Navid Mohammad Mirzaei

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Education

- B.Sc. in Mathematics, Amirkabir University of Technology (Tehran Polytechnic), Tehran, Iran, 2006-2011.

- M.Sc. in Mathematics, Sharif University of Technology, Tehran, Iran, 2012-2014.

M.Sc. Thesis

- **Title**: A Multiscale Moving Boundary Model For Cancer Invasion
- **Advisor**: Dr. Morteza Fotouhi Firoozabad, (E-mail: fotouhi@sharif.edu).

Research Interests

- Biomath
- Multiscale Mathematical Modelling
- Moving Boundary problems
- Tumor growth
- Pattern Formation
- Mathematical Neuroscience
- PDE
- Stochastic Analysis

Participation

- Summer School on Analysis and PDE: from microscale to macroscale, IPM, Tehran, Iran, June 28- July 25, 2014. (To see the certificate go to last page)

Research and Presentation

- "A Correction on RSA Encryption", Amirkabir University of Technology, 2009.

- "Pattern Formation in Reaction-Diffusion Models with Nonuniform Domain Growth", Sharif University of Technology, 2013.

- "Heterogeneous multiscale FEM for diffusion problems on rough surfaces", Sharif

University of Technology, 2013.

- " FEM Method for Unsteady Problems", Sharif University of Technology, 2014.

- "A Multiscale Moving Boundary Model For Cancer Invasion", Sharif University of Technology, 2014.

Teaching Experience

- Calculus Unofficial Teacher Assistant under supervision of Dr. Sadeh, 2009, Amirkabir University of Technology.

- Differential Equations Teacher Assistant, One Semester 2014, Sharif University of Technology.

- Several Experiences of Calculus, Differential Equations and Statistics Private Tutoring.

Honors

- Ranked in top 1 percent in national university entrance exam for B.Sc. degree among more than 340,000 participants, 2007.

- Ranked in top 0.5 percent in national university entrance exam for M.Sc. degree among more than 14000 participants, 2012.

GRE Scores

- **GRE Subject Math:** 780, (Percentile: 77%), April 21, 2012.
- **GRE General:** Verbal: 150 (45%), Quantitative: 162 (83%), Writting: 4 (56%), (November 16,2014)

TOEFL

- **Date:**October 18, 2014
- **Overall:** 108
- **Reading:** 30
- **Listening:** 29
- **Speaking:** 22
- **Writing:** 27

Other Skills and Activities

- **Programming:** C, Java.
- **Software:** Matlab, Maple, Latex, Lindo, Microsoft Office.
- **Skills:** Playing Classical & Electrical Guitar, Playing Piano, Writing Lyrics (have

an online course certificate).
- **Hobbies:** Watching Movies, Swimming, Playing Instruments, Reading Books.

Undergraduate accomplished Courses and Textbooks	- **Calculus 1,2:** Calculus, (Robert Adams), Whole book covered in two semesters. - **Basic Physics 1,2:** Fundamentals of Physics, (David Halliday, Robert Resnick), Whole book covered in two semesters. - **Foundations of Mathematics:** Set Theory with Applications, (Shwu-Yeng T. Lin, You-Feng Lin), Whole book covered. - **Computer Programming:** Programming with C, (Domestic Author: Jaffarnejad Qomi), Whole book covered. - **Differential Equations:** Elementary Differential Equations, (William E.Boyce, Richard C.DiPrima), Whole book covered. - **Statistics Probability 1,2:** Mathematical Statistics with Applications, (John Freund), Whole book covered in two semesters. - **Linear Algebra:** Linear Algebra, (Kenneth M Hoffman), Whole book covered. - **Number Theory:** A Course in Number Theory, (H. E. Rose), First 6 chapters covered. - **Math. Analysis 1,2:** Principles of Mathematical Analysis, (Walter Rudin), First 8 chapters covered in two semesters. - **Math. Analysis 3:** Analysis on Manifolds, (James R. Munkres), First 4 chapters covered plus some lecture notes about multilinear algebra and tensors. - **Algebra 1,2,3:** Basic Abstract Algebra, (P. B. Bhattacharya, S. K. Jain, S. R. Nagpaul), Whole book covered in 3 semesters. - **Numerical Analysis:** Numerical Analysis, (Richard L. Burden, J.Douglas Faires, Albert C. Reynolds), First 7 chapters covered. - **Operational Research 1,2:** Operation Research: Applications and Algorithms, (Wayne L. Winston), Whole book covered in two semesters. - **Set Theory:** Introduction to Set Theory, (Karel Hrbacek, Thomas Jech), First 10 chapters covered. - **Complex Variables:** Complex Variables and Applications, (James Ward Brown, Ruel V. Churchill), First 9 chapters covered. - **General Topology:** Topology, (James R. Munkres), First 4 chapters covered. - **Theory of Differential Equations:** Differential Equations: Introduction and Qualitative Theory, (Jane Cronin), First 6 chapters covered. - **Math. Special Language:** Lecture notes of Dr. Sadeh.

- History of Mathematics:
Lecture notes of Dr. Shamsi.
- Elementary Algebraic Topology:
Topology, (James R. Munkres), Chapters 9 to 12 covered.
- Numerical Linear Algebra:
Numerical Linear Algebra, (Lloyd N. Trefethen, David Bau III), Whole book covered.
- Differetial Geometry:
Elements of Differential Geometry, (Richard S. Millman, George D. Parker), Whole book covered.

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graduate accomplished Courses and Textbooks	**- Advanced Algebra:** A First Course in Noncommutative Rings, (T.Y. Lam), Whole book covered. **- Real Analysis:** Real Analysis, (H.L. Royden), First 10 chapters covered. **- Theory of Partial Differential Equations:** Partial Differential Equations, (Lawrence C. Evans), First 7 chapters covered. **- Stochastic Analysis:** A Probability Path, (Siney Resnik), Chapters 2 to 7 covered plus a selection of the rest of the book and a summary of chapters 3,4,5 of Stochastic Differential Equations (Brent Oksendal). **- Numerical Partial Differential Equations:** Numerical Treatment of Partial Differential Equations, (Christian Grossmann, Hans-Gorg Roos, Martin Stynes), First 4 chapters covered. **- Differential Manifolds:** An Introduction to Differential Manifolds, (Denis Barden, Charles Thomas), Whole book covered.

Self-Studied Math Books	- Pattern Formation by Rebecca Hoyle - Understanding and Implementing the Finite Element Method by Mark S.Gockenbach - Homogenization and Porous Media by Ulrich Hornung - Mathematical Biology I:An Introduction by James D.Murray

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Figure 1: Summer School Certificate