

Curriculum Vitae: Julia Handl

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General information

Surname, first names: HANDL, Julia Karena
Date of birth: 16th November 1979
Nationality: German
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Education

PhD (January 2004 – present)

Institution: Manchester Interdisciplinary Biocentre/Department of Chemistry, University of Manchester, UK.

Thesis title: *Multiobjective approaches to the data-driven analysis of biological systems.*

Supervisor: Prof. Douglas Kell.

Expected date of completion: December 2006

Diplominformatik (November 1998 – November 2003)

Institution: Friedrich-Alexander Universität Erlangen-Nürnberg, Germany.

Thesis title: *Ant-based algorithms for tasks of clustering and topographic mapping: extensions, analysis and comparison to alternative methods.*

Supervisor: Prof. Günther Görz, Prof. Marco Dorigo and Dr. Joshua Knowles.

Grades: Diplom 1.0, Vordiplom: 1.4 [German grade system: Pass range is from 1.0 to 4.0. Best mark is 1.0.].

Stays abroad:

- Visiting researcher (April 2003 – September 2003)

Institution: IRIDIA, Université Libre de Bruxelles, Belgium.

- Bachelor of Computer Science Honours (February 2001 – November 2001)

Institution: Monash University, Melbourne, Australia.

Thesis title: *Visualizing internet-queries using ant-based heuristics.*

Supervisor: Dr. Bernd Meyer and Prof. Hans-Jürgen Schneider.

Grades: First Class Honours.

Awards

Prizes

Young Bioinformatician of the Year. 2004. Young Bioinformaticians' Forum, Oxford, UK.

Prize for outstanding Masters and PhD theses of female engineering students. 2004. Bavarian Ministry for Science, Germany.

Diplompreis Informatik Winter Term 2003/04. Universität Erlangen-Nürnberg, Germany.

Dux of the year 2001 of Computer Science Honours. Monash University, Melbourne, Australia.

Best project industry prize 2001 of Computer Science Honours. Monash University, Melbourne, Australia.

Scholarships

Scholarship of the German Academic Exchange Service (DAAD). January 2006 – December 2006.

Scholarship of the Gottlieb Daimler and Karl Benz Foundation. January 2004 – December 2005.

Internet-scholarship of e-fellows.net. March 2002 – February 2006.

Scholarship of the German Academic Exchange Service (DAAD). April 2003 – August 2003.

Scholarship of the German Academic Exchange Service (DAAD). February 2001 – December 2001.

Travel Bursaries

Student travel bursary for the Third International Conference on Evolutionary Multi-criterion Optimization. March 2005.

DFG travel bursary for the Third International Conference on Hybrid Intelligent Systems. December 2003.

Student travel bursary for the Seventh International Conference on Parallel Problem Solving from Nature. September 2002.

Travel bursary of the French-German youth office. August 1996.

Professional experience

Academic activities

Invited talk at the UK KDD 2006 Symposium in Norwich, UK.

Organization of the special session on Evolutionary Clustering at the IEEE Congress on Evolutionary Computation (CEC 2005 + 2006).

Member of the program committee for the IEEE Congress on Evolutionary Computation (CEC 2005 + CEC 2006).

Member of the program committee for the Third International Conference on Evolutionary Multi-Criterion Optimization (EMO 2005).

Member of the program committee for the Genetic and Evolutionary Computation Conference (GECCO 2005 + GECCO 2006).

Member of the program committee for the Tenth Online World Congress on Soft Computing in Industrial Applications (WCS10).

Referee for the IEEE Transactions on Evolutionary Computation, the IEEE Transaction on Computational Biology and Bioinformatics, the IEEE Transactions on Systems, Man and Cybernetics, Pattern Recognition, Decision Support Systems, and the Journal on Applied Mathematics and Mathematical Modelling.

Posts in academia

Supervision of a series of undergraduate talks on *Machine Learning applied to Bioinformatics*. Universität Erlangen-Nürnberg, Germany. October 2002 – February 2003.

Student researcher at the System Simulation Group, Universität Erlangen-Nürnberg, Germany. February 2002 – April 2002.

Practical demonstration in *Theoretical Computer Science*. Universität Erlangen-Nürnberg, Germany. April 2002 – July 2002.

Practical demonstration in *Fundamental Algorithms*. Universität Erlangen-Nürnberg, Germany. October 2000 – February 2001.

Posts in industry

Internship/Freelance at 3SOFT GmbH, Tennenlohe, Germany. July 1998 – January 2001 and January 2002 – March 2003. Java, HTML and Visual Basic programming and work in software quality management.

Publications

Journal articles

- J1:** Handl, J., Knowles, J. and Kell, D. (2005). Computational cluster validation for post-genomic data analysis. *Bioinformatics* 21(15):3201-3212.
- J2:** Handl, J., Knowles, J. and Dorigo, M. (2005). Ant-based clustering and topographic mapping. *Artificial Life* 12(1). MIT Press. In press.
- J3:** Brown, M., Dunn, W. B., Ellis, D. I., Goodacre, R., Handl, J., Knowles, J. D., O'Hagan, S., Spasic, I. and Kell, D. B. (2005). A metabolome pipeline: from concept to data to knowledge. *J. Metabolomics* 1(1):39-51, Kluwer.

Conference contributions

- C1:** Handl, J. and Knowles, J. (2005). Multiobjective clustering around medoids. *Proceedings of the IEEE Congress on Evolutionary Computation (CEC 2005)*. IEEE Press. (volume 1, pp. 632–639)
- C2:** Handl, J. and Knowles, J. (2005). Improvements to the scalability of multiobjective clustering. *Proceedings of the IEEE Congress on Evolutionary Computation (CEC 2005)*. IEEE Press. (volume 3, pp. 2372–2379).
- C3:** Handl, J. and Knowles, J. (2005). Exploiting the trade-off: the benefits of multiple objectives in data clustering. *Proceedings of the Third International Conference on Evolutionary Multiobjective Optimization (EMO 2005)*. LNCS 3410, Springer-Verlag. (pp. 547–560).
- C4:** Handl, J. and Knowles, J. (2004). Multiobjective Evolutionary Clustering. *Proceedings of the Eighth International Conference on Parallel Problem Solving from Nature (PPSN 2004)*. LNCS 3242, Springer-Verlag. (pp. 1081–1091).
- C5:** Handl, J., Knowles, J. and Dorigo, M. (2003). On the performance of ant-based clustering. *Design and Application of Hybrid Intelligent Systems. Frontiers in Artificial Intelligence 104*. IOS Press. (pp. 204–213).
- C6:** Handl, J., Knowles, J. and Dorigo, M. (2003). Strategies for the increased robustness of ant-based clustering. *Self-Organising Applications: Issues, challenges and trends*. LNCS 2977, Springer-Verlag. (pp. 90–104).
- C7:** Handl, J. and Meyer, B. (2002). Improved Ant-Based Clustering and Sorting in a Document-Retrieval Interface. *Proceedings of the Seventh International Conference on Parallel Problem Solving from Nature (PPSN 2002)*. LNCS 2439, Springer-Verlag. (pp. 913–923).

Chapters in books

- B1:** Handl, J. and Knowles, J. (2005). *Multiobjective clustering and cluster validation*. Invited chapter to *Multiobjective machine learning*, edited by Yaochu Jin. Springer Series on Computational Intelligence. In press.

Other publications (technical reports omitted)

- O1:** Handl, J. (2004). *First Year Report*. Department of Chemistry, University of Manchester, UK.
- O2:** Handl, J. (2003). *Ant-based algorithms for tasks of clustering and topographic mapping: extensions, analysis and comparison with alternative techniques*. Masters Thesis, Department of Computer Science, Friedrich-Alexander Universität Erlangen-Nürnberg, Germany.
- O3:** Handl, J. (2001). *Visualizing internet-queries using ant-based heuristics*. Honours Thesis, Department of Computer Science and Software Engineering, Monash University, Australia.

Supplementary information

Language skills

English (fluent), French (5+ years), German (native), Latin (Latinum)

Special activities

Mentor in the WISE initiative at the University of Manchester, Manchester, UK. 2005.

Stairway representative at Roberts Hall, Monash University, Melbourne, Australia. 2001.

Chief editor of the yearbook at Albert-Schweitzer-Gymnasium, Erlangen, Germany. 1998.

Tutor for grade 5 students at Albert-Schweitzer-Gymnasium, Erlangen, Germany. 1996–1998.

Work on the school magazine at Albert-Schweitzer-Gymnasium, Erlangen, Germany. 1996 – 1998.

Youth work at the church St. Heinrich, Erlangen, Germany. 1993 – 1998.

Other interests

Literature (English, French and German).

Sports including handball, hiking, ski tours, squash and swimming.

Referees

Prof. Marco Dorigo
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Capacity: Supervisor (Diploma thesis)

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