

# UNIVERSITY OF HAMBURG

**Faculty: Mathematik, Informatik und Naturwissenschaften**

**Department: Mathematik**

**Seminar/Institute: Lothar Collatz Center for Computing in Science**

The Lothar Collatz School for Computing in Science funded by the Forschungsstiftung Hamburg invites applications of outstanding and enthusiastic young researchers with a strong record of creativity for

four 75% FTE PhD positions (Doktoranden)

- salary group 13 TV-L -

Starting date is **April 1<sup>st</sup>, 2012**, with weekly working time of **29.25** hours. The short-term contract will end **on May 31<sup>st</sup>, 2015** (see also § 2 of the Academic Fixed-Term Contract Law (Wissenschaftszeitvertragsgesetz)).

The university intends to increase the number of women amongst its academic staff and encourages qualified women to apply. In compliance with the Hamburg Equal Opportunity Law, preference will be given to qualified female applicants. Preference will be given to disabled applicants with equal qualifications.

## **Responsibilities:**

PhD students have to comply with the rules and duties of the Lothar Collatz School for Computing in Science. The school promotes computational education and research at the interface of Mathematics, Computer Science and Computational Sciences. Computing nowadays is an integral part in many fields of applied sciences. It serves as key technology for validating scientific theories and experiments, and for predicting the behavior of astrophysical, biological, chemical, economical, medical, meteorological, physical, and engineering systems. Against the background of increasing system and data complexity the successful application of computing in science in the future requires the strengthening of interdisciplinary research with mathematics and computer science as bonding research fields for the computational sciences. It is the mission of the school to promote education in the spirit of this paradigm in the research areas

1. High performance computing in the simulation sciences
2. Mathematical modeling & algorithm development
3. Model-based optimization and design
4. Scientific visualization and parallel processing

of the Lothar Collatz Center (<http://www.c3s.uni-hamburg.de>). PhD positions are available within the projects

A1 Adaptive Kernel-Based Particle Simulation Approaches for Large-Scale High-Performance Computations (contact Prof. Dr. Armin Iske: [iske@math.uni-hamburg.de](mailto:iske@math.uni-hamburg.de))

B1 Goal-oriented adaptive meshing in transient multi-scale flows (contact Prof. Dr. Jörn Behrens: [joern.behrens@zmaw.de](mailto:joern.behrens@zmaw.de))

C1 Model order reduction in variational data assimilation (contact Peter Korn: [peter.korn@zmaw.de](mailto:peter.korn@zmaw.de))

D1 Scalable in-situ and post-processing data analysis and visualization in simulation sciences (contact Stephan Olbrich: [stephan.olbrich@rrz.uni-hamburg.de](mailto:stephan.olbrich@rrz.uni-hamburg.de))

**Requirements:**

Successful candidates hold a Master/Diploma degree in mathematics, engineering, physics, or similar, adequate for the projects described above. They possess very good English language skills, a proven background in numerical analysis/applied mathematics/computational sciences, and ideally a track record in interdisciplinary research.

Preference will be given to disabled applicants with equal qualifications.

To apply, send by email a resume, including a statement of research interests, and a list of publications, not later than March 1, 2012, to

Prof. Dr. Michael Hinze

Scientific coordinator of the Lothar Collatz School for Computing in Science  
Department of Mathematics, University of Hamburg  
Bundesstr. 55, D-20146 Hamburg  
Email: [Michael.Hinze@uni-hamburg.de](mailto:Michael.Hinze@uni-hamburg.de)