

Jean-Claude Passy, Ph.D.

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Citizenship: French

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Resume Summary

Expert researcher in computer science, software development, numerics, and astrophysics

- 9 years of experience in international research environments
- Education in both engineering and academic research
- Expertise in computer science, software engineering, physics, and mathematics
- Numerous articles in specialized and general press
- Awards received for individual and team performance 2011-2015
- Management of mid-size teams of international researchers and software developers
- Adaptability, initiative, leadership, problem solving, synthesis skills

Employment

- 07/2018 - present **Max-Planck-Institut für Intelligente Systeme, Tübingen, Germany**
Team Lead at the Software Workshop. Additional tasks:
- Managerial duties: recruitment, budget management
 - Maintenance of infrastructure softwares + IT tasks
 - Supervision/mentoring of students
- 02/2017 - 06/2018 **Max-Planck-Institut für Intelligente Systeme, Tübingen, Germany**
Computer scientist at the Software Workshop
- Development and deployment of optimized software solutions
 - Collaboration with research groups on internal and external projects
 - Trainings, hackathons to teach good software development practices
- 02/2013 - 01/2017 **Argelander-Institut für Astronomie, University of Bonn, Germany**
Postdoctoral researcher in the stellar physics group.
- Developed a state-of-the-art gravity solver for 3D AMR CFD code
 - Managed a comparison study involving several multi-physics codes
 - Created an HDF5 framework for flexible and optimized data outputs
- 09/2009 - 01/2013 **American Museum of Natural History, New York, USA**
University of Victoria, Canada
Ph.D. in astrophysics. Topic: *Numerical modeling of stellar mergers.*
- Developed various numerical codes (CFD, multi-physics, visualization)
 - Produced and analyzed several HPC simulations using supercomputers
 - Member of a team studying the numerical resolution of fluid instabilities
- 2009 - 2015 **Teaching experience (undergraduate and graduate level)**
Fluid dynamics, stellar physics, nucleosynthesis, astronomy

Education

2007 - 2009	University of Orsay, France MSc in physics and astrophysics with honours
2005 - 2008	Ecole Nationale Supérieure de Techniques Avancées, Paris, France Engineer diploma. Specialization in fluid dynamics and space propulsion

Awards, Publications, and Allocated Resources

2014 - 2016	Alexander-von-Humboldt Stipendium für Postdoktoranden Prestigious two-year fellowship granted to conduct personal research
2013	Rodger Doxsey Prize, American Astronomical Society Among the 10/200 best theses presented at the 221st AAS meeting
2009 - 2015	Specialized Press: 21 publications, 619 citations, <i>h</i> -index: 13. ADS link. General Press: articles in Scientific American , LeMonde.fr , Science & Vie Compute Canada: Granted time and storage space on supercomputers

Skills

Scientific	Computer science: algorithmic, numerics, software development Physics: specialisation in fluid dynamics and astrophysics Mathematics: linear algebra, ODE/PDE solvers, machine learning
Computing	Numerical methods, CFD, HPC, data analysis and visualization C++, Python, Matlab, Fortran, CMake, HTML, JavaScript, LaTeX, Bash Git, Django, Ansible, Qt, OpenCV, MPI/OpenMP, HDF5, GPGPU Scrum methodology, Confluence, Jira, Bamboo, Crucible, Crowd Linux, OS X, Windows, GitLab, GitHub, Bitbucket
Human	Critical thinking, self-motivation, project planning, interpersonal
Languages	French (native speaker), English (fluent), German (very good)
Certificates	<i>Coursera</i> : machine learning, statistical inference <i>Vivat Lingua!</i> : Deutsch C1 Konversationskurs

Other Activities

- Referee for the *Agence Nationale de la Recherche* and specialized reviews (*ApJ*, *A&A*, *MNRAS*)
- Chairman of the job fair *Forum Trium* (2006). Managed a team of 8 people. Turnover: 500 k€
- Sports: basketball, bouldering, tennis