

Sabine Petry, Ph.D.

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EDUCATION

- 2003 - 2007 **Ph.D. Biochemistry, MRC Laboratory of Molecular Biology / University of Cambridge, UK**
- 2000 - 2003 Diplom (M.Sc.) Biochemistry, summa cum laude
1998 - 2000 Vordiplom (B.S.) Biochemistry and Business Administration, summa cum laude
Goethe Universität / Max Planck Institute of Biophysics Frankfurt am Main, Germany
- Feb. - July 2001 Licence (French third year degree) candidate in Cell Biology and Physiology
Université d'Evry Val d'Essonne Evry, France

RESEARCH POSITIONS & TRAINING

- Sept. 2013 **Assistant Professor, Department of Molecular Biology, Princeton University, NJ USA**
- present Associated Faculty Member, Department of Chemical and Biological Engineering
Associated Faculty Member, Department of Chemistry
- Graduate program member:** Molecular Biology; Quantitative and Computational Biology;
Chemical & Biological Engineering; Chemistry
- 2008 - 2013 **Post-doctoral Fellow, University of California at San Francisco, CA USA**
Mentor: Prof. Ronald D. Vale, Topic: Microtubule Nucleation within the Mitotic Spindle
- Summers Marine Biological Laboratory, *Woods Hole MA USA*
2009 - 2012 Collaborators: Prof. Timothy Mitchison (Harvard Medical School), Dr. Francois Nedelec (EMBL)
Topic: Functional Studies of the Augmin Complex in Xenopus Egg Extracts
- 2003 - 2007 **Ph.D. Student, MRC Laboratory of Molecular Biology Cambridge, UK**
Advisor: Dr. Venki Ramakrishnan, Ph.D. Thesis: Structural Studies of the Termination of Translation
- 2002 - 2003 **Diploma (M.Sc.) Student, Max Planck Institute of Biophysics Frankfurt am Main, Germany**
Advisors: Prof. Carola Hunte and Prof. Hartmut Michel. Diploma Thesis: Generation and Characterization of Single-Chain-Fv Fragments specific for the Cytochrome bc1 Complex
- 2000 Undergraduate Student, Max Planck Institute of Biophysics *Frankfurt am Main, Germany*
Advisors: Dr. Guenter Frisch and Prof. Hartmut Michel
Topic: Biochemical and X-Ray Crystallographic Studies of the Bacterial Reaction Center

AWARDS & FUNDING

- 2015 - 2016 Innovation Award, co-PI, Department of Molecular Biology Princeton University *NJ*
- 2015 - 2016 Humboldt University - Princeton University Partnership Grant, co-PI
- 2014 - 2019 **Packard Fellowship for Science and Engineering**
- 2014 - 2016 **Pew Scholar in the Biomedical Sciences**
- 2014 - 2016 **Kimmel Scholar for Cancer Research**
- 2012 - 2016 **NIH Pathway to Independence Award (K99/R00)**
- 2009 - 2011 **Postdoctoral HHMI Fellow of the Life Science Research Foundation**
- 2009 Postdoctoral Fellowship of the Helen Hay Whitney Foundation (declined)
- 2009 Postdoctoral Fellowship of the Human Science Frontier Program (declined)
- 2008 **EMBO Long-term Fellowship for Postdoctoral Research**
- 2007 **FEBS Young Scientist Prize** for best presentation, 7th FEBS Young Scientist Forum *Vienna, Austria*
- 2006 Young Investigator Award for best poster and best lecture, 40th Anniversary Meeting *Spetses, Greece*
- 2005 **Max Perutz Student Price for Outstanding Research**, MRC Lab. of Molecular Biology *Cambridge, UK*
- 2003 - 2006 **Ph.D. Scholarship by Boehringer Ingelheim Fonds**
- 2003 - 2006 College Scholarship for University of Cambridge from Medical Research Council, *UK*
- 2003 World Health Organization Scholarship, Bureau for Leaders in International Organizations, *Germany*
- 2001 - 2003 **German National Merit Foundation / Studienstiftung des Deutschen Volkes**

PUBLICATIONS

13. **Petry S** (invited review submitted) Mechanisms of Mitotic Spindle Assembly. Annual Reviews of Biochemistry.
 12. King M and **Petry S** (invited contribution in press) Visualizing and analyzing branching microtubule nucleation using meiotic *Xenopus* egg extracts and TIRF microscopy. *Methods in Molecular Biology* “The Mitotic Spindle”.
 11. **Petry S** and Vale RD (2015) Microtubule nucleation at the centrosome and beyond. **Nat Cell Biol** 17(9):1089-93.
 10. Alfraco-Aco R and **Petry S** (2015) Building the microtubule cytoskeleton piece by piece. **J Biol Chem** 290(28):17154-62. Epub 2015 May 8.
 9. **Petry S**, Groen AC, Ishihara K, Mitchison TJ, Vale RD (2013) Branching microtubule nucleation in *Xenopus* egg extract mediated by augmin and TPX2. **Cell** 152, 768-777. [Evaluated by Faculty F1000]
 - Commentary: Zheng Y, Iglesias PA (2013) Nucleating New Branches from Old. *Cell* 152, 669-670.
 - Commentary: Minton K (2013) Microtubule nucleation branches out. *Nat Rev Mol Cell Biology* 14, 192-193.
 8. **Petry S**, Vale RD (2011) A new cap for kinetochore fibre minus ends. **Nat Cell Biol** 13(12):1389-91.
 7. **Petry S**, Pugieux C, Nedelec F, Vale RD (2011) Augmin promotes meiotic spindle formation and bipolarity in *Xenopus* egg extracts. **Proc Natl Acad Sci USA** 108(35):14473-8.
 6. Uehara R, Nozawa RS, Tomioka A, **Petry S**, Vale RD, Obuse C, Goshima G (2008) The augmin complex plays a critical role in spindle microtubule generation for mitotic progression and cytokinesis in human cells. **Proc Natl Acad Sci USA** 106(17):6998-7003.
 5. Weixlbaumer A, Jin H, Neubauer C, Voorhees RM, **Petry S**, Kelley AC, Ramakrishnan V (2009) Insights into translational termination from the structure of RF2 bound to the ribosome. **Science** 322, 953-6. [Evaluated by Faculty 1000]
 - Commentary: Liljas A (2008) Getting close to termination. *Science* 322, 863-865.
 4. **Petry S**, Weixlbaumer A, Ramakrishnan V (2008) The termination of translation. **Curr Opin Struct Biol** 18, 70-77.
 3. Weixlbaumer A, **Petry S***, Dunham CM*, Selmer M*, Kelley AC, Ramakrishnan V (2007) Crystal structure of the ribosome recycling factor bound to the ribosome. **Nat Struct Mol Biol** 14, 733-737 (* equal contribution).
 2. Selmer M, Dunham CM, Murphy FV IV, Weixlbaumer A, **Petry S**, Kelley AC, Weir JR, Ramakrishnan V (2006) Structure of the 70S ribosome complexed with mRNA and tRNA. **Science** 313, 1935-1942. [Evaluated by Faculty 1000]
 1. **Petry S**, Brodersen DE, Murphy FV IV, Dunham CM, Selmer M, Tarry MJ, Kelley AC, Ramakrishnan V (2005) Crystal structures of the ribosome in complex with release factors RF1 and RF2 bound to a cognate stop codon. **Cell** 123, 1255-1266. [Evaluated by Faculty 1000]
- Petry S & Radiation and Environmental Health Unit, Protection of the Human Environment, **World Health Organization**, Geneva (2003) **INTERSUN. The Global UV Project. A Guide and Compendium**. ISBN 92 4 159105 6.

INVITED TALKS & SEMINARS

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|------|--|
| 2016 | - Boehringer Ingelheim Fonds Bi-annual North America Meeting: Key Note Speaker <i>Woods Hole MA</i> (scheduled)
- Gordon Research Conference “Muscle & Molecular Motors” <i>West Dover VT</i> (scheduled)
- Brandeis University, Department of Biochemistry <i>Waltham MA</i> (scheduled)
- Dartmouth University <i>Hanover NH</i> (scheduled) |
| 2015 | - Annual Meeting of the American Society of Cell Biology San Diego CA
- University of Pennsylvania, Distinguished Seminar Series of Life Sciences Departments <i>PA</i>
- 2 nd EMBO EMBL Symposium “Seeing is Believing – Imaging the Processes of Life”
- 26 th Packard Fellows Meeting <i>Monterrey CA</i>
- Physiology Course at the Marine Biological Laboratory <i>Woods Hole MA</i>
- Pew Biomedical Program Annual Meeting <i>Vieques PR</i>
- 40 th Anniversary Meeting of the Lorne Proteins Conference <i>Lorne Australia</i> |
| 2014 | - Annual Meeting of the American Society of Cell Biology <i>Philadelphia PA</i>
- 3 rd EMBO Practical Course on Microscopy, Modeling and Biophysical Methods, EMBL <i>Heidelberg, Germany</i>
- 15 th International <i>Xenopus</i> Conference <i>Pacific Grove CA</i>
- Max F. Perutz Laboratories and University of Vienna <i>Austria</i> |

- 2013 - Rowan University, Graduate School of Biomedical Sciences retreat: Key Note Speaker, *Stratford NJ*
 - Caltech, Division of Chemistry *Pasadena CA*
 - UC Berkeley, Department of Molecular and Cell Biology *Berkeley CA*
 - MIT, Whitehead Institute and Department of Biology *Boston MA*
 - UTSW Medical Center, Department of Structural Biology *Dallas TX*
- 2012 - Stanford University, Department of Biochemistry *Palo Alto CA*
 - National Institutes of Health *Bethesda MA*
 - Princeton University, Department of Molecular Biology *Princeton NJ*
 - 2nd EMBO Conference on Microtubules, EMBL *Heidelberg Germany*
 - Max Planck Institute of Molecular Physiology *Dortmund Germany*
- 2007 - Biochemical Society of Kenya, University of Nairobi, *Kenya*
 - Indian Institute of Technology Delhi and Madurai University, *India*
 - 32nd FEBS Congress “Molecular Machines” *Vienna, Austria*: Award lecture (FEBS Young Scientist Prize best talk)
 - 7th FEBS Young Scientist Forum *Vienna Austria*
 - 12th Annual Meeting of the RNA Society *Madison WI*
- 2006 - 40th Anniversary Meeting of Spetses Summer School *Greece*: Young Investigator Award lecture
- 2005 - Annual Lab Talks MRC Laboratory of Molecular Biology *Cambridge, UK*
- 2005 - EMBO Conference on Protein Synthesis and Translational Control *Heidelberg, Germany*

TEACHING

- 2015/16 - Project leader with Jennifer Lippincott-Schwartz, Physiology Course *MBL Woods Hole MA* (scheduled)
 - MOL345 Biochemistry, co-taught *Princeton University NJ*
 - MOL504 Cellular Biochemistry, co-taught *Princeton University NJ*
- 2014/15 - Project leader with Jennifer Lippincott-Schwartz, Physiology Course *MBL Woods Hole MA*
 - Physiology Course Bootcamp, Biochemistry Instructor *Marine Biological Laboratory, Woods Hole MA*
 - ISC233-234 (Integrated Science Course), co-taught 2 lectures *Princeton University NJ*
 - MOL504 Cellular Biochemistry, co-taught *Princeton University NJ*
 - 3rd EMBO Practical Course: Microscopy, Modeling and Biophysical Methods, Lecturer *EMBL Germany*
- 2013/14 - MOL/QCB Summer Undergraduate Research Program, Speaker *Princeton University NJ*
 - Physiology Course Bootcamp, Biochemistry Instructor *Marine Biological Laboratory, Woods Hole, PA*
 - MOL504 “Cellular Biochemistry”, Guest lecturer *Princeton University NJ*

MENTORING

Current Lab Members:

Postdoctoral Fellows:

- Jae-Gung Song (Ph.D., University of Vienna) 2014 - present
- Rachel Kadzick (Ph.D., University of Pennsylvania) 2015 – present

Graduate Students:

- Raymunod Alfaro-Aco (Molecular Biology Ph.D. Program) 2013 - present
 NSF Predoctoral Fellow and HHMI Gilliam Fellow)
- Matthew King (Molecular Biology Ph.D. Program) 2013 - present
- Akanksha Thawani (Chemical and Biological Engineering Ph.D. Program) 2014 - present
 Francis Upton Graduate Fellow in School of Engineering and Applied Science
 co-mentored with Prof. Howard Stone
- Sagar Setru (Quantitative and Computational Biology Ph.D. Program) 2015 - present
 co-mentored with Prof. Joshua Shaevitz

Senior Thesis Student:

- Marina Noguera (class of 2016, Molecular Biology major) 2015 - present

Past Mentoring:

Senior Thesis Student:

- David Oceau (class of 2015, Molecular Biology major) 2014-15
- 2012 - 2013 Ph.D. student mentoring UCSF *San Francisco, USA*
- 2010 - 2011 Rotation Ph.D. student supervision UCSF *San Francisco, USA*

SERVICE

- 2015/16
- Princeton Department of Molecular Biology: Biochemistry/Biophysics Facility Committee, co-lead
 - Princeton Department of Molecular Biology: Funding solutions committee
 - Princeton Department of Molecular Biology: graduate program admissions committee
 - Princeton University Out in STEM lunch, co-lead
 - Faculty Advisor, Women's Basketball Team, Princeton University
 - Women in Cell Biology (WICB) Associate of the American Society of Cell Biology (ASCB)
- 2014/15
- Princeton Department of Molecular Biology: faculty search committee "Multiscale Dynamics"
 - Princeton Department of Molecular Biology: Annual Retreat, co-organizer
 - Princeton Department of Molecular Biology: Funding solutions committee
 - Princeton Department of Molecular Biology: Host of Carter Wallace Lectures
 - Princeton University weekly lunch for Assistant Professors in the natural sciences, organizer
 - Princeton University Out in STEM lunch, co-lead
 - Women in Cell Biology (WICB) Associate of the American Society of Cell Biology (ASCB)
- 2013/14
- Princeton Department of Molecular Biology graduate program admissions committee
- 2006 - 2007
- Seminar committee to invite and host external speakers, MRC LMB *Cambridge, UK*
- 2003 - 2006
- Graduate student association, MRC Laboratory of Molecular Biology *Cambridge, UK*
- 2001 - 2002
- Student committee for the advancement of the Biochemistry Master Program, Goethe Universität *Germany*

PROFESSIONAL AFFILIATIONS

- 2008 - present
- Member, American Society of Cell Biology
- 2014 - present
- Member, American Genetics Society
- 2015 - present
- Member, American Association for the Advancement of Science
- 2006 - 2007
- RNA Society

ADDITIONAL EXPERIENCE

- Summer 2003
- World Health Organization** *Geneva, Switzerland*
Associate solely responsible for *Ultraviolet Radiation and the INTERSUN Programme* in the Department for the Protection of the Human Environment
- Summer 2001
- Genoscope, the National Sequencing Center** *Evry, France*
Research Associate involved in high-throughput sequencing and genome analysis
- Summer 1999
- Merck KGaA** *Darmstadt, Germany*
Summer Associate in the Environmental Protection Department
- 1995 - 1996
- Year abroad** during German 11th grade in an American host family
American High School Diploma, National Honor Society
Gladstone High School *Oregon, USA*
- Basketball**
- 1996 - 1998
- 1st Federal League of Germany (1. Bundesliga), Aschaffenburg Wild Cats *Germany*
- 1998
- 2nd at the **German Championships** and participation in the **2nd European League**
- 1997
- 2nd at the **German Championships** and participation in the **1st European League**
- 1996
- Oregon State Championships, Gladstone Glad Gals,
1st All Tourney Team and 2nd All State Team of Oregon *USA*
- 1994 - 1995
- German Youth National Team:**
- 1995
- 7th place at European Basketball Championships *Gdansk, Poland*
- 1994
- Qualification for the European Basketball Championships *Espoo, Finland*

Track and Field

- 1996
- Oregon State Champion (High School), Shot Put** *USA*
- 1992 - 1993
- Member of the German Youth National Team, Pentathlon
- 1992
- German Youth Champion, Pentathlon** *Germany*