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Roland Haas

Curriculum vitae

Personal information

Name	Roland Haas
Date of birth	May 29th 1980
Place of birth	Herbolzheim
Nationality	German, permanent resident of Canada

Experience

07/2016–current	**research programmer**, *NCSA*, Urbana, Advisor: Gabrielle Allen. Numerical Relativity
09/2014–07/2016	**Junior scientist / Postdoc**, *Albert Einstein Insititute*, Potsdam, Advisor: Alessandra Buonanno. Numerical Relativity
09/2011–08/2014	**Postdoctoral research fellow**, *Caltech*, Pasadena, Advisor: Christian Ott. Numerical Relativity
08/2008–09/2011	**Postdoctoral research fellow**, *Georgia Tech*, Atlanta, Advisor: Pablo Laguna. Numerical astrophysics

PhD thesis

title	*Self-force on point particles in orbit around a Schwarzschild black hole*
supervisors	Eric Poisson, University of Guelph, Canada

Master thesis

title	*Mass loss of a scalar charge in cosmological spacetimes*
supervisors	Eric Poisson, University of Guelph, Canada

Languages

German	native speaker
English	fluent
French	basic

Computer skills

Programming Languages	Fortran (77 and 90), C, C++, m68k assembly language, Perl, python, Tcl, awk, shell-scripting, basic html, LaTeX
Parallel code frameworks	MPI, OpenMP, basic CUDA
Application frameworks	Cactus computational toolkit, SpEC, PETSc
Version control	git, subversion, mercurial, darcs, cvs
Scientific software	numpy, matplotlib, gnuplot, VisIt, Paraview, doxygen
Operating systems	Linux (Debian, Ubuntu, RedHat), OSX, Windows (mostly XP, 95), AmigaOS
Infrastructure	Deployment and maintenance of apache-based group website, MediaWiki, centralized git and subversion repositories including customized web interface for user and repository management using Submin, setup of mailing lists using mailman and exim, user account management

Awards

2010–2012	NSERC postdoctoral Fellowship (USD 80,000)
2006–2008	NSERC postgraduate scholarship (CAD 41,000)
2005	Ontario Graduate Scholarship (CAD 15,000)
2005	Governor General's Academic Medal *Awarded by the Governor General to the student graduating with the highest average from a university program*

Memberships

2014–current	German Physical Society
2008–current	American Physical Society

Services

2008–current	Maintainer of the Einstein Toolkit, a collaborative NSF funded effort by LSU, RIT, Georgia Tech, and Caltech to provide robust simulation codes for numerical relativity and numerical astrophysics with 96 registered users at 50 different groups.
2012–current	Organizer of the relativity section of the weekly TAPIR seminars.
07/2013	Organizer of the Einstein Toolkit Summer Workshop at Caltech, where all maintainer met to discuss future directions of the project.
2007–current	Referee for PRD, PRL, and CQG.
04/2009	Session chair Numerical Simulations of Black holes and Neutron Stars, April APS meeting, Washington DC.

Lectures

- Tutorial session on writing an analysis module at the Spring Einstein Toolkit workshop attached to the April APS meeting in Atlanta, 2012.
- Tutorial session and introduction to the Einstein Toolkit at the Summer Einstein Toolkit workshop at the Caltech Gravitational-Wave Astrophysics School 2013.

Invited talks

- "Gravitational and electromagnetic signatures from the tidal disruption of stars", Caltech, Pasadena. CaJAGWR Seminars.
- "Three-Dimensional General-Relativistic Hydrodynamic Simulations of Binary Neutron Star Coalescence and Stellar Collapse with Multipatch Grids", UIUC, Urbana. Theoretical Astrophysics and General Relativity Seminar.

Grants

- Co-principal investigator of NSF XRAC grant TG-PHY100033 "Simulations of Rel- ativistic Astrophysical Systems"
- Co-principal investigator of NERSC project m152 "Central Engine Models for Core- Collapse Supernovae and Long Gamma-Ray Bursts"

Students mentored

- Jeffrey Kaplan. Graduate Student. Project: binary neutron star inspirals with SpEC.
- Jonas Lippuner. Graduate Student. Project: binary neutron star inspirals with SpEC.
- Sherwood Richers. Graduate Student. Project: Neutrino Transport in Supernova Simulations.
- Hannah Klion Summer. Undergraduate Research Fellowship (SURF) student in 2012, now working as an undergraduate researcher with the group. Project: Gravitational Waves from Rapidly Rotating Core-Collapse Supernovae.
- Cheol Woo (Peter) Park. Summer Undergraduate Research Fellowship (SURF) stu- dent in 2012. Project: black hole perturbation theory and white dwarf disruption by an intermediate mass black hole.
- Cutter Coryell. Summer Undergraduate Research Fellowship (SURF) student in 2013. Project: Testing Fully Dynamical Adaptive Mesh Refinement in the Einstein Toolkit.