

Oliver A Ruebenacker

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Education

PhD Physics (2005)	University of Massachusetts, Amherst
MS Physics (2001)	University of Massachusetts, Amherst
Diplom Physics (2000)	University of Karlsruhe, Germany

Publications

- **Integrating BioPAX pathway knowledge with SBML models**
Michael L Blinov, Oliver Ruebenacker, Ion I Moraru
Submitted to IET Systems Biology
- **Kinetic Modeling Using BioPAX Ontology**
Oliver Ruebenacker, Ion I Moraru, James C Schaff, Michael L Blinov
IEEE International Conference on Bioinformatics and Biomedicine, 2007, Proceedings, pages 339-348.
- **Weakly interacting Bose gases in the fluctuation region**
Oliver Ruebenacker
PhD thesis, University of Massachusetts at Amherst, MA, US (2005), advisor: Nikolay Prokof'ev
- **Weakly interacting Bose gas in the vicinity of the normal-fluid-superfluid transition**
Nikolay Prokof'ev, Oliver Ruebenacker, Boris Svistunov
Phys. Rev. A **Volume 69**, Issue 5, 053625 (2004)
- **Critical Point of a Weakly Interacting Two-Dimensional Bose Gas**
Nikolay Prokof'ev, Oliver Ruebenacker, Boris Svistunov
Phys. Rev. Lett. **87**, 160601 (2001)
- **Hole Dynamics in a two-dimensional quantum anti-ferromagnet**
Oliver Ruebenacker
Diplom thesis, University of Karlsruhe, Germany, 2000, advisors: Peter Woelfle, Nikolay Prokof'ev

Presentations

- **Towards unifying systems biology - using pathway data in BioPAX format for SBML simulators**
Oliver Ruebenacker, Michael L Blinov, Ion I Moraru
Accepted to Second Annual q-bio Conference on Cellular Information Processing (2008)
Submitted to International Conference on Computational Methods in Systems Biology (2008)
- **Modeling Complex Networks: Integrating Rules (BioNetGen) and Data Mining (BioPAX ontology) into the Virtual Cell Framework**
Ion I Moraru, Oliver Ruebenacker, James C Schaff, Leslie M Loew Michael L Blinov
The Eighth International Conference on Systems Biology, 2007
- **Kinetic Modeling Using BioPAX Ontology**
Oliver Ruebenacker, Ion I Moraru, James C Schaff, Michael L Blinov
IEEE International Conference on Bioinformatics and Biomedicine, 2007
- **Membrane Nano-Structures: The Three Tether Junction**
Oliver Ruebenacker, Greg Huber
American Physical Society, March Meeting 2006
- **Three-Dimensional Weakly Interacting Bose Gas in the Vicinity of the Critical Point**
Nikolay Prokof'ev, Oliver Ruebenacker, Boris Svistunov
American Physical Society, March Meeting 2004
- **Worm Algorithm simulations of the hole dynamics in the t-J model**
Nikolay Prokof'ev, Oliver Ruebenacker
American Physical Society, March Meeting 2001

Employment History

- **Post-doc (Feb. '07 to Aug. '09, Center for Cell Analysis and Modeling, UConn Health Center)**
Part of Virtual Cell team, research software development for simulation of molecular pathways; integration of SBML, SBPAX and BioPAX using Semantic Web technology
- **Post-doc (Feb. '05 to Feb. '07, Center for Cell Analysis and Modeling, UConn Health Center)**
Research in biological physics, simulation of membrane mechanics, membrane tethers networks (e.g. endoplasmic reticulum)
- **Instructor (Jun. '04 to Jul. '04, Continuing Education Dep., UMass Amherst)**
Teaching Physics 131: Introductory Physics I (Physics for Life Science Majors)
- **Graduate Teaching Assistant (Sep. '03 to Aug. '04, Physics Dep., UMass Amherst)**
General physics labs, including grading; department resource room, tutoring students of all classes
- **Graduate Research Assistant (Sep. '99 to Aug. '03, Physics Dep., UMass Amherst)**
Research on holes in a two-dimensional quantum antiferromagnet and Bose and $|\Psi|^4$ gases in two and three dimensions. Administration of research computer systems, (two Redhat Linux Beowulf clusters, 15 and 12 nodes)

Other experience

- **Invited Expert for the Health Care and Life Sciences Interest Group at the World Wide Web Consortium**
- **BioPAX-OBO Workgroup Facilitator**

Skills

- **Semantic Web:** XML, RDF, OWL, SPARQL queries, Jena, automatic reasoning
- **Programming Languages and Software Development:** Java, Java Swing, C++, C, Perl, Fortran, ML, PostScript, Eclipse, Subversion
- **Systems Biology Data:** BioPAX, SBPAX, SBML, libSBML
- **Document Processing:** L^AT_EX/T_EX and relatives, LaTeX Beamer, PostScript, MS Office, OpenOffice, HTML, Perl Template Toolkit
- **System Administration:** Hardware and software maintenance, Linux, Windows, Mac, Beowulf cluster, Apple G5 cluster
- **Languages:** German (mothertongue), English (fluent), Turkish (some)
- **Awards:** Won prizes at German federal and state math competitions

Activities

- **Physics Graduate Student Association:**
President (2001-2003), Chair of Academic and Research Committee (2003-2004)
- **Graduate Employee Organization/UAW Local 2322:**
Steering committee (2001), Physics Department steward (2000-2003), chair of by-laws committee (2001-2002)
- **GRIPS (math and science student club):**
Chair, Vice-Chair
- **Schachfreunde Kraichtal (Local Chess Club):**
Treasurer, Captain of top team, Youth Leader