Felix C. Seidel Caprez — Short CV

Jet Propulsion Laboratory / California Institute of Technology – Pasadena, CA, USA

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Felix Seidel, Scientist, Principal Investigator, and Program Manager at NASA/Caltech's Jet Propulsion Laboratory (JPL), holds a Ph.D. in Natural Sciences and an M.S. in Atmospheric & Climate Sciences. He is committed to enhancing NASA and JPL's societal influence by formulating compelling science and mission concepts. His expertise spans climate research, including aerosol, radiation, cloud dynamics, wildland fires, air quality, and weather. As Manager of JPL's Science Research & Concept Development Office, Felix leads the Earth science Research and Analysis (R&A) program, overseeing science proposals, program management, coordination, and team leadership.

Experience

Scientist
JPL/Caltech, Pasadena CA   2019–present

- 2023- Manager, Science Research & Concept Development Office 8310 - Responsible for R&A program
- 2023- Council Member, Scientific Understanding from Data Science (SUDS) initiative
- 2023- JPL Representative, NASA Earth System Observatory (ESO) Integration Framework Formulation tiger team
- 2022- Earth Venture Suborbital (EVS-4) Portfolio Mngr., on behalf of Earth Science Research & Mission Formulation Office 8300
  - Matured multiple EVS-4 concepts ensuring high-quality submissions
- 2022- Principal Investigator, JPL strategic initiative on wildfires & JPL POC for wildfire science activities across NASA and JPL
  - Captured large mission concept study to showcase scalable wildfire management remote sensing capabilities
  - Spearheaded JPL's strategic initiative on wildfires, driving increased research focus
  - Assisted NASA HQ in successfully launching the FireSense Project Office
- 2022- Discipline Program Manager (DPM), Weather & Atmospheric Dynamics
- 2021- DPM, Atmospheric Composition
  - Secured long-term funding for research lab and workforce, ensuring sustained scientific progress
  - Achieved above average win rate for JPL PI-led ROSES proposals
  - Organized review panels and site visits, ensuring effective communication and collaboration between JPL and NASA HQ.
- 2021-2022 Co-lead, strategic partnerships of SUDS initiative
  - Established a strategic partnership, resulting in improved collaboration and more efficient research efforts
- 2020- Co-lead, Suborbital Observing system of the NASA ESO / Atmosphere Observing System (AOS) Mission
  - Helped to define prioritized science and observing system requirements and implementation options
- 2020-2022 Instrument Scientist, NASA ESO/AOS Mission through Pre-Phase A
  - Developed an innovative instrument concept for NASA's Atmospheric Observing System (AOS) mission
- 2020-2021 Prepared Inter-Agency Agreements for NASA's Multi-Angle Imager for Aerosols (MAIA) mission

Program Scientist
NASA Headquarters, Washington DC.   2017–2019

- Program Scientist, NASA's TROPICS EVI-3 satellite mission
  - Was responsible for the scientific oversight of TROPICS, incl. Program Level Requirements
  - Advocated successfully for the launch of the TROPICS qualification unit, paving the way for impactful research
- Contributed significantly to NASA's 2017 Earth Decadal Survey implementation plan, guiding future missions.
- Managed the *Aerosol Cloud Ecosystem* (ACE) pre-formulation study
- Program Scientist, NASA's *ObseRvations of Aerosols above CLouds and their intEractionS* (ORACLES) EVS-1 mission
- Supported management/oversight of NASA Earth Science missions (Flight) & research programs (R&A)

Data Scientist/Technologist/Scientific SW Engineer
JPL/Caltech, Pasadena CA   2013–2017

- Managed major NASA airborne campaigns such as ACEPOL and FIREX-AQ/ER-2, delivering key scientific data
- Developed operational data processing software for extracting and visualizing key information for end-users
  - Discovered bias in optical snow grain size and albedo data during snowmelt conditions, suggesting improvements

Senior Postdoctoral Scholar
JPL/Caltech, Pasadena CA   2011–2013

- Team member Airborne Snow Observatory (ASO)
  - Developed remote sensing (imaging spectroscopy) algorithms and data products
  - Derived snow albedo and radiative forcing by light-absorbing impurities using imaging spectroscopy

Astronaut Applicant
European Space Agency   2008
- Demonstrated skills to pass multiple selection steps

Education

Ph.D. Natural Sciences
University of Zurich, Switzerland   2011
- Developed a fast atmosphere radiative transfer model
- Thesis: Radiative Transfer and Aerosol Remote Sensing. `https://doi.org/10.5167/uzh-48713`

Summer School
European Space Agency, Frascati, Italy   2008
- Earth Observation Summer School on Earth System Monitoring and Modelling

M.S. Atmospheric & Climate Sciences
Swiss Federal Institute of Technology (ETH)   2004
- Thesis: Temporal and Spatial Variations in Remotely Sensed Atmospheric Water Vapor over Africa from 1983-2003

Skills

- Leadership: proficient in building & leading motivated, diverse teams, fostering collaboration and communication.
- Program Management: experienced in running large research programs.
- Project/Task Management: adept at planning and managing personnel, schedule, cost, risk, progress, and reporting to ensure the successful delivery of projects and tasks.
- Communication: excellent at exchanging ideas, knowledge, and data with clarity, precision, and purpose, ensuring effective communication with team members, stakeholders, and partners.

Awards

NASA
- 2020 Group Achievement Award for successful Firex-AQ airborne campaign.
- 2019 Group Achievement Award for outstanding scientific achievements of the ObseRvations of Aerosols above CLouds and their intEractionS (ORACLES) airborne Earth science mission team.
- 2017 Group Achievement Award for exceptional AirMSPI science planning, sensor operations, ground support, calibration, and data processing during the CalWater-2, RADEX, ImPACT-PM, and ORACLES campaigns.
- 2014 Group Achievement Award for highly successful Airborne Snow Observatory demonstration opening a new era in quantitative knowledge of snow water resources.
- 2014 Group Achievement Award for outstanding efforts resulting in the successful deployment of the Airborne Multiangle SpectroPolarimetric Imager in NASA's PODEX, pre-HyspIRI, and SEAC4RS campaigns.

JPL
- 2022 Team award: JPL AOS Project Pre-Formulation Team
- 2021 Team award: MAIA Surface Monitor Team
- 2020 Team award: Leading research and outreach activities related to the impact of the COVID-19 regulations on air quality.
- 2017 Bonus award for success on the ORACLES Field campaign.

Publications

30 Scientific peer-reviewed papers (1800 citations, H-index of 22), 2 books or chapters, 2 theses, and 60+ conference abstracts and reports. Full publication record: `https://scholar.google.com/citations?user=tBEvjsgAAAAJ`

Outreach

Delivered 11 Invited Talks, 2 Town Halls talks, and 20+ talks at prestigious international scientific conferences, universities, and research institutions. Featured Speaker at American Geophysical Union (AGU) and American Meteorological Society (AMS) Conferences Town Halls.