

Curriculum Vitae

Ralf A. Bundschuh

Biographical Information

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Professional Preparation

Universität zu Köln	Physics	Diplom 1993
Universität Potsdam & Max-Planck institute for colloid and interface science	Physics	PhD 1996
Universität zu Köln	theoretical mesoscopic physics	1996–1997
University of California at San Diego	theoretical biophysics	1997–2001

Appointments

10/2006 – present Associate Professor, Physics Department, The Ohio State University
10/2008 – present Courtesy Associate Professor, department of biochemistry, OSU
10/2006 – present Co-director, interdisciplinary biophysics graduate program, OSU
8/2008 – 9/2009 Visiting Professor, Institut für theoretische Physik, Universität zu Köln
7/2001 – 9/2006 Assistant Professor, Physics Department, The Ohio State University
10/1997 – 6/2001 Postgraduate Researcher, Physics Department,
University of California at San Diego
10/1996 – 9/1997 Postgraduate Researcher, Physics Department, Universität zu Köln
10/1994 – 9/1996 Research Assistant, Max-Planck institute for colloid and interface
science, Teltow
10/1993 – 9/1994 Research Assistant, Institut für Festkörperforschung,
Forschungszentrum Jülich GmbH
10/1989 – 6/1992 Teaching Assistant, Department of Mathematics, Universität zu Köln

Recent publications

1. R. Bundschuh and R. Bruinsma, *Melting of Branched RNA Molecules*, Phys. Rev. Lett. **100**, 148101/1–148101/4 (2008).
2. M. Djordjevich and R. Bundschuh, *Formation of the Open Complex by Bacterial RNA Polymerase — a Quantitative Model*, Biophys. J. **94**, 4233–4248 (2008).
3. M. Lee, M. Chan, and R. Bundschuh, *Simple is beautiful: a straightforward approach to improve the delineation of true and false positives in PSI-BLAST searches*, Bioinformatics **24**, 1339–1343 (2008).
4. C. Beargie, T. Liu, M. Corriveau, H.Y. Lee, J. Gott, and R. Bundschuh, *Genome annotation in the presence of RNA editing*, Bioinformatics **24**, 2571–2578 (2008).
5. M. McCauley, R. Forties, U. Gerland, and R. Bundschuh, *Anomalous scaling in nanopore translocation of structured heteropolymers*, Physical biology **6**, 036006 (2009).

6. M.M. Lee, M. Chan, and R. Bundschuh, *SIB-BLAST: a web server for improved delineation of true and false positives in PSI-BLAST searches*, *Nucleic Acids Res.* **37**, W53–W56 (2009).
7. S. Shoji, N. Abdi, R. Bundschuh, and K. Fredrick, *Contribution of ribosomal residues to P-site tRNA binding*, *Nucleic Acids Res.* **37**, 4033–4042 (2009).
8. R.A. Forties, R. Bundschuh, and M.G. Poirier, *The flexibility of locally melted DNA*, *Nucleic Acids Res.* **37**, 4580–4586 (2009).
9. R.A. Forties and R. Bundschuh, *Modeling the interplay of single-stranded binding proteins and nucleic acid secondary structure*, *Bioinformatics* doi:10.1093/bioinformatics/btp627 (2009).

(most publications are available electronically on the PI's web site
<http://cannoli.mps.ohio-state.edu/~rbund>)

Synergistic Activities

1. Co-director of the Interdisciplinary Biophysics Graduate Program at OSU
2. Chair of the advisory committee of the arXiv/q-bio preprint archive
3. Editorial board member of *Physical Review E*
4. Vice-chair (2006) and Chair (2007) of the RustBelt RNA meeting
5. Development of an “Introduction to Biophysics” course

Recent collaborators

Nimo Abdi (OSU), Anthony Archual (OSU), Peter Arndt (MPI Mol. Gen.), Christina Beargie (COSI Columbus), Robijn Bruinsma (UCLA), Michael Chan (OSU), Nicholas Chia (UIUC), Xinbin Dai (Samuel Roberts Noble Foundation), Biao Ding (OSU), Marko Djordjevic (Arkansas State University), Zhangjun Fei (Cornell University), Robert Forties (OSU), Kurt Fredrick (OSU), Ulrich Gerland (LMU München), Jonatha Gott (CWRU), Vishweshha Guttal (Princeton), Farhat Habib (IISER), Ann Harris (Samuel Roberts Noble Foundation), Asuka Itaya (OSU), Daniel Janies (OSU), Andrew Johnson (OSU), Je-Gun Joung (Cornell University), Malcolm McCauley (OSU), Ha Youn Lee (U Rochester), Marianne Lee (OSU), Tsunglin Liu (Academica Sinica), Phillip Messer (MPI Mol. Gen.), Carlos Molina (OSU), Richard Nelson (Samuel Roberts Noble Foundation), Neeta Parimi (CWRU), Yijun Qi (OSU), Shinichiro Shoji (OSU), Ryuta Takeda (OSU), Yuhong Tang (Samuel Roberts Noble Foundation), Martin Vingron (MPI Mol. Gen.), Ying Wang (OSU), Patrick Zhao (Samuel Roberts Noble Foundation), Xuehua Zhong (OSU)

Advisors

Graduate advisor:	Reinhard Lipowsky	Max–Planck institute for colloid and interface science and Universität Potsdam
Postdoctoral advisors:	Martin Zirnbauer	Universität zu Köln
	Terence Hwa	University of California at San Diego

Thesis advisor (6 total) and postgraduate-scholar sponsor (0 total)

Thesis advisor: Tsunglin Liu (Academica Sinica), Nicholas Chia (UIUC), Farhat Habib (Indian Institute of Science and Education Research), Marianne Lee (OSU), Wei Zhang (unknown), Robert Forties (OSU)