

University Academic Curriculum Vitae

Personal information

Name: Ali Asghar Bataleblu

Education since leaving school

- year and title of first degree; (and university)
2009, B.Sc. in Aerospace Engineering, MUT, Shahin-Shahr, Iran
- year and title of post-graduate degrees (and university)
2012, M.Sc. in Aerospace Engineering, Flight Dynamics and Control, K.N Toosi University of Technology, Tehran, Iran
- year, subject area and title of PhD (and university)
2018, Ph.D. in Aerospace Engineering, Flight Dynamics and Control, K.N Toosi University of Technology, Tehran, Iran
- year, subject area and title of Habilitation (and university)
Co-Supervisor and Advisor of M.Sc. and Ph.D. students, Faculty of Aerospace Engineering Department, Khaje Nasir Toosi University of Technology

Present appointment

- Title of appointment: Postdoctoral Researcher
- start of appointment: Feb. 2023
- Level of appointment (national / international context): international
- employer (University, research institute, status of university / institute): Sustainable Manufacturing Laboratory, Free University of Bozen-Bolzano
- brief description of responsibilities:
 - Developing a sustainability tool for the “Sustainable Factory Design Decomposition – SFDD” project funded by the Autonomous Province of Bolzano, (Grant number TN221R)
 - Leading a systems engineering research group

Professional experience

Chronological list of all previous employments (each with job title, starting and finishing dates, level, employer, responsibilities)

From / to	Job title	Name of academic Institution	Academic level	employer	responsibilities
Oct.2022/Jan.2023	Systems Engineer	Smart Mini Factory Laboratory at UNIBZ	PostDoc	Prof. Erwin Rauch	Requirements writing and system decomposition
2010/2022	Researcher and Teacher	Intelligent Control Systems Institute at KNTU	M.Sc. and Ph.D.	Prof. Jafar Roshanian	Systems Engineer and the Head of MDO Center

Participation in exhibitions (where applicable)

In the case of practice-related projects carried out in co-operation with studios, agencies or other people, please specify your own contribution to and role in the project.

- Collaborated with the SMF4INFRA project team in the Smart Mini Factory Laboratory at UNIBZ on closing the gap between digital twin of a factory and its physical systems.
- Collaborated with Prof. David Cochran from (Purdue University Fort Wayne, USA) on systems design decomposition of the SFDD project in the Sustainable Manufacturing Lab. at UNIBZ
- Collaborated with Prof. David Cochran from (Purdue University Fort Wayne, USA) and Prof. Seyoum Eshetu Birkie (from KTH University) on systems design decomposition of the SME5.0 project in the Sustainable Manufacturing Lab. at UNIBZ
- Developed several deterministic and Non-deterministic MDO software during

my Ph.D. and as the head of the MDO center at KNTU

Where applicable: Design competitions and awards received
(Only list competitions that were won or those with a relevant placement and/or award, with name and date of competition)

List of major exhibitions, Title, date, location.

- Distinguished doctoral dissertation at KNTU by the Iranian Aerospace Association, 2019
- Registered a patent at the Intellectual Property Center of Iran, 2021
- Received the Young Scientist Award at the International Conference on Quality Innovation and Sustainability (ICQIS) 2024 in Lisbon, Portugal

Experience in academic teaching

- title of courses given last 5 years, name of University/Institute, subject area, academic level (under-/post-graduate / PhD), results of evaluations (full details in appendix)
 - Flight Dynamic & Control, Teacher Assistant, Aerospace Engineering Department, KNTU, Tehran, Iran (post-graduate)
 - Multidisciplinary design optimization, Teacher, Intelligent Control Systems Institute, Aerospace Engineering Department, KNTU, Tehran, Iran (post-graduate)
 - Uncertainty-based design, Teacher, Intelligent Control Systems Institute, Aerospace Engineering Department, KNTU, Tehran, Iran (post-graduate)
 - Engineering optimization, Teacher, Intelligent Control Systems Institute, Aerospace Engineering Department, KNTU, Tehran, Iran (post-graduate)
 - Systems Engineering and Design of Complex Systems, Teacher, UNIBZ, 47572 · ING-IND/16 · LM-33 Industrial Mechanical Engineering · EN
 - Systems Engineering For The Design Of Cyber-Physical Systems, UNIBZ, 46062 · PhD ASE - Advanced-Systems Engineering · EN
- Summary of significant personal achievements in teaching
 - Students could learn the course material better through simple examples
 - Defining relevant projects for students can let them learn how to work as a team member and deal with practical problems
- Postgraduate supervision (PhD level): number of students supervised in the last five years with subject areas:
 - I have been the advisor and co-supervisor of 3 M.Sc. and 3 Ph.D. students in the last five years.

Other academic responsibilities

- internal appointments to faculty and university boards
- external appointments at national and international level
- responsibilities for organizing conferences/seminars/exhibitions (place, duration, institute)
 - *Lecturer, SME5.0 Doctoral Winter School, Bolzano, Italy*
 - *Organizer of the 3rd IAAD summer school, International Summer School on Axiomatic Design, Free University of Bozen-Bolzano, Italy*
 - *Workshop Organizer, TU Austria Summer School Doc+, Leoben, Austria, Workshop on Axiomatic Design*

Memberships

- *Lecturer and Tutoring, 2nd IAAD International Summer School on Axiomatic Design, Bolzano, Italy*

Membership of academic or professional bodies (including membership of Editorial Boards of scientific publications; membership of scientific committees for international conferences)

I have been the reviewer of the following Journals:

- *Structural and Multidisciplinary Optimization*
- *Production & Manufacturing Research*
- *Journal of Engineering Design*
- *IEEE Access*
- *IEEE Transactions on Cybernetics*
- *Software and Systems Modeling*

- *Engineering Applications of Artificial Intelligence*
- *Applied Soft Computing Journal*
- *International Journal of Aerospace Engineering*
- *AIAA AVIATION Forum (2023 & 2024)*

Research and scholarships

- Summary of current research and scholarship
- *Developed a comprehensive and targeted sustainability development and assessment framework during my postdoctoral SFDD project IN SML at UNIBZ*
- *Provided a system design decomposition based on axiomatic design theory for the research project: FAST-322/2022 - occasional assignment "SMART-APP" TN201I in SMF at UNIBZ*
- *Developed several deterministic and non-deterministic MDO tools*
- Summary of research and scholarship during the previous five years
- *Developed a Multi-Agent systems design framework to manage operations and monitor unexpected events*
- *Developed an MDO Software for a Multi-Purpose aerial vehicle*
- *Developed MDO and UMDO Software for a General Aviation Aircraft*
- Summary of significant achievements in research and scholarship
- *managing several successful projects with the participation of various university professors, communicating with a range of stakeholders, developing multiple software, and publishing scientific articles*
- Research grants and contracts

Date granted	Award Holder(s)	Funding Body	Title	Amount received
01/02/2023	Ali Asghar Bataleblu	Free University of Bozen-Bolzano	Sustainable Factory Design Decomposition – SFDD	82800 EUR
18/10/2022	Ali Asghar Bataleblu	Free University of Bozen-Bolzano	FAST-322/2022 - occasional assignment "SMART-APP" TN201I	1850 EUR

Publications

Publications over the last 15 years in chronological order within each category following the International Standard for bibliographic references with DOI whenever possible. With multiple authorship the main author's name appears in *Italics*. In addition, in the left-hand margin please star (*) what you consider were especially significant publications. For accepted but not yet published works please indicate expected publication date. PUBLICATIONS WILL ONLY BE EVALUATED WHEN THEY CAN BE TRACED IN PUBLIC CATALOGUES.

- Books – Authored
- Books – Edited
- Chapters in books

1- Benyamin Ebrahimi and Ali A. Bataleblu (2024),

Chapter Title: Intelligent Reliability-Based Design Optimization: Past and Future Research Trends

Book: Developments in Reliability Engineering, Edited by Mangey Ram. DOI: 10.1016/B978-0-443-13242-1.00026-6

Link:

<https://www.sciencedirect.com/science/article/abs/pii/B9780443132421000266>

2- Ali A. Bataleblu (2019)

Chapter Title: Computational Intelligence and Its Applications in Uncertainty-Based Design Optimization

Book: Bridge Optimization - Inspection and Condition Monitoring, Yun Lai Zhou and Magd Abdel Wahab, IntechOpen. DOI: 10.5772/intechopen.81689

Link: <https://www.intechopen.com/chapters/64665>

- Conference papers
 - 1- H. Alejandro Barrero-Arciniegas, Ali A. Bataleblu, Erwin Rauch, "Design Parameters for Resilience in Cyber-Physical Production Systems", 6th International Conference on Industry 4.0 and Smart Manufacturing (ISM 2024), Prague, Czech Republic.
 - 2- Ali A. Bataleblu, Erik Felix Tinsel, Benjamin Schneider, Erwin Rauch, Armin Lechler, Oliver Riedel, "AI-MBSE-Assisted Requirements Writing and Management – Towards A Knowledge-based Framework", In DS 134: Proceedings of the 26th International DSM Conference (DSM 2024), Stuttgart, Germany (pp. 050-058).
 - 3- Ali A. Bataleblu, Erwin Rauch, David S. Cochran, "Sustainability Assessment: A Complex Many-Objective Multiagent Multidisciplinary Problem", 3rd International Symposium on Industrial Engineering and Automation (ISIEA 2024), Bolzano, Italy.
 - 4- Ali A. Bataleblu, Erwin Rauch, David S. Cochran, "Sustainable Manufacturing Design Decomposition based on Axiomatic Design Theory", 5th International Conference on Quality Innovation and Sustainability (ICQIS 2024), Lisbon, Portugal.
 - 5- Ali A. Bataleblu, Erwin Rauch, John Fitch, David S. Cochran, "Model-based Systems Engineering for Sustainable Factory Design", 31st CIRP Conference on Life Cycle Engineering (LCE 2024), Turin, Italy.
 - 6- Ali A. Bataleblu, Erwin Rauch, David S. Cochran, Dominik T. Matt, "Impact of European Sustainability Reporting Standards Guidelines on the Design of Sustainable Factories and Manufacturing Systems", In International Scientific-Technical Conference MANUFACTURING, pp. 237-253. Cham: Springer Nature Switzerland, 2024.
 - 7- Elahe Atarisharghi, Ali A. Bataleblu, Asja Emer, Michaela Golser, Erwin Rauch, Dominik T Matt, "Application of Life Cycle Assessment (LCA) in the Fast-Moving Consumer Goods Sector", In International Scientific-Technical Conference MANUFACTURING, pp. 254-268. Cham: Springer Nature Switzerland, 2024.
 - 8- Erwin Rauch, Ali A. Bataleblu, Michaela Golser, Asja Emer, Dominik T Matt, "Potential of Graph Database Visualization of the Supplier Network to Increase Resilience in Multi-tier Supply Chains", In International Scientific-Technical Conference MANUFACTURING, pp. 125-139. Cham: Springer Nature Switzerland, 2024.
 - 9- Ali A. Bataleblu, Erwin Rauch, David S. Cochran, "Model-Based Systems Engineering in Smart Manufacturing - Future Trends Toward Sustainability", In Proceedings of the 15th International Conference on Axiomatic Design 2023. ICAD 2023.
 - 10- Ali A. Bataleblu, Erwin Rauch, David S. Cochran, "Smart Mobile Factory Design Decomposition Using Model-Based Systems Engineering", In Proceedings of the 15th International Conference on Axiomatic Design 2023.
- Journal articles in refereed academic journals (with DOI whenever possible)
- Journal articles in professional journals
 1. Ali A. Bataleblu, Erwin Rauch, David S. Cochran, "Resilient Sustainability Assessment Framework from A Transdisciplinary System-of-Systems Perspective", *Sustainability*. (2024), 16(21):9400.
 2. Benyamin Ebrahimi, Ali A. Bataleblu, Jafar Roshanian, Ehsan Khorrambakht, "A Novel Approach to Feasible Optimal Cooperative Search and Coverage for Wildfire Emergency Management", *International Journal of Disaster Risk Reduction*, (2024): 104615.
 3. Benyamin Ebrahimi, Jafar Roshanian, Ali A. Bataleblu, "Optimal Strategy for Multi-agent Mission Segregation: Search and Coverage Application", *Journal of Aerospace Science and Technology*, 17(1), pp.34-46.
 4. Benyamin Ebrahimi, Ali A. Bataleblu, Jafar Roshanian, "Developing

an Intelligent Systems Design Framework Based on Multidisciplinary Design Analysis and Multi-Agent Thinking Integration”, Expert Systems With Applications, 248 (2024): 123363.

5. Arian Abedini, Ali A. Bataleblu, Jafar Roshanian, “Co-Design Optimization of a Novel Multi-Identity Drone Helicopter (MICOPTER)”, Journal of Intelligent & Robotic Systems, (2022) 106(3), p.56.

6. Jafar Roshanian, Ali A. Bataleblu, B. Ebrahimi, M. H. Farghadani, “Design Optimization Software for a Type of General Aviation Aircraft: A Multidisciplinary Approach”, Aerospace Knowledge and Technology Journal, 8(2), 91-107 (2020).

7. Jafar Roshanian, Ali A. Bataleblu, Masoud Ebrahimi, “A Novel Meta-Model Management Strategy for Robust Trajectory Design of an Expendable Launch Vehicle”, Proceedings of the Institution of Mechanical Engineers, Part G: Journal of Aerospace Engineering, (2020) 234(2), pp.236-253.

8. Jafar Roshanian, Ali A. Bataleblu, Masoud Ebrahimi, “A Novel Evolution Control Strategy for Surrogate-Assisted Design Optimization”, Structural and Multidisciplinary Optimization, 58, pp.1255-1273 (2018).

9. Jafar Roshanian, Ali A. Bataleblu, Masoud Ebrahimi, “Robust Ascent Trajectory Design and Optimization of A Typical Launch Vehicle”, Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 232(24), pp.4601-4614 (2018).

- Official reports (whole or part)
- Other publications
- Exhibitions

Articles published by others in magazines, etc. about the applicant or his/her projects

Publications about the applicant

Further data

Presentations at scientific conferences over past 3 years (invited or selected, keynote, nature and status of conference)

1- Present one paper at the DSM Conference (DSM 2024), Stuttgart, Germany.

2- Present one paper at the 3rd International Symposium on Industrial Engineering and Automation (ISIEA 2024), Bolzano, Italy.

3- Present one paper at the 5th International Conference on Quality Innovation and Sustainability (ICQIS 2024), Lisbon, Portugal.

4- Present one paper at the 31st CIRP Conference on Life Cycle Engineering (LCE 2024), Turin, Italy.

5- Present three papers at the MANUFACTURING-2024 conference, Poznan, Poland.

6- Present two papers at the 15th International Conference on Axiomatic Design (ICAD 2023), Eindhoven, Netherlands.

Entrepreneurs hip

Spin-offs, patents and entrepreneurship

- 1- Registered one patent at the Intellectual Property Center of Iran.

Link: <https://ipm.ssaa.ir/Search-Result?page=1&DecNo=140050140003005787&RN=106671>

Statement of interest

Candidates should outline reflexively their expected contribution to the advertised position at the unibz and to the university overall. This statement should highlight relevant elements of the candidate's CV that underline the particular suitability of the applicant.

As can be seen from my resume, I have more than ten years of research and

development experience in academia in the field of systems engineering and optimization. During my postdoctoral period, I pursued my studies and applied my systems engineering knowledge to address the recent sustainability problem in the EU. I also have been collaborating with different research groups from different universities on different projects. In continuation of my collaboration with UNIBZ on systems engineering for sustainability and providing solid tools for a targeted assessment, I would like to apply for this position since it allows me to be part of the EDU-CIRC project team which focuses on teaching and training and enhance my knowledge on circular economy. I am certain that my skills and experiences are totally aligned with the activities pointed out in the position description.

**Language
competence**

Written and spoken competence in all languages according to CERF levels, Common European Reference Framework (http://www.coe.int/t/dg4/linguistic/cadre1_en.asp); append certificates wherever available

- Persian (Native)
- English (Professional Proficiency)

Date

Signature