

Daniel MARGERIT

Research and Modeling Engineer

39 Avenue des Grands Pins, 31660, Buzet-sur-Tarn

✉ daniel.margerit@gmail.com

📄 [Daniel-Margerit](#)

🌐 [danielmargerit](#)



With 20 years of experience as a consultant in the Aeronautics industry, I have solid expertise in analyzing and modeling the functional requirements of complex systems. With 10 years of research and teaching in fluid mechanics, I have solid expertise in modeling and scientific computing.

Key Skills

- Physical and Mathematical Modeling
- Specification (UML, Archimate) and Formalization
- DoE Methods, MDAO, Data Science, RUP, MBSE
- Development in Python, Matlab, Fortran, C++
- Technical Project Management

Qualities

- Analytical and Creative Mindset
- Rigor and Perseverance
- Adaptability and Communication

Education

PhD Fluid Mechanics 1997
INPL Nancy

Engineering Degree 1993
Fluid and Thermal Mechanics
ENSEM-INPL Nancy

Qualifications

Applied Mathematics 2002
Section 26 CNU

Mechanics 2002
Fluid and Thermal Mechanics
Section 60 CNU

E-Learning

Enterprise Architecture 2024
MBSE 2023
Probability 2018
MOOC Coursera

Languages

French Native Language
English Professional

Interests

Scientific Research
Listening to Science Podcasts
Volunteering in Math Associations

Aeronautical Industry Consultant

2004 – Present : Capgemini - Toulouse

Data Science and Optimization Engineer

- MDAO studies ([gemseo](#), [SoSTrades](#), OpenVSP)
- Design of interface mock-ups and regression with scikit-learn

Business Analyst

- Valorization of research for CIR (6 months)
- Capture and analysis of Airbus Tech Data processes via Archimate
- Requirements documents in UML for the Airbus Digital Stress Dossier project
- UML specifications with Topcased/Papyrus for the Airbus e-logbook project
- Business lead of the Caesam/Python Framework of Airbus's ISAMI tool (6 years)

Occasional Trainer

- Airbus training on *ISAMI Static* and *Metallic Static Strength*

Python and Matlab Developer

- Python in MDAO in the Airbus SoSTrades team (10 months)
- Python on Abaqus, Scilab in fatigue (R-curve) and Matlab in vibratory post-processing
- Aero and mechanical optimization chains under Python with Optimus for Snecma

Structural Engineer

- Airbus structural certification (6 years) and Patran/Nastran simulation on frame 40

Researcher and Teacher

2000 – 2004 : IMFT & CERFACS - Toulouse

Research Engineer and Trainer

- CFD calculations with Elsa and implementation in C++ and Python
- Development of a 3D simulation software in C (European project CWAKE)
- Trainer at CNAM evening courses on *Numerical Methods in Aerodynamics*

1998 – 2000 : Mathematics Institute, Warwick University - Coventry (UK)

Post-Doctoral Researcher

- Electro-physiological behavior of the cardiac muscle
- Asymptotic methods with Maple and development of a spectral code in C

1994 – 1998 : LEMTA - Nancy

Researcher and Teacher

- Dynamics of curved vortex filaments with Fortran, Matlab, and Maple
- Teaching in *Fluid Mechanics* and *Mathematics* at ENSEM Nancy

1993 – 1994 : Nuclear Studies Center (CENG) - Grenoble

Test Design Engineer

- Modification of a thermal treatment furnace for irradiated uranium pellets