

Touraj Nikazad

02/24/2018

0. Personal Information

Marital status: Married (one daughter), Nationality: Iranian, Date of Birth: 5/24/1970

Place of Birth: Tehran, Iran

1. Working experience

1.1 Previous positions

- Part time lecturer of Mathematics section, Payam Noor University, Ghazvin, Iran (1996-1997).
- Full time lecturer of Mathematics Department, Iran University of Science and Technology (IUST), Tehran, Iran (22/11/1997-23/09/2004).
- Leave of absence from (IUST) (23/09/2004-31/12/2008). (PhD program)
- Postdoc position, Department of Computer Science (Discrete Imaging and Graphics group), The Graduate Center, City University of New York, New York, USA (Aug. 2008-Dec. 2008).
- Assistant Professor of Mathematics Department, (IUST), Tehran, Iran (31/12/2008-30/10/2015).
- Associate Professor of Mathematics Department, (IUST), Tehran, Iran (31/10/2015-Now).

1.2 Obligatory references

- During my employment at IUST (22/11/1997-23/09/2004) and (31/12/2008-Now):
Superior: **Associate Professor G. H. Yari**
yari@iust.ac.ir
- During my postdoc position at City University of New York (Aug. 2008-Dec. 2008):
Superior :**Distinguished Professor Gabor T. Herman**
gabortherman@yahoo.com
- My postgraduate supervisor (During PhD program):
Professor Tommy Elfving
toelf@mai.liu.se

1.3 Other references

- Professor **Per Christian Hansen**, DTU Informatics, Section for Scientific Computation, Technical University of Denmark, DK-2800 Lyngby, Denmark. pch@imm.dtu.dk
- Professor **Ahmad Golbabai**, Iran University of Science and Technology, School of Mathematics, Department of Applied Mathematics, Tehran, Iran. golbabai@iust.ac.ir

- Associate Professor **Jalil Rashidinia** (director of study), Iran University of Science and Technology, School of Mathematics, Department of Applied Mathematics, Tehran, Iran. rashidinia@iust.ac.ir

2. Education and training

2.1 Degrees and evaluation of qualifications

- PhD, thesis on “Algebraic Reconstruction Methods”, Mathematics Department, Scientific Computing Division, Linköping University, Linköping, Sweden. (June 10, 2008)
- Swedish Licentiate, thesis on “The Use of Landweber Algorithm in Image Reconstruction”, Mathematics Department, Scientific Computing Division, Linköping University, Linköping, Sweden. (June 12, 2007)
- M.Sc, Applied Mathematics, thesis on Wavelet Functions and Their Applications in Differential Systems, Iran University of Science and Technology (**IUST**), Tehran, Iran (1993-1996).
- B.Sc, Applied Mathematics, Mazandaran University, Babolsar, Iran (1988-1992).

2.2 Language skills

Good in English and beginner in Swedish language.

3. Scientific qualifications

3.1 Scientific production/List of publications

3.1.1 *Articles published in scientific journals*

The alphabetic order of authors in the following papers reflects approximately equal inputs to the papers. Otherwise, the reordered authors have more contribution.

- K. Ivaz, T. Nikazad, “Free Boundary Problem With Kinetic Function”, **The International Journal of Applied Mathematics**, Bulgaria, 6, No. 3, 2001, 235-241.
- K. Maleknejad, H. Mesgarani and T. Nikazad, “Wavelet-Galerkin Solutions For Fredholm Integral Equations of The Second Kind”, **International Journal of Engineering Science**, Number 5, Vol. 13, Fall 2002, 75-80
- K. Ivaz, T. Nikazad, “An inverse solidification of pure substance problem in two dimensions”. **Appl. Math. Lett.** 18 (2005), No. 8, 891–896.
- T. Elfving and T. Nikazad, “Stopping Rules for Landweber type Iteration”. **Inverse Problems** 23 (2007), No. 4, 1417--1432.
- Y. Censor, T. Elfving, G. T. Herman and T. Nikazad, “On Diagonally-Relaxed Orthogonal Projection Methods”. **SIAM Journal on Scientific Computing (SISC)** 30, (2007/08), Issue 1, 473--504.
- T. Elfving and T. Nikazad, “Properties of a class of block-iterative methods “. **Inverse Problems** 25 (2009) 115011 (13pp).
- B. Emamizadeh, K. Ivaz and T. Nikazad, "Unique Continuation and Inverse Problems for Heat Equations". **Advanced Modeling and Optimization** 12(2010), No. 2, 225—232.
- T. Elfving, T. Nikazad and Per Christian Hansen, "Semi-convergence and relaxation parameters for a class of SIRT algorithm ". **Electronic Transactions on Numerical Analysis** 37 (2010), 321-336.

- T. Nikazad, R. Davidi and G. T. Herman, "Accelerated perturbation-resilient block iterative projection methods with application to image reconstruction". **Inverse Problems** 28 (2012) 035005 (19pp)
- T. Elfving, Per Christian Hansen and T. Nikazad , " Semi-convergence and relaxation parameters for projected SIRT algorithm " **SIAM Journal on Scientific Computing** 34 (2012) issue 4, A2000–A2017. <http://dx.doi.org/10.1137/110834640>
- T. Nikazad and M. Abbasi, "An acceleration scheme for cyclic subgradient projections method", **Computational Optimization and Applications**, (2012) DOI: 10.1007/s10589-012-9490-y.
- A. Aghajani, M. Haghpanahi and T. Nikazad, "The ultrasound elastography inverse problem and the effective criteria", **Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine**, (2013), 227(11) 1203–1212, DOI: 10.1177/0954411913494324
- T. Elfving, Per Christian Hansen and T. Nikazad," Semi-Convergence Properties of Kaczmarz's Method". **Inverse problems**, 30 (2014) 055007 (16pp).
- T. Nikazad and M. Abbasi, "Weights in block iterative methods". **International Journal of Nonlinear Analysis and Applications**, 5 (2014) No. 2, 37-49.
- T. Nikazad and M. Abbasi, "Perturbation-Resilient Iterative Methods with an Infinite Pool of Mappings". **SIAM J. Numer. Anal.**, 53 (2015), 390–404.
- T. Nikazad, M. Abbasi and T. Elfving,"Error minimizing relaxation strategies in Landweber and Kaczmarz type iterations". **Journal of Ill-posed and Inverse problems**, (2015), DOI: 10.1515/jiip-2015-0082.
- T. Nikazad and M. Mirzapour, "Projected Non-Stationary Simultaneous Iterative Methods". **International Journal of Nonlinear Analysis and Applications**, 7 (2016), No. 2, 243-251.
- T. Nikazad and M. Karimpour, "Controlling semi-convergence phenomenon in non-stationary simultaneous iterative methods". **Iranian journal of Numerical Analysis and Optimization**, Volume 6, Number 2, (2016), 51-64.
- T. Nikazad and M. Karimpour, "Controlling noise error in block iterative methods". **Numerical Algorithms**, Volume 73, Issue 4, (2016) pp 907–925.
- T. Nikazad and M. Abbasi, "A unified treatment of some perturbed fixed point iterative methods with an infinite pool of operators". **Inverse problems**, *accepted* (2016).
- T. Nikazad, M. Abbasi and M. Mirzapour, "Convergence of string averaging method for a class of operators", **Optimization methods and software**, Volume 31, Issue 6, (2016) Pages 1189-1208.
- T. Elfving, Per Christian Hansen and T. Nikazad, " Convergence Analysis for Column-Action Methods in Image Reconstruction ", **Numerical Algorithms**, Volume 74, Issue 3, (2017) pp 905–924.
- T. Nikazad and M. Mirzapour, "Generalized relaxation of string averaging operator based on strictly relaxed cutter", **Journal of Nonlinear and Convex Analysis**, Volume 18, Number 12, (2017) pp 2135-2154.
- A.H. Salehi Shayegan, A. Zakeri and T. Nikazad, "Quasi solution of a nonlinear inverse parabolic problem". **Bulletin of the Iranian Mathematical Society**, in press.

3.1.2 Conferences and symposiums

- T. Nikazad, K. Ivaz, "Wavelet Functions", 2nd International Conference on Applied Mathematics. IUST, Iran-Tehran, Oct. 25-27,2000

- T. Nikazad, K. Ivaz, "Wavelet-Galerkin Solution of the Periodic Problems", 2nd International Conference on Applied Mathematics. IUST, Iran-Tehran, Oct. 25-27, 2000
- T. Nikazad, K. Ivaz, "Wavelet-Galerkin Solution for the Inhomogeneous Sturm-Liouville Problems", Submitted to The First International Seminar on Graph, Combinatorics, Computational Algorithms and Applications, Amirkabir University of Technology Tehran, Iran (Tehran Polytechnique).
- T. Nikazad, "Wavelet and Numerical Integration", 19th Biennial Conference on Numerical Analysis, University of Dundee, Scotland, U. K. 26-29 June, 2001.
- T. Nikazad, "Wavelet-Galerkin Solution for the Linear Second-Order Differential Equation with Variable Coefficients", 33rd Iranian Mathematics Conference, Department of Mathematics, Ferdowsi University, Mashhad, Iran, Aug 30-Sep 02, 2002.
- T. Nikazad, K. Ivaz, "The Finite Element Method For Solving The Two-Phase Stefan Problems", Proceeding of the 14th Seminar on Mathematical Analysis and its applications, Iran University of Science and Technology, Iran, Feb. 4-5, 2004, pp. 141-146.
- **Invited talk:** T. Nikazad, "Semi-convergence and relaxation parameters", Workshop on Inverse Problems and Applications, Norrkoping, Sweden May 3, 2010.
- **Invited talk:** T. Nikazad, "Iterative methods used in image reconstruction", Institute for Advanced Studies in Basic Sciences, Iran, Zanjan, May 17, 2014.
- **Invited talk:** T. Nikazad, "Iterative methods used in image reconstruction", IPM-Isfahan workshop on Numerical Analysis, Iran, Isfahan, May 30-31, 2015.

3.1.3 *Monographs*

- T. Elfving and T. Nikazad, "Some properties of ART-type reconstruction algorithms" in **Mathematical Methods in Biomedical Imaging and Intensity-Modulated Radiation Therapy (IMRT)**, Y. Censor, M. Jiang and A.K. Louis, Editors, Edizioni della Normale, Pisa, Italy, 2008, 131--152.
- T. Elfving, T. Nikazad and C. Popa, "A class of iterative methods: semi-convergence, stopping rules, inconsistency and constraining" in **Biomedical Mathematics: Promising Directions in Imaging, Therapy Planning and Inverse Problems**, Yair Censor, Ming Jiang and Ge Wang (Editors), Medical Physics Publishing, Madison, Wisconsin, USA, 2010, 157--183.

3.1.4 *Editor*

- Bulletin of the Iranian Mathematical Society

3.1.5 *Referee*

- BIT, Inverse Problems, Inverse Problems and imaging, Computer methods and Programs in Biomedicine, Inverse Problems in Science & Engineering, Mathematical and Computer Modeling, Journal of Sciences

3.1.6 *Reviewer*

- Mathematical Reviews

3.1.7 *Supervision of postgraduate students*

I supervised 18 master theses &

I supervised one PhD students

3.2 Scientific leadership

- **Full scholarship**, from Iran Ministry of Science and Education, for PhD program since September 2004-September 2008.
- **Visiting research scholar**, Department of Computer Science (Discrete Imaging and Graphics group), The Graduate Center, City University of New York, New York, **USA**. Aug. 2008-Dec. 2008.
- **Loading expenses** to participate in the workshop entitled "Mathematical Problems, Models and Methods in Biomedical Imaging ", February 8-12, 2010 at the Institute for Pure and Applied Mathematics situated on the **UCLA** campus, **USA**.
- **Visiting Scholar**, Department of Mathematics, Linkoping University, Linkoping, **Sweden**. 1-7 May of 2010 during Workshop on Inverse Problems and Applications.
- **Visiting**, Department of Applied Mathematics and Computer Science, Technical University of Denmark, Lyngby, **Denmark**, August 18-25, 2013.
- **Visiting**, Department of Applied Mathematics and Computer Science, Technical University of Denmark, Lyngby, **Denmark**, June 24-July 6, 2015.
- **Non Resident Researcher, IPM** (<http://www.ipm.ac.ir/>), 2015 – Present.

3.3 Extramural scientific activities and assignments

- Member of scientific committee of the 11th Iranian Statistical Conference which will be held in Tehran from August 28 to 30, 2012 at the IUST.
- Member of organizing committee of the 7th Iranian International Workshop on Stochastic Processes, November 30, December 1, 2 2012 at the IUST.
- Member of organizing committee of the 14th Seminar on Mathematical analysis and its applications, February 4-5, 2004 at the IUST.

3.4 Invited lectures during the past five years

- Workshop on Inverse Problems and Applications, Norrkoping, Sweden May 3, 2010.

4. Teaching qualifications

4.1 Teaching experience

Since I graduated on June 10, 2008, the presented teaching table is carried out during the past seven years. A semester means 18 weeks and the forth column of the table is indicated the number of hours for a semester for each course. A year is divided into three parts: Fall and spring semesters and a summer quarter which are performed during September-December, February-May and July-August respectively.

Dating: for example 09-F shows the year 2009 in fall semester ("F" for Fall, "Spr" for Spring and "Sum" for Summer).

Year	Name of course	Level	Lecturing (hours)	Type of teaching
09-Spr	Ordinary Differential Equations (ODE)	basic	54h	lectures
09-F	Mathematical Analysis II	advanced	72h	lectures+seminars
	Calculus I	basic	72h	lectures
	ODE	basic	54h	lectures
	Engineering Mathematics	advanced	72h	lectures
10-Spr	Calculus II	advanced	72h	lectures
	ODE	basic	54h	lectures

	Numerical Linear Algebra	postgraduate	72h	lectures+seminars
10-F	Calculus III	basic	72h	lectures
	Mathematical Analysis II	postgraduate	72h	lectures+seminars
	Numerical Analysis I	advanced	72h	lectures
	Advanced Numerical Analysis	postgraduate	72h	lectures+seminars
11-Spr	Numerical Analysis II	advanced	72h	lectures
	ODE	basic	54h	
11-Sum	Linear Algebra	advanced	54h	lectures
11-F	Linear Algebra	advanced	54h	lectures
	ODE	basic	54h	lectures
	Scientific computation	basic	54h	lectures
	Advanced Numerical Analysis	postgraduate	72h	lectures+seminars
	Operator Theory	postgraduate	72h	Lectures+ group work+ seminars
	Boundary value problems	postgraduate	72h	lectures+seminars
	Mathematical Analysis II	postgraduate	72h	lectures+seminars
12-Spr	Linear Algebra	advanced	72h	lectures
	ODE	basic	54h	lectures
	Scientific computation	basic	54h	lectures
	Applied Functional Analysis	postgraduate	72h	lectures+seminars
	Mathematical Analysis II	postgraduate	72h	supervision
12-Sum	ODE	basic	54h	lectures
12-F	ODE	basic	54h	lectures
	Numerical Linear Algebra	postgraduate	72h	lectures+seminars
	Mathematical Analysis II	postgraduate	72h	lectures+seminars
13-Spr	ODE	basic	54h	lectures
	Approximation Theory	postgraduate	72h	lectures+seminars
	Mathematical Methods in Image Reconstruction	postgraduate	72h	lectures+seminars
13-F	Applied Functional Analysis for Convex Feasibility Problems	Postgraduate	72h	lectures+seminars
	Mathematical Analysis II	postgraduate	72h	lectures+seminars

	Numerical Regularization in Inverse Problems	Postgraduate	72h	lectures+seminars
	Numerical Linear Algebra	postgraduate	72h	lectures+seminars
14-Spr	Iterative methods	Postgraduate	72h	lectures+seminars
	Mathematical Methods in Image Reconstruction	postgraduate	72h	lectures+seminars
	Numerical Linear Algebra	postgraduate	72h	lectures+seminars
14-F	Advanced Numerical Analysis	Postgraduate	72h	lectures+seminars
	Mathematical Analysis II	postgraduate	72h	lectures+seminars
	ODE	Undergraduate	54h	lectures+seminars
	Iterative Methods	postgraduate	72h	lectures+seminars
15-Spr	Numerical Linear Algebra	Postgraduate	72h	lectures+seminars
	Perturbation Theory and its applications	postgraduate	72h	lectures+seminars
	ODE	Undergraduate	54h	lectures+seminars

4.2 Acquittal in the role of teacher

- Received the “**Outstanding Teaching Award**” of the academic year 1999-2000 at IUST.

5. Academic leadership and administrative appointments

- Course leader of ordinary differential equations since 27 February 2010 at the IUST.
- Group leadership of students (about 50 students) which enrolled for the fall semester of 2009. I will assist them until their graduation.
- Head of science group of IUST E-Learning Center 3/7/2010-3/7/2013.