

Jean-Claude Passy, Ph.D.

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Summary

Scientist, Research Software Engineer, and DevOps with 10+ years of experience:

- Education in both engineering and academic research
- Expertise in industrial software development, computer science, and physics
- Numerous articles in specialized and general press
- Management of mid-size teams of international researchers and software developers
- Adaptability, leadership, initiative, problem solving, synthesis skills

Employment

- 07/2018 – present **Max-Planck-Institut für Intelligente Systeme, Tübingen, Germany**
Leader of the [Software Workshop](#).
Additional tasks:
- Managerial duties: recruitment, budget management
 - Maintenance of software infrastructure, DevOps and IT tasks
 - Supervision and mentoring of students
- 02/2017 – 06/2018 **Max-Planck-Institut für Intelligente Systeme, Tübingen, Germany**
Research Software Engineer 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 Astrophysics](#) 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 – 01/2017 **Teaching experience (undergraduate and graduate level)**
Fluid dynamics, stellar physics, nucleosynthesis, astronomy.

Education

- 2009 – 2013 **American Museum of Natural History, New York, USA**
University of Victoria, British Columbia, Canada
Ph.D. in astrophysics. [Link](#).
Title: *Modeling Close Stellar Interactions Using Numerical and Analytical Techniques*.
- 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

2007 – 2009	University of Orsay, France M.Sc. in physics and astrophysics with honours.
2005 – 2008	Ecole Nationale Supérieure de Techniques Avancées, Paris, France Engineer diploma (equivalent to M.Sc.). Specialization in fluid dynamics.

Awards and Grants

2014 – 2016	Alexander-von-Humboldt Stipendium für Postdoktoranden Prestigious two-year fellowship granted to conduct personal research.
2013	Rodger Doxsey Prize, American Astronomical Society Amongst the 10/200 best theses presented at the 221st AAS meeting .
2011–2014	WestGrid, Compute Canada Granted time and storage space on Compute Canada clusters.

Skills

Personal	Critical thinking, leadership, reliability, self-motivation, empathy
Scientific	Computer science: algorithmic, numerics, software development Physics: fluid dynamics, astrophysics Mathematics: linear algebra, ODE/PDE solvers
Computing	Languages: Python, C++, CMake, Makefile, PostgreSQL, Matlab, Fortran, Bash Libraries: Django, Dash, Flask, Cython, Boost, Qt, Celery, HDF5 Frameworks: Ansible, Docker, Jupyter, LaTeX Tools: git, Agile methodology, Confluence, Jira, Bamboo, Crucible, Crowd Platforms: Linux, mac OS, Windows Fields: Numerical methods, CFD, data analysis, data visualization
Languages	French (native speaker), English (fluent), German (C1)

Publications

Computer Science	Specialized: 7 publications, 1 patent. MPI link .
Astrophysics	Specialized: 30 publications, 1216 citations, h-index: 15. ADS link . General: articles in Scientific American and LeMonde.fr , interview for Science & Vie .

Memberships

Graduate Schools	Associated Scientist at the IMPRS-IS .
Collaborations	Memmo consortium, NuGrid collaboration.
Societies	Alexander von Humboldt Stiftung , Max Planck Society , de-RSE Society .

Other Activities

Works Council	Member of the Works Council (Betriebsrat) since 2018, first deputy since 2025.
Reviewer	Referee for the ANR and specialized reviews (ApJ, A&A, MNRAS).
Hobbies	Tennis, piano, LEGOs, hiking, basketball.