

Dr. Zahra Amini Farsani

Curriculum Vitae

Education

Second: PhD. of Biostatistics, *Ludwig–Maximilian University*, Munich, Germany.

First: PhD. of Mathematical Statistics, *Iran University of Science & Technology*, Tehran, Iran, First Class Honours.

Relevant Courses:, *Entropy & Information Theory, Advanced Simulation, Stochastic Process, Advanced Time Series.*

Total GPA, 3.82.

2013–2014 **Visiting Student Researcher**, *Ludwig–Maximilian University*, Munich, Germany.

2007–2010 **Masters of Applied Statistics (Social & Economical Statistics)**, *Allameh Tabatabaei University of Tehran*, Tehran, Iran.

Relevant Courses:, *Sampling Designs, Categorical data Analysis, Continious data Analysis.*

2003–2007 **Bachelor of Statistics**, *Shahid Chamran University of Ahwaz*, Ahwaz, Iran.

Second PhD Thesis

Title *Advanced Maximum Entropy Approaches for Medical and Microscopy Imaging*
Supervisors Professor Volker J. Schmid

First PhD Thesis

Title *Determination of maximum entropy density with the new optimization algorithm and its application in solving the mathematical problems*
Supervisors Professor Gh. Yari

Masters Thesis

Title *Reduction nonresponse bias through calibration estimator in panel studies*
Supervisors Professor H.R. Navvabpour

Professional Experience

- 04.2023 **Interim Professor (W2) for Statistics**, *Ludwig–Maximilian University*, Munich, Germany, Summer Semester 2023.
Course: Bayesian Statistics, Information theory
- 10.2022–Now **Research Assistant**, *Bayesian Imaging and Spatial Statistics Group*, Ludwig–Maximilian University, Munich, Germany.

Bayesian Imaging and Spatial Statistics Departement, LMU Munich, Ludwig.str 33, 80539 Munich, Germany & Statistics Department, Lorestan Univarsity, Iran.

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Born in 21st September 1985, Farsan, Iran, Married since 2014.

- 04.2022–10.2022 **Interim Professor (W2) for Statistics**, *Ludwig–Maximilian University*, Munich, Germany, Summer Semester 2022.
Course: Bayesian Statistics
- 10.2021–04.2022 **Lecturer for Statistics**, *Ludwig–Maximilian University*, Munich, Germany, Winter Semester 2021/22.
Course: Entropy and Information Theory
- 2019–2022 **Head of Statistics Department**, *Lorestan University*, Khorramabad, Iran.
- 2018–Now **Assistant Professor of Statistics**, *Lorestan University*, Khorramabad, Iran.
- 2015–2015 **Visiting Researcher**, *Ludwig–Maximilian University*, Munich, Germany, 3 months.
- 2014–2014 **Visiting Researcher**, *Ludwig–Maximilian University*, Munich, Germany, 3 months.
- 2013–2014 **Visiting Researcher**, *Ludwig–Maximilian University*, Munich, Germany, 11 months.
- 2010–2011 **Teaching Assistant**, *Iran University of Science & Technology*, Tehran, Iran, 2 semesters.
- 2008–2009 **Teaching Assistant**, *Allameh Tabatabaei University of Tehran*, Tehran, Iran, 2 semesters.
- 2005–2007 **Teaching Assistant**, *Shahid Chamran University of Ahwaz*, Ahwaz, Iran, 4 semesters.

Research Specialties

- Bayesian and Maximum Entropy methods in Science.
- Maximum Entropy Method in Medical Image Analysis.
- Copula in Quantitative Analysis of the Fluorescence Microscopy Images.

Awards

- 2022 **IBS-CWS Florence Nightingale Award Finalist.**
- 2016 Winner of Start up event-National Competitions
- 2010 The best Master Thesis- Iran Statistics Research Centre

Computer skills

- Skills Experience in PARALLEL COMPUTING
- Software \LaTeX , MATLAB, R, SAS, SPSS, Minitab, Linux, Microsoft Office, Endnote, ...

Publications

- 2022 **Amini Farsani. Z***, Schmid. V, Maximum Entropy Technique and Regularization Functional for Determining the Pharmacokinetic Parameters in DCE-MRI, **Journal of Digital Imaging-Springer nature**.
- 2022 **Amini Farsani. Z***, Schmid. V, Modified Maximum Entropy Method for Estimating the AIF and DCE-MRI Data Analysis, **Entropy**.
- 2022 Naseri. H, Attarian. k, **Amini Farsani. Z**, Investigation the theory of proportions adjustment system in historical houses of Qajar period in Khorramabad, **Journal of Architectural Thought**.

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- 2021 **Amini Farsani. Z***, Schmid. V, Colocalization Analysis in Fluorescence Microscopy via Maximum Entropy Copula. **International Journal of Biostatistics**.
- 2021 Vasigh. B, **Amini Farsani. Z**, Naseri. H, Comparative Analysis of caravanserais with courtyard of center of Iran in Safavid and Qajar periods, **Maremat & memari-e Iran**.
- 2020 Jalali. M, **Amini Farsani. Z**, Ghaffarian. MH, Feyzian. M, Potential Health Risk of Nitrate Accumulation in Vegetables Grown in Pol-e Dokhtar County, **Journal of Chemical Health Risk**.
- 2017 **Amini Farsani. Z***, Schmid. V, Maximum Entropy Approach in Dynamic Contrast-Enhanced Magnetic Resonance Imaging. **Methods of information in medicine**.
- 2015 Yari. GH, **Amini Farsani. Z***, Application of the maximum entropy method for determining a sensitive distribution in the renewable energy systems. **Journal of Energy Resources Technology, ASME**.
- 2015 Yari. GH, **Amini Farsani. Z***, Two-dimensional maximum entropy distribution via numerical algorithm, **Journal of Advanced Research in Scientific Computing**.

Conference & Workshop

- 2010 **ORAL** "Entropy rate of stationary stochastic process" in 8th workshop on probability and stochastic process in Shiraz university, **IRAN**.
- 2011 **POSTER** "The concept of entropy and its properties" in 42th mathematics conference in Valie asr university of Rafsanjan, **IRAN**.
- 2011 **POSTER** "Maximum Entropy and It's Applications" in 42th mathematics conference in Valie asr university of Rafsanjan, **IRAN**.
- 2012 **ORAL** "Relationship between Entropy Sampling", The 11th Iranian Statistical Conference, IUST, **IRAN**.
- 2012 **ORAL** "Two Iterative Algorithms for Solving Linear Equation Systems with Sequential and Parallel Approach". The 11th Iranian Statistical Conference, IUST, **IRAN**.
- 2014 **ORAL** "Maximum Entropy Method and It's Applications in Image Reconstruction", The 12th Iranian Statistical Conference, **IRAN**.
- 2014 **ORAL** "Kinetic Parameters Estimation via Maximum Entropy Prior Distribution in Image Processing", GPSD2014, Ulm, **GERMANY**.
- 2014 **ORAL** "Probabilistic Modelling in Renewable Energy System via Maximum Entropy Method", GPSD2014, Ulm University, **GERMANY**.
- 2017 **ORAL** "Maximum Entropy Estimation of Arterial Input Function in Kinetic Models", Workshop summer retreat 2017, Munich, **GERMANY**.
- 2018 **ORAL** "Colocalization Analysis via the Maximum Entropy Copula in the Fluorescence Microscopy Imaging", Workshop summer retreat 2018, **GERMANY**.
- 2018 **ORAL** "Wind Speed Distribution via the Maximum Entropy Method", The 11th Statistical Seminar, Takab University, **IRAN**.
- 2018 **ORAL** "Estimation of the Kinetic Parameters in the Medical Imaging via the Maximum Entropy Approach", The 11th Statistical Seminar, University, **IRAN**.

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- 2018 **ORAL** "Applications of the Maximum Entropy Technique in the Environmental Sciences Energies", The 11th Statistical Seminar, Takab University, **IRAN**.
- 2018 **POSTER** "Maximum Entropy Approach in Dynamic Contrast Enhanced Magnetic Resonance Imaging". 29th Biometrics Conference, IBC2018, Barcelona, **SPAIN**.
- 2018 **ORAL** "Evaluation of the Statistical methods in the Image Processing", AIMC49, IUST, **IRAN**.
- 2018 **ORAL** "Maximum Entropy Approach in the Renewable Energy Developments", AIMC49, IUST, **IRAN**.
- 2019 **POSTER** "Statistical Methods in Renewable Energy Systems", DAGSTAT2019, Munich, **GERMANY**
- 2019 **POSTER** "Maximum Entropy Copula in the Fluorescence Microscopy Imaging", DAGSTAT2019, Munich, **GERMANY**
- 2019 **ORAL** "Modeling the solar energies using statistical Methods", EMS2019, Palermo, **ITALY**
- 2019 **ORAL** "Optimization algorithm for parameter estimation in cell biology", EMS2019, Palermo, **ITALY**
- 2019 **ORAL** "Pharmacokinetic Model and it's Statistical Parameter Estimation: Maximum Entropy Approach", AIMC50, Shiraz University, **IRAN**
- 2019 **ORAL** "Statistical Analysis of the Fluorescence Microscopy Images", AIMC50, Shiraz University, **IRAN**
- 2020 **ORAL** "Quantification Analysing of the Fluorescence Microscopy Images", 30th International Biometric Conference (IBC 2020), **SOUTH-KOREA**
- 2020 **ORAL** "Entropy Maximum Approach with Algorithm", The 15th Iranian Statistical Conference, ISC15, **IRAN**
- 2022 **POSTER**-accepted "Maximum Entropy Regularization and TLBO in the Medical Imaging Problems", MaxEnt'22 Conference, **FRANCE**-not join
- 2022 **ORAL** "Modified Maximum Entropy Method and AIF Model Estimation in DCE-MRI Data", 31th International Biometric Conference (IBC 2022), **LATVIA**

Workshop Executor and/or Invited Speaker

- 03.2023 **Advanced Maximum Entropy Algorithms for Medical Imaging**, *Tarbiat modares university of Tehran*.
- 06.2022 **Scientific Researches and Statistical Analysis-6**, *Lorestan University*.
- 05.2022 **Official Statistics**, *Department of Education, Iran Ministry of Sci & Tech*.
- 12.2021 **Scientific Workshops-Research Week 2021**, *Lorestan University*.
- 05.2021 **Scientific Researches and Statistical Analysis-5**, *Lorestan University*.
- 12.2020 **Scientific Workshops-Research Week 2020**, *Lorestan University*.
- 09.2020 **Applied Statistics with Software**, *National Elite Organization*.
- 06.2020 **Applied statistics in Administrative Affairs**, *Salamat Insurance Organization*.
- 05.2020 **Scientific Researches and Statistical Analysis-4**, *Lorestan University*.

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Born in 21st September 1985, Farsan, Iran, Married since 2014.

- 12.2019 **Scientific Workshops-Research Week 2019**, Lorestan University.
- 10.2019 **Scientific Researches and Statistical Analysis-3**, Lorestan University.
- 05.2019 **Scientific Researches and Statistical Analysis-2**, Lorestan University.
- 01.2019 **Data Analysis with SPSS-2**, Lorestan Planning and Budget Organization.
- 11.2018 **Data Analysis with SPSS-1**, Lorestan Planning and Budget Organization.
- 10.2018 **Scientific Researches and Statistical Analysis**, Lorestan University.

Research Assistant of Projects

- 2022 **Identification of common single nucleotide polymorphisms in the host antioxidant pathway against viruses and predicting the effect of these polymorphisms on the protein structure of antioxidant genes**, Shahid Beheshti University of Medical Sciences, Tehran, Iran.
- 2022 **Identification of genes involved in the development of resistance to chemotherapy for lung cancer**, Shahid Beheshti University of Medical Sciences, Tehran, Iran.
- 2022 **Identification of genes involved in the development of resistance to chemotherapy in ovarian cancer**, Shahid Beheshti University of Medical Sciences, Tehran, Iran.
- 2022 **Prediction of tissue-specific inflammatory LncRNAs Covid-19 patients**, Shahid Beheshti University of Medical Sciences, Tehran, Iran.
- 2022 **Identification of inflammatory microarrays associated with Covid disease and determination of their genetic targets using bioinformatics tools**, Shahid Beheshti University of Medical Sciences, Tehran, Iran.
- 05.2019 **Correlation study of expression of TCTE3, TMEM16A , long non-coding RNAs, Lnc-TCTE3-1-2 and Lnc-ANO1-AS2 in infertile men with asthenozoospermia and tratro-asthenozoospermia**, Shahrekord University of Medical Sciences, Iran.
- 04.2019 **Investigation of residual toxins, heavy metals and nitrates in products Agriculture with emphasis on vegetable products of Lorestan province**, Institute of Standards and Industrial Research of Iran.
- 11.2018 **Study effect of valproic acid on miR-520h and miR-34a and potential target gene expression in breast cancer cell line MDA-MB-231**, Shahrekord University of Medical Sciences, Iran.
- 07.2018 **Trace Study of Graduated Students between 2015 to 2017** , Iran.

Journals & Conferences Reviewer

- 01.2022 **Mathematical Analysis and Convex Optimization**, Iran.
- 09.2021 **51th Annual Iranian Mathematics Conference**, Iran.
- 09.2019 **49th Annual Iranian Mathematics Conference**, Iran.
- 01.2018 **Kybernetes**, Emerad Publishing, United Kingdom.

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Thesis Advisor

- 01.2021 **Investigation of alterations in three-dimensional joint biomechanics of anterior cruciate ligament-reconstructed knees and evaluation of the effect of modified footwears on these alterations during walking** , *PhD thesis of Medical Sciences, Iran..*
- 09.2019 **Design of Residential Complex with the Approach of Using Iranian Geometry and Proportions in Khorramabad city**, *Master Thesis of Architectural Engineering, Iran..*

Languages

Persian **Motherlanguage**
English **Conversationally fluent**
German **B1+**
Arabic **Basic**

Membership

International Biometric Society(IBS)
Caucus for Women in Statistics (CWS)
Iran Society of Statistics
Iran Society of Mathematics

German-Region

Links

GoogleScholar: <https://scholar.google.com/citations?user=fhAZ6DUAAAAJ&hl=en>

ORCID: <https://orcid.org/0000-0002-3207-3090>

LMU <https://www.m-datascience.mathematik-informatik-statistik.uni-muenchen.de/People/pro>

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