Jana Sperschneider

Curriculum Vitae

Bioinformatics Research Group
School of Computer Science & Software Engineering
The University of Western Australia, Perth
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🛈 http://bioinfo.csse.uwa.edu.au/janaspe

Research Interests

- Computational methods for RNA structure prediction
- Detection of pseudoknots in long sequences
- RNA pseudoknot thermodynamics and folding
- Versatility of pseudoknots in regulatory processes and viruses

Education

2008–2011 **PhD Candidate**
Bioinformatics Research Group
School of Computer Science & Software Engineering
The University of Western Australia, Perth.
Working Title: *Heuristic RNA pseudoknot detection in long sequences based on stem-loop correlated energy modelling*
Supervisors: Prof. Amitava Datta and Prof. Michael Wise

2001–2007 **Diplom (M.Sc.) in Computer Science**
Department of Computer Science
Albert-Ludwigs-University Freiburg, Germany.
Grade: 1.2, under the top 10% of cohort
Minor subject: Bioinformatics
Diplom Thesis: *A new Algorithm for Detecting Pseudoknots in RNA Sequences*
Supervisors: Prof. Amitava Datta and Prof. Thomas Ottmann

2004 **Exchange Student**
The University of Western Australia, Perth.
Two semesters of undergraduate studies

2000-2001 **B.Sc. studies in Mathematics and Computer Science**
University of Osnabrück, Germany.
Two semesters of undergraduate studies

Awards

2009 UWA Top-Up Scholarship.

2008–2011 International Postgraduate Research Scholarship (IPRS) funded by the Australian Government.

2008–2011 University Postgraduate Award for International Students (UPAIS).

Publications

Journals

Jana Sperschneider and Amitava Datta. KnotSeeker: Heuristic pseudoknot detection in long RNA sequences. *RNA*. 2008; 14(4).

Book Chapters

Jana Sperschneider and Amitava Datta. An Introduction to RNA Structure and Pseudoknot Prediction.
In: *Mourad Elloumi and Albert Y. Zomaya. Algorithms in Computational Molecular Biology: Techniques, Approaches and Applications. To be published by Wiley-Blackwell, 2010.*

Jana Sperschneider. RNA Structure Prediction and Pseudoknots.
In: *Volker Sperschneider with contributions by Jana Sperschneider and Lena Scheubert. Bioinformatics: Problem Solving Paradigms. Sects. 1.7, 2.9, 3.6., 5.5.6. Springer, Berlin, 2008.*

Software

Software package and web server for pseudoknot detection in RNA sequences. http://knotseeker.csse.uwa.edu.au.

Theses

Jana Sperschneider. A new Algorithm for Detecting Pseudoknots in RNA Sequences. *Diplom Thesis*, Albert-Ludwigs-University Freiburg, 2007.

Jana Sperschneider. RNA Pseudoknots: Biological Functions and Prediction Methods. *Study Thesis*, Albert-Ludwigs-University Freiburg, 2007.

Conferences and Workshops

Invited Talks

Workshop *Computational Methods for RNA Analysis.*
Benasque, Spain, 26 July - 8 August, 2009.

Research and Work Experience

April–June 2008

Development of web server for software package *KnotSeeker*.
Creation and maintenance of bioinformatics research group website.
School of Computer Science & Software Engineering
The University of Western Australia, Perth

December 2007 – March 2008

Typesetting of book in LaTeX, editing and preparation of graphics for Springer publishing.
Volker Sperschneider with contributions by Jana Sperschneider and Lena Scheubert. Bioinformatics: Problem Solving Paradigms. Springer, Berlin, 2008.

February–April 2006
July–October 2005

Visiting Research Student.
Research project on invitation by Prof. Amitava Datta
Title: RNA pseudoknot prediction with neural networks
School of Computer Science & Software Engineering
The University of Western Australia, Perth

2003–2004

Tutorial Assistant.
Run tutorials for an average group of 20 students. Prepare materials and present solutions to exercises, marking of exercises and examination papers.
Department of Computer Science
Albert-Ludwigs-University Freiburg, Germany

Technical Skills

Programming Python, Java, C++, Perl

Miscellaneous SQL, MATLAB, LaTeX, HTML, CSS

Systems Linux, Mac OS, Windows

Languages

German	Native speaker
English	Excellent (IELTS score 8.0)
Latin	Excellent (*kleines Latinum*)
Spanish	Basic

Interests and Hobbies

Soccer, kayaking and hiking
Drawing and photography
Piano and guitar

Referees

Prof. Amitava Datta
School of Computer Science & Software Engineering
The University of Western Australia, Perth
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Prof. Michael Wise
School of Biomedical & Chemical Sciences
School of Computer Science & Software Engineering
The University of Western Australia, Perth
✉ mwise@cyllene.uwa.edu.au

Prof. Rachel Cardell-Oliver
School of Computer Science & Software Engineering
The University of Western Australia, Perth
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Assistant Prof. Dr. Wolfgang Hürst
Department of Information and Computing Sciences
Utrecht University, Netherlands
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