SHAKOOR POOSEH

Position	**Postdoctoral research fellow**, May 2018 – . . . .
Degree	**PhD, Applied Mathematics** . . . .
Affiliation	**Freiburg Center for Data Analysis and Modelling** . .
. . . .	**University of Freiburg** . . . .
Email(s)	**Shakoor.Pooseh@fdm.uni-freiburg.de** . . . .
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PREVIOUS EMPLOYMENT(S)

Nov. 2013 – Apr. 2018	Section of Systems Neuroscience . . . .
	Department of Psychiatry & Psychotherapy . . . .
	Faculty of Medicine Carl Gustav Carus . . . .
	Technische Universität Dresden . . . .

EDUCATION

Oct. 2009 – Sept. 2013   **PhD in Applied Mathematics**
PDMA Joint PhD Program, Univ. of Aveiro & Univ. of Minho , Portugal

Thesis title: *Computational Methods in the Fractional Calculus of Variations and Optimal Control*
Supervisor: D. F. M. Torres (DMat, Univ. Aveiro)
Co-Supervisor: R. Almeida (DMat, Univ. Aveiro)

Sep 2003 – Oct 2006   **MSc in Applied Mathematics**
Institute for Advanced Studies in Basic Sciences, Zanjan, Iran

Thesis title: *The Optimal Control of a Chaotic Dynamical System*
Supervisor: M.A. Jalali (Mech. Eng. Dept., Sharif Univ. of Tech., Tehran, Iran)

Sep 1999 – Feb 2003   **BSc in Applied Mathematics**
Tabriz University, Tabriz, Iran

SHORT TRAINING PROGRAMS

11 Sep – 15 Sep 2017	**Internet Based Data Collection and Analysis**
	Konstanz University, Germany
03 Feb – 06 Feb 2015	**Statistical Parametric Mapping (SPM)**
	Translational Neuromodeling Unit, University of Zrich, ETH Zurich
23 Apr – 27 Apr 2012	**SADCO Spring School on Applied and Numerical Optimal Control**
	ENSTA ParisTech, Paris, France
12 Mar – 16 Mar 2012	**BCAM course: Finite Dimensional optimal Control**
	Basque Center for Applied Mathematics, Bilbao, Spain
20 Jun – 8 Jul 2011	**ICTP School and Conference on Computational Methods in Dynamics**
	Trieste, Italy
28 Aug – 8 Sep 2006	**CIMPA School on Optimization and Control**
	Castro Urdiales, Spain

HONORS & AWARDS

Best Oral Presentation 5th Symposium on Fractional Differentiation and Its Applications
. . . . 14 – 17 May 2012, Hohai University, Nanjing, China
. . . . Paper: Discrete Direct Methods in Fractional Calculus of Variations
PhD fellowship . . . . SFRH/BD/33761/2009, FCT Portugal

PROGRAMMING LANGUAGES

- Java *[Advanced, PhD course (17/20): Distributed Systems, DETI, Univ. of Aveiro, Portugal]*

- C & C++ *[Advanced, MSc course (16/20): Computational Physyics, IASBS, Iran]*

- Matlab *[Advanced, https://github.com/spooseh/VBDM.git]*

- JavaScript *[Beginner, Summer school, Internet based data collection]*

LANGUAGES

- English [Fluent]
- Azeri (Turkish), Farsi [Native]
- German, Portuguese [Beginner]

TEACHING EXPERIENCES

2007 – 2008 **University of Mohaghegh Ardabili, Ardabil, Iran**
Advanced programming
Foundations of Computers and Programming
Ordinary Differential Equations
2006 – 2008 **Ardabil branch, Islamic Azad University, Ardabil, Iran**
Calculus I, II
Statistics

R&D UNITS AND PROJECTS

- Dynamic MOdeling of REsilience (DynaMORE), EU Horizon 2020, Uni Freiburg, Germany (2018 – 2023)

- Volition and Cognitive Control, DFG SFB 940/1–2, TU Dresden, Germany (2013 – 2018)

- Center for Research & Development in Mathematics and Applications (CIDMA), University of Aveiro, Portugal

- Sensitivity Analysis for Deterministic Controller Design - SADCO (2011 – 2014)

- Optimal Control: Health, Energy and Robotics Applications - OCHERA (2013 – 2015)

CONFERENCES & TALKS

- Oral presentation: *Free time fractional optimal control problems*, 2013 European Control Conference (ECC) July 17 – 19, 2013, Zurich, Switzerland.

- Oral presentation: *Discrete Direct Methods in the Fractional Calculus of Variations*, May 2012, The Fifth FDA Symposium, Hohai University, China.

- Oral presentation: *Application of an Approximation Method to Variational Problems with Fractional Derivatives*, 8th EUROPT Workshop, Advances in Continuous Optimization, 9–10 Jul 2010, Univ. of Aveiro, Portugal.

PUBLICATIONS

MATHEMATICAL PSYCHOLOGY \COMPUTATIONAL NEUROSCIENCE

JOURNALS

[5] Y.I. Deza Araujo, S. Nebe, P.T. Neukam, S. Pooseh *et al.*, **Risk seeking for losses modulates the functional connectivity of the default mode and left frontoparietal networks in young males**, *Cogn Affect Behav Neurosci*, (2018), 18:536. DOI:10.3758/s13415-018-0586-4

[4] P.T. Neukam, N.B. Kroemer, Y.I. Deza Araujo, L. Hellrung, S. Pooseh *et al.*, **Risk-seeking for losses is associated with 5-HTTLPR, but not with transient changes in 5-HT levels**, *Psychopharmacology (Berl)*, (2018), 235:2151. DOI:10.1007/s00213-018-4913-9

[3] N. Bernhardt, S. Nebe, S. Pooseh *et al.*, **Impulsive Decision Making in Young Adult Social Drinkers and Detoxified Alcohol-Dependent Patients: A Cross-Sectional and Longitudinal Study**, *Alcohol Clin Exp Res., **41** (2017), 1794–1807.*, DOI:10.1111/acer.13481

[2] C. Sommer, M. Garbusow, E. Jünger, S. Pooseh *et al.*, **Strong seduction: impulsivity and the impact of contextual cues on instrumental behavior in alcohol dependence**, *Translational Psychiatry*, **7** (2017) DOI:10.1038/tp.2017.158

[1] S. Pooseh, N. Bernhard *et al.*, **Value-Based Decision-Making Battery: A Bayesian Adaptive Approach to Assess Impulsive and Risky Behaviour**, *Behav res* (2018) 50:236. DOI:10.3758/s13428-017-0866-x

MATHEMATICS

BOOKS

[2] R. Almeida, S. Pooseh and D. F. M. Torres,
Computational Methods in the Fractional Calculus of Variations, Imperial College Press, 2015.

[1] S. Pooseh, R. Almeida and D. F. M. Torres,
Chapter V. Numerical Approximations to Fractional Problems of the Calculus of Variations and Optimal Control,
Fractional Calculus in Analysis, Dynamics and Optimal Control
Editors: Jacky Cresson (Laboratory of Applied Mathematics, University of Pau, Pau Cedex, France)
Nova Science Publishers, 2014.

PROCEEDINGS

[4] <u>S. Pooseh</u>, R. Almeida and D. F. M. Torres, Free fractional optimal control problems, 2013 European Control Conference (ECC) July 17-19, 2013, Zurich, Switzerland.

[3] <u>S. Pooseh</u>, R. Almeida and D. F. M. Torres, **A numerical scheme to solve fractional optimal control problems**, Conference Papers in Mathematics, vol. 2013, Article ID 165298, 10 pages, 2013.

[2] <u>S. Pooseh</u>, R. Almeida and D. F. M. Torres, **Discrete Direct Methods in the Fractional Calculus of Variations**, *Proceedings of FDA'2012, The Fifth Symposium on Fractional Differentiation and its Applications*, May 14-17, 2012, Hohai University, Nanjing, China. Editors: Wen Chen, HongGuang Sun and Dumitru Baleanu. Paper #042

[1] <u>S. Pooseh</u>, H. S. Rodrigues and D. F. M. Torres, **Fractional Derivatives in Dengue Epidemics**, *Numerical Analysis and Applied Mathematics ICNAAM 2011, AIP Conf. Proc. 1389, 739-742* (2011).

JOURNALS

[7] <u>S. Pooseh</u>, R. Almeida and D. F. M. Torres, **Fractional Order Optimal Control Problems with Free Terminal Time**, *Journal of Industrial and Management Optimization (JIMO)*, J. Ind. Manag. Optim. **10** (2014), no. 2, 363–381.
DOI:10.3934/jimo.2014.10.363

[6] <u>S. Pooseh</u>, R. Almeida and D. F. M. Torres, **A Discrete Time Method to the First Variation of Fractional Order Variational Functionals**, *Central European Journal of Physics*, Cent. Eur. J. Phys. **11** (2013), no. 10, 1262–1267.
DOI:10.2478/s11534-013-0250-0

[5] <u>S. Pooseh</u>, R. Almeida and D. F. M. Torres, **Discrete Direct Methods in the Fractional Calculus of Variations**, *Computers and Mathematics with Applications*, **66** (2013), no. 5, 668–676.
DOI: 10.1016/j.camwa.2013.01.045

[4] <u>S. Pooseh</u>, R. Almeida and D. F. M. Torres, **Numerical Approximations of Fractional Derivatives with Applications**, *Asian Journal of Control*, **15** (2013), no. 3, 698–712.
DOI: 10.1002/asjc.617

[3] <u>S. Pooseh</u>, R. Almeida and D. F. M. Torres, **Approximation of fractional integrals by means of derivatives**, *Computers and Mathematics with Applications*, **64** (2012), pp. 3090-3100.
DOI:10.1016/j.camwa.2012.01.068

[2] <u>S. Pooseh</u>, R. Almeida and D. F. M. Torres, **Expansion Formulas in Terms of Integer-Order Derivatives for the Hadamard Fractional Integral and Derivative**, *Numer. Funct. Anal. Optim.*, **33** (2012), no. 3, 301–319.
DOI: 10.1080/01630563.2011.647197

[1] R. Almeida, <u>S. Pooseh</u> and D. F. M. Torres, **Fractional variational problems depending on indefinite integrals**, *Nonlinear Anal.* (2012), no. 3, 1009–1025.
DOI: 10.1016/j.na.2011.02.028