



Curriculum Vitae Halimeh Moghbeli-Damaneh

Personal Data

First Name: Halimeh

Last Name: Moghbeli-Damaneh

Gender: Female

Birth Date: 23-8-1984

Nationality: Iranian

E-mail: halimeh.moghbeli@fau.de; h.moghbelii@gmail.com

Address: Raum 11.125
Martensstraße 3
91058 Erlangen
Telefon: +49 9131 85-20198

Education

- **PhD in Pure Mathematics**, Shahid Beheshti University, Tehran, Iran, 2009–2014

Dissertation: Actions of ordered Monoids on Directed Complete Posets

Supervisor: Prof. Mojgan Mahmoudi

Advisor: Prof. Mohammad Mehdi Ebrahimi

- **Master in Pure Mathematics**, Shahid Beheshti University, Tehran, Iran, 2007–2009

Dissertation: Generalized Ultrametric Spaces in Quantitative Domain Theory

Supervisor: Prof. Mohammad Mehdi Ebrahimi

Advisor: Prof. Mojgan Mahmoudi

- **Bachelor in Pure Mathematics**, Shahid Bahonar University, Kerman, Iran, 2002–2006
- **High School Diploma**, Jiroft, Iran, 1998–2002

Research Interests

- Domain Theory, Automata and Formal Language Theory, Category Theory, Universal Algebra, Semantics of programming languages

The main Courses attended at FAU:

- Artificial Intelligence I, Logic-Based Natural Language Semantics

The main Courses taken in Masters and Ph.D. program:

- Advanced Algebra, Universal Algebra, Category Theory, Point-free Topology, Lattices and Order Theory, Fuzzy Commutative Algebra, Manifold, Introduction to Commutative Algebra, Real Analysis, BCI-Algebra

Honors

- Receiving First Grade position in Bachelor in Pure Mathematics
- Receiving First Grade position in Master in Pure Mathematics
- Receiving First Grade position in PhD in Pure Mathematics

Professional Activities

- **PC member**, 10th International Symposium on Domain Theory (ISDT 2024) Qufu, Shandong, China, 2–5 August 2024.
<https://isdt2024.github.io/ISDT2024/Committee.html>
- **Reviewer for Journals:** Theoretical Computer Science, Journal of Pure and Applied Algebra, Proceeding of The American Mathematical Society, Categories and General Algebraic Structures with Applications

Publications

- *Euclidean metric frames which are not spatial*, joint with A. Karimi Feizabadi and M. Manafi, accepted for publication in Algebra Universalis, 2026, DOI: 10.1007/s00012-026-00916-z
- *Frame congruences via subkernels*, Quaestiones Mathematicae, Volume 44, Issue 12, 1783–1793 (2021), <https://doi.org/10.2989/16073606.2020.1829149>

- *Directed complete poset congruences*, joint with M. Mahmoudi and K. Pioro, Journal of Pure and Applied Algebra, Volume 223, Issue 10, 4161–4170 (2019), <https://doi.org/10.1016/j.jpaa.2019.01.003>
- *Natural congruences and isomorphism theorem on directed complete posets*, joint with M. Mahmoudi and K. Pioro, Algebra Universalis, Volume 77, Issue 1, 79–99 (2017), <https://doi.org/10.1007/s00012-017-0424-5>
- *Free and cofree acts of dcpo-monoids on directed complete posets*, joint with M. Mahmoudi, Bull. Malays. Math. Sci. Soc. Volume 39, 589–603 (2016), <https://doi.org/10.1007/s40840-015-0127-z>
- *The categories of actions of a dcpo-monoid on directed complete posets*, joint with M. Mahmoudi, Quasigroups Related Systems 23, 283–295 (2015) [https://www.math.md/files/qrs/y23-n2/v23-n2-\(pp283-295\).pdf](https://www.math.md/files/qrs/y23-n2/v23-n2-(pp283-295).pdf)
- *The category of monoid actions in $\mathbf{Cpo}$* , joint with M. Mahmoudi, the Bull. Iranian Math. Soc. 41, 159–175 (2015) http://bims.iranjournals.ir/article_595_04ecb1fa28506ccb6f72b12c0245ddbc.pdf
- *Actions of a Separately cpo-monoid on pointed directed complete posets*, Journal of Categories and General Algebraic Structures with Applications, Volume 3, Number 1, 21–42 (2015) https://cgasa.sbu.ac.ir/article_10031_d6b54d9be2f2a6c5a9c0ff061f40bc88.pdf
- *The symmetric monoidal closed category of cpo M -sets*, Journal of Categories and General Algebraic Structures with Applications, Volume 13, Issue 1, 105–124 (2020) https://cgasa.sbu.ac.ir/article_87434_145bf46136675b89ce591ca594d1d767.pdf
- *Weighted limits in the category of $\mathbf{Dcpo}\text{-}S$* , joint with F. Farsad, Asian-European Journal of Mathematics, Volume 10, Number 02, (2017), <https://doi.org/10.1142/S1793557117500371>
- *Limits and colimits in the category of pre-directed complete pre-ordered sets*, Algebraic Structures and Their Applications, Volume 8, Issue 1, 13–23 (2021) https://as.yazd.ac.ir/article_1833_1cd9994a1851d286fea6142efe53f185.pdf
- *General decompositions of posets with least elements*, joint with K. Pioro, submitted.

Conference and Workshop Presentations

- *Orbits of functions and their topologies*, joint with S. Milius and K. Pioro, 7th Workshop on Formal Topology: From Topology to dynamic constructivism, and back, Venice, Italy, April 13–17, 2026
- Decompositions of posets with bottom elements, joint with K. Pioro, The 63rd Summer School on Algebra and Ordered Sets, Blansko, Czech Republic, September 2025
- Term Extraction for Domain Modeling, joint with T. Kruse, D. Lohr, M. Berges, M. Kohlhase, and M. Schütz, In Proceedings of DELFI 2024, Gesellschaft für Informatik e.V., 2024
https://doi.org/10.18420/delfi2024_33
- Free and cofree acts of dcpo-monoids on directed complete posets, The Category Conference, July. 2014, University of Cambridge, UK
- The category of S-dcpo, The first seminar of General Algebraic Structures, Nov. 2012, Hakim Sabzevari University, Iran
- The categories of actions of a dcpo-monoid on directed complete posets, 23rd Iranian Algebra Seminar, Nov. 2013, Faculty of Computer and Mathematics, Khansar, Iran
- Weighted limits in the category **Dcpo-S**, The 45th annual Iranian Mathematics Conference, Aug. 2014, Semnan, Iran
- The category of pre-directed complete sets, The 49th annual Iranian Mathematics Conference, Aug. 2018, Tehran, Iran
- Congruences and Isomorphism Theorems for actions of a dcpo-monoid on directed complete posets, The 50th annual Iranian Mathematics Conference, Aug. 2019, Shiraz, Iran

Invited talks

- Congruences and isomorphism theorem on directed complete posets, in The first IPM-Isfahan workshop on Mathematical Aspects of Computer Science, Isfahan, Iran, during April 15–17, 2015

Talks in The Department of Mathematics, Shahid Beheshti University

- Enriched Categories, Jul 2012
- Presenting dcpo and dcpo algebras, Feb 2013

Research Projects

- On the injectivity in the category of **Pos- S/B** , 2014. Funded by Shahid Beheshti University, Tehran, Iran
- The symmetric monoidal closed category of cpo M-sets, 2020. Funded by University of Jiroft, Jiroft, Iran

Academic Employment

Researcher, Apr 2023–Jan 2026

FAU Erlangen–Nürnberg, Germany

- Researcher in the VoLL-KI project¹

Visiting Researcher (Funded Research Visit), Jul 2022–Mar 2023

FAU Erlangen–Nürnberg, Germany

The Chair for Theoretical Computer Science

Assistant Professor, Jan 2018–Jan 2023

University of Jiroft, Iran

- Teaching Experiences:
 - Linear Algebra, Set Theory, Foundations of Algebra, Calculus, Algebra, Basic Number Theory, Boolean Algebra and Computer Science, Complex Analysis
- Supervised Bachelor's projects and Master's theses

Lecturer, Oct 2014–Oct 2018

Higher Education Complex of Bam, Iran

- Teaching Experience
 - Calculus, Algebra, Set theory
 - Universal Algebra , Commutative Algebra (for MS)

Teaching Assistant (During PhD Studies), Jan 2011–Jan 2013

Shahid Beheshti University, Tehran, Iran

- Teaching Experience

¹<https://www.voll-ki.fau.de/en/>

- Pre-Calculus, Calculus II, Differential Equations
- Tutorials: Universal Algebra, Category Theory, Order and Lattice Theory