

Curriculum Vitae

Dr. Steffen Neumann

Bioinformatics and Mass Spectrometry

Leibniz Institute of Plant Biochemistry – IPB Halle
Department of Stress- and Developmental Biology



Name: Steffen Neumann

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Actual position: Group leader Bioinformatics and Mass Spectrometry

Special assignments and activities:

Organisation of Metabolomics Interest Group, IT Development Group

Working Experience

- 08/2005 – today Group Leader “Bioinformatics & Mass Spectrometry”
 - 5/2004-12/2004 Postdoc “Plant Data Warehouse” Group, IPK Gatersleben
 - 1/2004-4/2004 Post-Doc in “Applied computer science” group,
Bielefeld University
 - 5/1999-12/2003 Research Assistant in “Applied computer science group”,
Bielefeld University
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Education

- 12/2003 PhD in computer science, “Soft volume models for protein-protein docking” advisor: Prof. Gerhard Sagerer)
- 04/1999 Diploma in Computer Science, (advisor: Prof. Stefan Posch)
- 1992-1999 Undergraduate Studies in "Computing in the natural sciences" Bielefeld University

Citation Analysis

- Total no. of publications 37
- No. of peer reviewed publications 32
- Citations (October 2013) <http://scholar.google.com/citations?user=EcQVenkAAAAJ>

	All	Since 2008
Citations	1150	1128
h-index	16	16
i10-index	19	18

- Three most cited papers:
 - MassBank: a public repository for sharing mass spectral data for life sciences.
H Horai *et al.* Journal of mass spectrometry 45 (7),703-714(2010) [194 Citations]
 - Highly sensitive feature detection for high resolution LC/MS. R Tautenhahn, C Böttcher, S Neumann, BMC Bioinf. 9(1),504 (2008) [119 Citations]
 - mzML—a community standard for mass spectrometry data, L Martens et al., Molecular & Cellular Proteomics 10 (1) [107 citations]

Research Achievements and Plans

Trained as computer scientist and bioinformatician in Bielefeld, my group is focusing on the development of tools and databases for metabolomics and computational mass spectrometry. We have developed algorithms for data processing of metabolite profiling experiments, which are available in several Open Source Bioconductor packages We are also addressing the most pressing bottleneck in Metabolomics, the identification of unknowns in mass spectrometry data. Here, our MetFrag and MetFusion tools are available to the community, which allow the identification of compounds beyond the molecular formula, and for which no reference spectra are available.

Invited/plenary lectures and Workshops

2013

- Bioinformatics Seminar Series, JKI Quedlinburg
- BiGCaT Seminar, Maastricht University

2012

- Organisation of Workshop “Software Tools” at Metabolomics 2012 (Washington)
- LC/MS Kolloqium, UFZ Leipzig
- EMBL-EBI Industry & MetaboLights Workshop Metabolomics, Cambridge
- Metabolome Informatics Workshop, Narita

2011

- CITE Seminar, UFZ Leipzig
- ICCE workshop , Zürich
- eawag Seminar , Zürich
- Metabolomics Informatics Workshop , Helsinki
- CEBITEC Colloqium, Bielefeld
- Imperial College Seminar, London
- Bioconductor Developer Workshop, Manchester

2010

- Bioconductor Developer Workshop, Heidelberg
- Workshop on Mass Spectrometry Informatics in Systems Biology, Helsinki
- Organisation of DGMS Workshop on Computational Mass Spectrometry, Halle
- NORMAN workshop, Leipzig

Teaching

MLU Halle-Wittenberg

2011/12/13 Lecture „Spezielle Probleme der Bioinformatik“

2005/06/08 Proseminar „Problemstellungen der Bioinformatik“

Universität Bielefeld

2003 Seminar „Pervasive Computing“

2002 Praktikum „Angewandte Proteininformatik“

2001 Vertretung in der Vorlesung „Datenbanken“

1999/2001 Seminar „Proteininformatik“

Extramural Funding

- DFG ChemFrag (2011-2013) “Identification of metabolites and small compounds using mass spectrometry“, jointly with Dr. Brandt (IPB)
- EU COSMOS (2012-2015) “Developing an efficient e-infrastructure, standards and data-flow for metabolomics and its interface to biomedical and life science e-infrastructures in Europe and world-wide ”
- EU SOLUTIONS (2013-2018) “EU FP7 SOLUTIONS: Solutions for present and future emerging pollutants in land and water resources management ”

Activities

Editorial Board Membership:

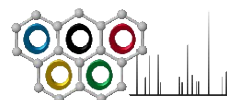
- Nature Publishing group *Scientific Data*
- MDPI Journal *Metabolites*
- Frontiers Journal *Plant Systems Biology*

Organisation of Conferences and Workshops:

- Annual conference of the Metabolomics Society, Metabolomics 2012 (Washington), Workshop: “Software Showcases”
- Annual conference of the German Society for Mass Spectrometry, DGMS 2010 (Halle), Workshop: “Computational Mass Spectrometry”
- German Conference on Bioinformatics, GCB 2009 (Halle),
- Metabolite Profiling Forum, MPF 2009 (Norwich), European XCMS Workshop

Other:

- Initiator of the CASMI contest series
”Critical Assessment of Small Molecule Identification”
- Member of the American Society of Mass Spectrometry (ASMS)
- Member of the Metabolomics Society



Halle, October 29, 2013