Advisory Boards**:** Zebrafish International Resource Center (2005-2011); Sanger Center Mouse and Zebrafish Genetics Program (2011-present); Meeting Organizer: Northwest Developmental Biology Meeting, Friday Harbor (2006); Santa Cruz International Development Meeting (2006); 9th International Meeting on Zebrafish Genetics and Development (2010); Strategic Conference of Zebrafish Investigators (2013); Seattle Winter Developmental Biology Symposium (Annually 2007-present). Teaching: Faculty, MBL (Woods Hole) Course on Zebrafish Genetics and Development, 1998-present; Co-Director 2002-2006; Area Director, Development Stem Cells and Aging, Molecular and Cell Biology Graduate Program, University of Washington (2012-present). Editorial Boards: Mechanisms of Development, Developmental Dynamics.

RESEARCH INTERESTS: My lab studies mechanisms of vertebrate brain patterning and morphogenesis using the zebrafish hindbrain as our in vivo genetic model system. We also study the role of planar cell polarity in directed neuron migration in the hindbrain neuroepithelium. Recently we have collaborated with human genetics colleagues at the University of Washington to use zebrafish to understand the cellular and developmental basis of Joubert syndrome, a human ciliopathy.

STATEMENT: Developmental biology is more relevant than

and morphology at the annual meeting of the American Society of Ichthyologists and Herpetologists, Knoxville, TN, 1985.

PROFESSIONAL ACTIVITES: Meetings Organized: "*Cis* Sequence Regulation and its Evolution," RIKEN Center for Developmental Biology, Kobe, Japan, 2008. "Genomics and the Life Aquatic," Friday Harbor Laboratories, WA, 2006. Zebrafish meetings, Boston, MA, 1998 – 2001.
Editorial Boards: *Journal of Experimental Zoology (Molecular and Developmental Evolution)*, 1998 – present. *TheScientificWorld JOURNAL (Development and Embryology Domain)*, 2005 – 2010. *GENE*, 2005 – 2009. *BMC EVODEVO*, 2010 – present. *Genesis, The Journal of Genetics and Development, 2010 – present.*
Review Panels: NIH *ad hoc* Study Sections or Special Emphasis Panels (32), DOE/JGI panels (2), NSF panels (4), NOAA panel (1). Currently a standing member of NIH DEV1 Study Section (through 2018).
Program Director: NSF, 2007-2008 (Developmental Systems and Evo-Devo, Integrative Organismal Systems, Biology Directorate); also administered grants in Tree of Life and underrepresented minority PI program (RIG/CAABP).
Course Instructor: Evolution of Complex Systems (Winter Course), Okinawa Institute of Science and Technology, Okinawa, Japan

RESEARCH INTERESTS: My laboratory uses an interdisciplinary approach in order to better understand evolutionary and developmental aspects of vertebrate novelty and innovations, with particular emphasis on the immune system and morphogenesis of body plans. We seek to meld modern genomics approaches, evolutionary biology, population genetics theory and developmental biology into a coherent line of investigation. We use "deep branches" in vertebrate phylogeny to gain insights into vertebrate evo-devo. Of late we have been very interested in understanding the origins and developmental mechanisms used to generate the parallel immune system of the sea lamprey and to tie these to our findings that the lamprey undergoes programmed genome rearrangement to remove 20% of its genome during development. In addition, I have been involved in a number of genomics efforts, including the recently sequenced sea lamprey and living coelacanth.

STATEMENT: I am honored to be nominated for Northwest Representative of SDB. I became intrigued and smitten by developmental biology when I first began collaborating, in 1996, with the late Frank Ruddle on the evolution of vertebrate Hox genes. Although trained mostly in genetics and genomics, I was eager to learn about mouse development and transgenic technology, and how we could integrate genomics and embryology in order to make evolutionary inferences. This was a time of intense learning ever. As human geneticists use exome sequencing to rapidly identify the mutations causing human diseases from autism and mental retardation to dysmorphologies and cancer predisposition, they are running up against genes that are very familiar to developmental biologists. Just in the last few months, -catenin mutations have been found to cause a form of mental retardation, PDGFRB mutations cause a brain calcification disorder, and HOXC13 mutations cause a form of ectodermal dysplasia. The developmental biology literature, based on years of research in model organisms, points clinicians to the underpinnings of their patient's disorders, to candidate modifying genes and in some cases, to therapies. And when human genetics identify genes without known functions, developmental biologists will be able to use genetics, biochemistry and in vivo cell biology in model organisms to discover the developmental underpinnings of these human genetic diseases. The SDB, together with FASEB, is the voice of developmental biologists in North America and it has the opportunity and the responsibility to raise awareness of the importance and relevance of our discipline, particularly in the current funding climate. I look forward to the opportunity to represent the developmental biology community of the Pacific Northwest as the SDB continues to fulfill these goals.

Of all the areas of biology, the fundamental questions asked by developmental biologists are perhaps the most intuitively captivating to non-experts. I have admired SDB's efforts to make images, information and embryos available to K-12 and undergraduate students, and I hope to be able to participate in that effort in the future. I have participated in the SDB's Northwest Regional Developmental Biology Meeting annually since 1994 and have seen first-hand the value of these meetings in advancing the careers of our best students and post-docs. I am excited to have the opportunity to promote the goals of the SDB in an official capacity as the Northwest Representative.

WEBSITE: http://labs.fhcrc.org/moens/index.html

for me, and Frank & Gunter Wagner (Yale) and I managed to procure a collaborative NSF grant on HOX cluster evo-devo; this was a major turning point in my career. In addition to this work, I began collaborating with Marianne Bronner (Caltech) in 2006 on sea lamprey development and worked in her laboratory on lamprey embryology. In 2007 I had just enough confidence in my developmental biology acumen that I took the plunge and served as a rotating Program Director in Developmental Systems at NSF, replacing Judith Plesset, who had been in that post for 30 years. This time at NSF was, for me, an incredible and invaluable learning experience that allowed me to absorb and appreciate developmental biology all the more, in addition to learning about what it's like to administer awards and manage grants and understand research portfolios and budget spreadsheets. The experience enabled me to consciously focus my own efforts to integrate developmental biology into my research program, which ultimately led to NIH funding on a couple of my lamprey projects. My NSF experience (with emphasis on Broader Impacts as a review criterion) also strengthened my resolve to become more involved in educational activities, minority outreach, and public awareness of science. Although my primary appointment is at a private research institution, I am very much involved in graduate student recruitment and training at the University of Washington, activities that are in line with SDB's mission. The Northwest has wealth of outstanding developmental biologists including many that work on marine organisms, plants and various "nonmodel" systems. I would be a strong advocate for inclusion of these lines of investigation, especially since modern sequencing technology can make any organism amenable to developmental studies. Serving on the DEV1 study section is also advantageous as I get to observe the current trends in modern developmental biology research and the interdisciplinary strategies and synergies required to carry out this work. For our younger scientists, in particular, the national and regional SDB meetings and workshops provide immense opportunities for learning and growth, for the exchange of ideas, and for networking. I would be pleased to be the Northwest Representative of SDB and to contribute in a positive and constructive way to its goals and mission.

WEBSITE: http://www.benaroyaresearch.org/our-research/scientific-staff/chris-amemiya

Candidates for West Coast Representative

DOMINIQUE BERGMANN

EDUCATION: PhD (Molecular, Cellular and Developmental Biology) University of Colorado, Boulder, 2000. B. A. (Molecular and Cellular Biology) University of California, Berkeley, 1993.

APPOINTMENTS: 2011-Present, Investigator, Howard Hughes Medical Institution, 2011-present, Associate Professor, 2005-2011, Assistant Professor, Department of Biology, Stanford University, 2011-present, Adjunct staff member, Carnegie Institution for Science, Department of Plant Biology, 2010-present, Associate member, Stanford Institute for Stem Cell Biology and Regenerative Medicine, 2008-present, Affiliated faculty, Bio-X, Stanford University, 2000-2004, Postdoctoral fellow with Chris Somerville, Carnegie Institution, Dept. of Plant Biology.

HONORS: 2010-2015 Presidential Early Career Award in Science and Engineering (NIH-NIGMS), 2010 Charles Albert Shull Award (ASPB), 2009-2014 NSF CAREER Award, 2007 Warren Hellman Faculty Scholar, 2006-2011 Terman faculty fellowship, (Stanford University), 2001-2004 NIH postdoctoral fellowship.

PROFESSIONAL ACTIVITIES: 2010-2014 Board, North American Arabidopsis Steering Committee (president 2013-2014), 2007-2010 Board of Directors, Society for Developmental Biology (junior faculty representative), 2011-2016 Scientific Advisory Board, Plant Systems Biology, VIB, Ghent, Belgium. 2012-present, Editorial board of Developmental Cell, 2012-present, Board of reviewing editors, eLife, 2011-2013, Editorial advisory board: Trends in Cell Biology, 2010-2013, Editorial Board: Current Opinion in Plant Biology 2010-2013, 2009-present, F1000 member, Section of Plant Cell Biology. Meeting organizer for: Cold Spring Harbor Asia conference, plant cell and development, Suzhou China 2011**,** Santa Cruz Developmental biology conference, Santa Cruz, CA, 2010, Plant development in a changing world, SDB satellite symposium, San Francisco, CA, 2009.

RESEARCH INTERESTS: My lab group is interested in cell fate, pattern, asymmetry and flexibility and study these questions in a specialized epidermal lineage of plants. Stomatal lineage cells manifest many of the key features of development: they must be chosen from initially equivalent cells, they undergo asymmetric and self-renewing divisions, they communicate among themselves and they must respond to information from a distance. We use genetic, live-cell imaging and modeling to address the rules for signaling and the transcriptional, translational and epigenetic changes that take

NIPAM PATEL

EDUCATION: Ph.D. (Biology), Stanford University, 1990 (Corey Goodman, mentor); A.B. (Biology), Princeton University, 1984 (Malcolm Steinberg, mentor).

APPOINTMENTS: Professor, Dept of Molecular Cell Biology and Dept. of Integrative Biology, UC Berkeley, 2003-present; Co-chair, Dept. of Integrative Biology, UC Berkeley, 2007-2008; Adjunct Professor, National Institute of Genetics, Shizuoka, Japan, 2007-2010; Professor, Dept. of Organismal Biology and Anatomy, University of Chicago, 1995-2003; Staff Associate, Dept. of Embryology, Carnegie Institution, 1991-1995; Visiting Fellow, Research School of Biological Sciences, Australian National University, 1991.

HONORS: Elected Fellow, American Association for the Advancement of Science, 2008; McKnight Scholars Neuroscience Fellowship Award, 1992 – 1995; Damon Runyon–Walter Winchell Fellow, 1991 – 1992; NSF Predoctoral Fellowship, 1984 – 1987

PROFESSIONAL ACTIVITIES: Scientific Advisory Board, Whitney Laboratory for Marine Science, University of Florida, 2010 - present; Co-Director, Woods Hole Embryology Course, 2007 - 2011; Member, Comparative Genome Evolution Working Group, National Human Genome Research Institute, NIH, 2004 – 2007; Scientific Advisory Board, The Regeneration Project, University of Florida, McKnight Brain Institute, 2007 - 2009; Scientific Content Director, Society for Developmental Biology Website, 2005 - 2008; National Academies Committee on the Impact of High-end Computing, 2006 – 2008; Co-Director, Cold Spring Harbor *Drosophila* Neurobiology Course, 1996 - 1998; NSF/Sloan Molecular Evolution Postdoctoral Fellowship Panel, 1995 - 1997; Editor, *Development*, 2009-present; Current editorial board member of *Developmental Biology*, *Development, Genes, and Evolution*, *Evolution & Development*, and *EvoDevo*; Co-organizer, Evolution of Developmental Diversity Meetings, Cold Spring Harbor, 2002 and 2004.

RESEARCH INTERESTS: My interests center around understanding how developmental programs have evolved to generate the diversity of life. While I have explored this issue primarily within the arthropods, I have branched out at various times to explore these questions in other organisms, including snails, annelids, and vertebrates. Most recently, my lab has worked to develop the amphipod crustacean, *Parhyale hawaiensis*, as an experimentally tractable model system for

place as cells transit through phases of acquiring, maintaining and losing self-renewing potential.

STATEMENT: These are exciting times for developmental biology, but they are also challenging times. Never before have we had access to so many tools to probe the networks underlying developmental transitions in a diverse set of organisms, yet this forward movement is mitigated by the funding climate and a misunderstanding and/or distrust of science and scientists by the general public. As a member of the SDB board (junior representative, 2007-2010) I was impressed with the broad portfolio of activities the SDB undertakes to facilitate scientific advances within our field and its equally strong commitment to activities that engage and educate the public about the relevance of developmental biology in their daily lives. I endeavor to strengthen and expand these SDB activities, building from our greatest assets--the tremendous enthusiasm, knowledge base and good will of our richly diverse membership.

My own interest in Developmental Biology spans two decades and two different developmental systems (animal and plant). During this subject transition, as well as during career stage transitions (PhD student, postdoc and now faculty), I was fortunate to be able to take advantage of different SDB activities. From the annual meetings came inspiration from other model systems and networking with other biologists at similar career stages. I am happy to see some of these programs formalized, for example in the junior faculty bootcamps and satellite meetings that flank the annual meetings, and I think there are more opportunities to use the annual meetings as foci to organize working groups interested in cutting-edge techniques, teaching innovations or public policy. Increasingly, we need to be able to communicate our excitement and the value of developmental biology research to the public. The SDB support of K-12 programs, science days, and online educational resources is crucial and needs to grow. I am keen to work with others on these projects to not only keep up with the changing print, online and social media platforms, but to come up with creative ways to use new media to inform and inspire an international audience.

WEBSITES: http://www.stanford.edu/group/bergmann/

http://www.hhmi.org/research/hhmi-gbmf/bergmann.html

comparative studies, and uses *Parhyale* to explore mechanisms that underlie segmentation, body regionalization, and germline regeneration. We have also begun to investigate the developmental basis for structural coloration in butterflies.

STATEMENT: I am pleased to be asked to run as a candidate for the position of West Coast Representative to the SDB. I have been fascinated with developmental biology since first experimenting with chick embryos as a high school student. I am still mesmerized watching the early cleavage patterns of a frog or sea urchin embryo, and jump at the chance to help a student film *Drosophila* gastrulation on a confocal microscope. While my research combines evolution and developmental biology, I am a developmental biologist at heart, and still passionate about understanding the mechanisms that guide embryogenesis in all organisms.

I am also delighted to have been associated with SDB since I was a graduate student. SDB meetings have always been a highlight for me, and I have been privileged to speak at and assist in organizing several national and regional SDB meetings. As Scientific Content Director, I helped oversee the revamping of the SDB website from 2005-2008, and am pleased to be involved currently as the society again undertakes a complete update of its website. In January 2012 I also participated in the PASI Short Course In Montevideo, Uruguay and was encouraged by the enthusiasm of SDB to promote education to both science students and the public around the world.

It has been especially rewarding to see the society expand to include many new areas of investigation as developmental biology has grown to embrace many new systems and experimental approaches. SDB members also wear the hats of geneticists, neurobiologists, cell biologists, stem cell researchers, etc., but the society brings them all together as a diverse group all interested in the fundamental process of development. I hope to continue these strong traditions and to build upon the strengths that have been established. I am especially eager to maintain the excitement of national and regional SDB meetings by encouraging students, postdocs and junior faculty to attend and present their work. I also hope that the society continues to push its education mission and works to be a voice of the benefits of scientific research to the public. It is especially exciting to see how basic research is being translated into clinical treatments, and that a growing number of developmental biologists play an important role in this translational effort. If elected, I look forward to working with the rest of the Board and the society's membership to promote the SDB and its goals in providing support to the research community and communicating the excitement of our field to students, educators, politicians, and the general public.

WEBSITE: http://www.patellab.org