Dr. Peggy Lindner

Center for Advanced Computing & Data Science
University of Houston

Contact:
Mobile Phone 713-382-5206
e-mail peggylind@gmail.com

EDUCATION

Ph.D. in Mechanical Engineering 2007
University of Stuttgart, Germany
Dissertation topic: Management of applications from science and engineering in heterogeneous Grid environments.

Diploma in Geotechnology/Mining 2000
Freiberg University of Mining and Technology, Germany

Pre-diploma in Geotechnology/Mining 1996
Freiberg University of Mining and Technology, Germany

PROFESSIONAL EXPERIENCE

Associate Director for Educational Programs April 2018 - Current
Hewlett Packard Enterprise Data Science Institute, University of Houston, Houston, TX

Development of Data science related academic programs across colleges

Lead for Summer workshop series “What is Data Science”

Research Assistant Professor, Department of Mechanical Engineering & Honors College Nov. 2013 - Current
Center for Advanced Computing & Data Science (CACDS), University of Houston, Houston, TX

Co-Director DASH: Data Analytics in Student Hands Program at the Honors College

Research: Object centered studies in digital humanities (Collaborator Dr. Dan Price)

Research: Real-Time data analysis workflows for air quality and health data (Collaborator Dr. Barry Lefer)

Assistance with assessment of effectiveness of research initiatives at the Honors College

Management and Analysis of large-scale datasets with specific focus on health, environment & the financial sector, Research Data Sharing, Digital Humanities Liaison for CACDS

Research Assistant Professor, Department of Computer Science November 2009 - December 2012
University of Houston, Houston, TX

Lead design and development of “StressBook” software – an analysis tool for large physiological & psychological datasets; funded through various grants from NSF and DoD (under Dr. Ioannis Pavlidis)

Data collection oversight, management and analysis for various projects involving large data sets

Supervision of graduate students

Visiting Scientist February 2012 – December 2012
Department of Surgery at The Methodist Hospital Research Institute, Houston, TX

Data collection and analysis (Matlab) for project “Stress Quantification during surgical training”

Lab Manager, Computational Physiology Lab August 2007 – December 2012
University of Houston, Houston, TX

Research Management for the Computational Physiology Lab (CPL) -preparation of grant proposals, IRB applications, budget coordination, technical consulting for new hardware acquisition

Administration and maintenance of the CPL hardware (thermal imaging equipment) and IT infrastructure

Thermal imaging data collection and analysis for “Contact Free Breast Cancer Diagnosis Through Thermal Imaging” at Department of Surgery at the Methodist Hospital Houston

Research Associate 2001- 2007

High Performance Computing Center (HLRS), Stuttgart, Germany

Member of the working group “Technical and Scientific Computing” and “Parallel and Distributed Systems”

- Design, implementation and evaluation of a tool to support the execution of HPC simulations (finite volume, finite elements) in heterogeneous computing environments; supervision of 2 master students;
- Technical lead of the HLRS in several EU funded projects, international collaborations and internal projects
- Project management of the EU funded DAMIEN project
- Administration and maintenance of HPC Cloud Software (Globus, UNICORE)

PUBLICATIONS

Journal Papers

- G. Toti, R. Vilalta, P. Lindner, B. Lefer, C. Macias, and D. Price, “Analysis of correlation between pediatric asthma exacerbation and exposure to pollutant mixtures with association rule mining” *Artificial Intelligence in Medicine*, Vol. 74, 2016, pp. 44-52 DOI: http://dx.doi.org/10.1016/j.artmed.2016.11.003.
- Y. Zhou, P. Tsiamyrtzis, P. Lindner, I. Timofeyev, and I. Pavlidis, “Spatio-Temporal Smoothing as a Basis for Facial Tissue Tracking in Thermal Imaging”, in *IEEE Transactions on Biomedical Engineering*, vol. 60, no. 5, pp. 1280-1289, May 2013.
- I. Pavlidis, P. Tsiamyrtzis, D. Shastri, A. Wesley, Y. Zhou, P. Lindner, P. Buddharaju, R. Joseph, A. Mandapati, B. Dunkin, and B. Bass, “Fast by Nature - How Stress Patterns Define Human Experience and Performance in Dexterous Tasks”, *NATURE Scientific Reports*, vol. 2, March 2012.
- P. Lindner, E. Gabriel and M. Resch, “GCM: a Grid Configuration Manager for heterogeneous Grid environments”, *International Journal of Grid and Utility Computing' (IJGUC)*, Vol. 1, No. 1, pp. 4-12, 2005
- P. Lindner and M. Resch, “GRIDWELTEN - User requirements and environments for Grid Computing”, *DFN Mitteilungen*, Vol. 62, pp. 13-15, June, 2003 (German)

Refereed Conference and Workshop Publications

- L. Hellmueller, V. Hase and P. Lindner “Terrorism in the News: Explaining Mediated Visibility of Organized Violence”, accepted for 69th Annual International Communications Association (ICA) Conference, Washington, D.C. May, 2019
- P. Lindner and K. Neumann, “Finding connection in ancient Syria”, (poster) in Digital Frontiers Conference, Lawrence, KS, October 2018.
- A. Amritkar, J. Ebalunode, M. Huarte-Espinosa, P. Lindner, Rondon P. Guillen, P. Guillen and A. Prosperetti, “Vistas in Advanced Computing”, in EduHPC-17: Workshop on Education for High-Performance Computing, SC-17: The International Conference on High Performance Computing, Networking, Storage, and Analysis, Denver, CO, November 2017.
- G. Toti, R. Vilalta, P. Lindner, and D. Price, “Effect of the Definition of Non-Exposed Population in Risk Pattern Mining”, in 5th Workshop on Data Mining for Medicine and Healthcare, 16th SIAM International Conference on Data Mining (SDM 2016), Miami, FL, May 2016
- Haripriya Ayyalasomayajula, Edgar Gabriel, Peggy Lindner, and Daniel Price, “Air quality simulations using big data programming models”, (short paper) in 2016 IEEE Second International Conference on Big Data Computing Service and Applications (BigDataService), pages 182–184. IEEE, 2016.
- I. Uyanik, P.Lindner,P. Tsiamyrtzis, D. Shah, N. Tsekos, and I. Pavlidis, “Applying a level set method for resolving physiologic motions in free-breathing and non-gated cardiac MRI”, in proceedings 7th International Conference on Functional Imaging and Modeling of the Heart – FIMH 2013, London, UK, June 2013
- A. Wesley, P. Lindner, and I. Pavlidis, “Eustressed or Distressed? Combining Physiology with Observation in User Studies”, Extended Abstracts *ACM Conference on Human Factors in Computing Systems (CHI)*, Austin, TX, May 2012.
- P. Lindner and J. Almond, “An Integrated Global Service for File Transfer and Management in a Network (FTM)”, Hamid R. Arabnia (Ed.): '*Proceedings of the International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA '04)*', June 21-24, 2004, Las Vegas, Nevada, USA, Vol. 3. , pp. 1063-1067, CSREA Press, 2004
- P. Lindner, N. Currle-Linde, M. Resch, and Edgar Gabriel, “Distributed Application Management in Heterogeneous Grids”, in *Proceedings of the Euroweb 2002 Conference*, Oxford, UK, pp. 145--154, December 17-18, 2002

- N. Currle-Linde, F. Boes, P. Lindner, J. Pleiss, and M. Resch, “A Management System for Complex Parameter Studies and Experiments in Grid Computing”, in T. Gonzalez (Ed.): *Proceedings of the IASTED Conference on Parallel and Distributed Computing and Systems (PDCS 2004)*, Cambridge, MA, USA, November 9-11, ACTA Press, 2004
- F. Bös, N. Currle-Linde, P. Lindner, R. Schmidt and J. Pleiss, “High-throughput molecular dynamics simulations: Long and short range effects of mutations on substrate specificity”, in R. Giegerich and Jens Stoye (Eds.): *Proceedings of the German Conference on Bioinformatics (GCB 2004)*, Bielefeld, Germany, pp. 123--130, October 4-6, 2004
- E. Gabriel, R. Keller, P. Lindner, M. Müller and M. Resch, “Software Development in the Grid: The DAMIEN tool-set”, in P. M. A. Sloot, D. Abramson, A. V. Bogdano, J. J. Dongarra, A. Y. Zomaya and Y. E. Gorbachev(Eds.): Computational Science - ICCS 2003, *Lecture Notes in Computer Science*, Vol. 2659, pp. 235--244, Springer, 2003

TEACHING ACTIVITIES

- ENGI 6397 Selected Topics: Data Science Projects, Spring 2018, co-taught with G. Toti
- R for Data Science, CACDS Courses: Summer 2018, Fall 2018
- HON4397 (Spring 2018) “Introduction to Digital Humanities”
- Introduction to Parallel Computing, CACDS Vistas in Advanced Computing Summer Program 2017/2018
- Introduction to R, CACDS Courses: Fall 2017, Spring 2018
- Introduction to Linux & Cluster Computing, CACDS Courses: Fall 2017, Spring 2018
- Data Analysis in R, CACDS Summer Bootcamps 2017/2018
- CCS 2350 – 19378 (Fall 2016) “Perspectives Cultural Studies: Big Data in Social Science”, co-taught with A. Bentley
- HON 4397 (Spring 2015) “Open Data: Tools for a New Age”
- Contributor to “Introduction to Computer Science”, undergraduate course, University of Stuttgart, 2004, responsible for Java exercises
- Contributor to “Parallel Computing”, graduate course, University of Stuttgart, 2003 and 2004, lectures on Grid Computing
- UNICORE Tutorial at the 5th PRAGMA Workshop 2003 (Hsinchu, Taiwan)
- UNICORE Tutorial at Grid Forum Korea 2003 (Seoul, South Korea)

GRANTS

- Teaching Innovation Program (TIP) Grant 2018 from University of Houston – PI “Data Science 101” $10,400
- DRC Seed Funding 2018 “Finding Connection in Ancient Syria” Co-PI with Dr. K. Neumann $3,000
- DRC Seed Funding 2017 “Embodied Approaches to Digital Inquiry in Art History” Co-PI with Dr. D. Price $3,000

SYNERGISTIC ACTIVITIES

- Advisory Board member Digital Research Commons (DRC) at the University of Houston 2017 - 2018
- Organization of CACDS booth at SC-17: The International Conference on High Performance Computing, Networking, Storage, and Analysis
- Financial Chair, IEEE International Conference on Advanced Video and Signal Based Surveillance, Santa Fe, New Mexico, September 1-3, 2008
- Member of Global Grid Forum (GGF), 2003-2005
- Member of organizing committee of the HLRS Metacomputing & Grid Workshop 2003
- Organisation of HLRS booth at ISC (International Supercomputing Conference) 2003, 2004

PROGRAMMING SKILLS & TOOLS

R, MPI, CUDA, C, C#, C++, Java, Fortran, Matlab, ANSYS, Python, Unix Scripting, Java Script, HTML

Tableaux, R-Studio, Jupyter Notebooks