

# CURRICULUM VITAE OF ANDRÉ GALLI

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## PERSONAL INFORMATION

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*ORCID ID* 0000-0003-2425-3793  
*Nationality* Swiss  
*Date of birth* 7 October 1977  
*Languages* German, English, French, (Dutch, Italian)  
*Project funds acquired* 561,209 CHF



## EDUCATION

*2004 – 2008* **PhD at the Space Research and Planetary Sciences Division** of the University of Bern (Switzerland) on the magnetosphere and atmosphere of the terrestrial planets, comparing data of ESA's Mars Express and Venus Express missions to numerical models. Title of thesis: „Energetic Neutral Atoms Imaging of Mars, Venus, and the Heliosphere“, PhD degree obtained in February 2008.

## EMPLOYMENT HISTORY IN RESEARCH

*March 2018 until present* **Researcher, lecturer (Privatdozent), and project manager at the Space Research and Planetary Sciences Division at the University of Bern. Science activities include:**

- Laboratory experiments on the plasma interaction with surface analogues for the Moon, Mercury, and icy bodies in the solar system in preparation for ESA's BepiColombo and Jupiter Icy Moons Explorer (JUICE) missions
- Project scientist and science working group member including operations planning and data analysis for the mass spectrometer and the radiation monitor on JUICE
- Observation and modeling of the interaction of solar wind, magnetosphere, and atmosphere at Mars, the Earth, and other planets (incl. Mars Express and Tianwen-1 data analysis and preparation for the Plasma Observatory M-Class mission for Earth's magnetosphere)
- Heliospheric science: project manager and Co-I of NASA's Interstellar Mapping Probe (IMAP, to be launched in 2025), data analysis of energetic neutral atoms and interstellar neutrals observed with the Interstellar Boundary Explorer (IBEX), primary team member for the mission concept report of the Interstellar Probe
- Studies in planetary sustainability and advocacy for space research and exploration as part of sustainable development
- Public outreach for space science

*February 2013-February 2018* **Postdoctoral research at the Space Research and Planetary Sciences Division of the University of Bern:**

- Habilitation “Remote sensing of the heliosphere and of the interstellar environment” based on data from the Interstellar Boundary Explorer (IBEX).
- Experimental research on ion sputtering of icy surfaces and mission planning for the Bernese contribution to the Jupiter Icy Moons Explorer (JUICE).
- Main-author of the document “Critical Review of Energetic Neutral Atom Detection Technique” in the framework of the ESA project “Energetic Neutrals for Space Environment Monitoring”.
- Mass spectrometry and cometary atmospheres for the Rosetta science team.

*June 2012–  
January 2013*

**Postdoctoral research for the University of Bern and the Netherlands Institute for Space Research:**

- Measurements of Energetic Neutral Atoms from the heliosheath and from the terrestrial magnetosphere.
- Technical requirements for the CarbonSat environment satellite.

*May 2010 – May  
2012*

**Postdoctoral research at the Netherlands Institute for Space Research in Utrecht:**

- Develop and improve the retrieval algorithm for inverting infrared spectra of methane and CO for the upcoming Sentinel-5 Precursor and current satellite missions, such as GOSAT.
- Improve the spectroscopy relevant to atmospheric research.
- Support the definition of instrument requirements and the calibration of the spectrometer for the Sentinel-5 Precursor.

## TEACHING AND SUPERVISION OF JUNIOR RESEARCHERS

*2020 until present*

**Plasma Physics lecture** (Specialist and Advanced Course for graduate students), incl. development of a completely new lecture manuscript

*2013 until present*

**Supervising PhD, Master, and Bachelor students**

*2017 – present*

**Exercise courses in basic physics for students with Physics Major or Minor:** Main responsible for organizing the Physics 1 exercise course for Physics Major students since 2019

*2013 – 2017*

**Assisting group laboratory courses**, responsible for manuscript and website for several years

## PROFESSIONAL EXPERIENCE IN INDUSTRY

*January 2009 –  
December 2009*

Engineer for energy efficient buildings and technology consultant at the **engineering consultants hässig sustech gmbh:**

- Planning of low energy buildings.
- Leading a research project on natural air ventilation in schools.
- Technology consultant (including proposal writing) of the energie-cluster.ch for the development of new products and services in the sector of energy efficiency and renewable energy sources.

*July 2008 –  
October 2008*

**Internship at the NGO “myclimate”**, specialising on environmental education and the statistical evaluation of carbon offset projects.

## MEMBERSHIPS AND OFFICIAL FUNCTIONS (SELECTION)

- 2015 - present* Member of the following ISSI International Teams and Workshops:
- Towards a global unified model of Europa's exosphere in view of the JUICE mission: [www.issibern.ch/teams/exospherejuice](http://www.issibern.ch/teams/exospherejuice);
  - Surface bounded exospheres and interactions in the inner Solar System: [www.issibern.ch/workshops/exosphere](http://www.issibern.ch/workshops/exosphere);
  - The Heliosphere in the Local Interstellar Medium:
  - [www.issibern.ch/workshops/heliosphere](http://www.issibern.ch/workshops/heliosphere)
  - Improving the Description of Exosphere Surface Interface: <https://teams.issibern.ch/exospheresurfaceinterface/>
  - Co-leader of the (ISSI-ISSI Beijing Team "Understanding the Mars Space Environment through Multi-Spacecraft Measurements"
- 2016 – present* Representative of the PEP team in the ESA JUICE Science Working Group 2 (surfaces and atmospheres)
- 2017 - present* Reviewer for the NASA Solicitation and Proposal Integrated Review and Evaluation System
- 2007 - present* Member of the European Geosciences Union and the American Geophysical Union, active in the sections "Atmospheric Sciences" and "Space Physics and Aeronomy"
- 2012 - present* Referee for international scientific journals: Astrophysical Journal and Astrophysical Journal Letters, Icarus, Space Policy, International Journal for Remote Sensing, Atmospheric Measurement Techniques