

# CURRICULUM VITAE

## IGOR GRIVA

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### PROFESSIONAL EXPERIENCE

- 2010 – present                      **Associate Professor**  
Department of Mathematical Sciences  
George Mason University, Fairfax, Virginia
- 2004 – 2010                         **Assistant Professor**  
Department of Computational and Data Sciences  
Department of Mathematical Sciences  
George Mason University, Fairfax, Virginia
- 2002 – 2004                         **Post-doctoral Research Associate**  
Department of Operations Research and Financial Engineering  
Princeton University, Princeton, New Jersey

### EDUCATION

- 1997 – 2002                         **Ph.D. in Information Technology**  
Thesis: Primal-Dual Nonlinear Rescaling methods in constrained optimization.  
George Mason University, Fairfax, Virginia
- 1993 – 1994                         **M. Sc. in Applied Mathematics**  
Thesis: Two sector Ramsey model of capital accumulation with phase constraints. A turnpike theorem for the dynamic Leontief production model with inventories.  
Moscow State University, Moscow, Russia
- 1989 – 1993                         **B. Sc. In Applied Mathematics**  
Moscow State University, Moscow, Russia

## **COURSEBOOK**

I. Griva, S. G. Nash and A. Sofer , “Linear and Nonlinear Optimization”, SIAM, Philadelphia, 2009

## **PATENTS**

- 2007 US Patent 7,184,992 “Constrained Optimization Tool”, with R. Polyak
- 2010 US Patent 7,840,505 “Classification Tool”, with R. Polyak, S. Ho

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F. Mihai, I. Youn, I. Griva, P. Seshaiyer “Computational Methods for Coupled Fluid-Structure-Electromagnetic Interaction Models with Applications to Biomechanics”, Mathematical Problems in Engineering, article number 253179, 2015.

J. Snider, I. Griva, X. Sun, M. Emelianenko, "Set Based Framework for Gibbs Energy Minimization," CalPhad - Computer Coupling of Phase Diagrams and Thermochemistry, 48, 18-26, 2015.

V. Bloom, I. Griva, B. Kwon, A. Wolff, “Exterior-Point Method for Support Vector Machines”, IEEE Transactions on Neural Networks and Learning Systems, 25(7), 1390-1393, 2014.

C. Caiseda, I. Griva, L. Martinez, K. Shaw and D. Weingarten, “Numerical Optimization Technique for Optimal Design of the n Grooves Surface Plasmon Grating Coupler”, Edited by: D. Abramson, M. Lees, V.V. Krzhizhanovskaya, J. Dongarra, PMA Sloop, 2014 INTERNATIONAL CONFERENCE ON COMPUTATIONAL SCIENCE, Book Series: Procedia Computer Science Volume: 29, 2145-2151, 2014.

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N. Egge, A. Brodsky, I. Griva, “Optimizing Distributed Manufacturing Networks via Offline Preprocessing of Nodes in Decision Guidance Query Language”, International Journal of Decision Support System Technology, 4(3), 25-42, 2012.

N. Lebedev, S. Trammell, W. Dressick, G.S. Kedziora, I. Griva, J.M. Schnur, “Structural

Reorganizations Control Intermolecular Conductance and Charge Trapping in Paraquat-Tetraphenylborate Inverse Photochemical Cell”, *Photochemistry and Photobiology*, **87**(5), 1024-1030, 2011.

I. Griva, R. Polyak, “Proximal point nonlinear rescaling method for convex optimization”, *Numerical Algebra, Control and Optimization*, **1**(2), 283-299, 2011.

I. Griva, R.A. Polyak, “Primal–Dual Methods for Nonlinear Constrained Optimization”, *Wiley Encyclopedia of Operations Research and Management Science*, 2011.

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I. Griva, J.M. Schnur, N. Lebedev, “The Role of Electrode Curvature in Controlling Electron Transfer between the Photosynthetic Reaction Center Protein and Gold Nanoelectrodes”, *Chemphyschem*, **11**(17), 3589-3591, 2010

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F. Alemi, H. Erdman, I. Griva, C. H. Evans, “Improved Statistical Methods Are Needed to Advance Personalized Medicine”, *The Open Translational Medicine Journal*, **1**, 16-20, 2009.

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I. Griva, D. Shanno, R. Vanderbei, H. Benson, “Global Convergence of a Primal-Dual Interior-Point Method for Nonlinear Programming,” *Algorithmic Operations Research*, **3** (1), 12-29, 2008.

I. Griva, R. Polyak, “1.5-Q-Superlinear Convergence of an Exterior-Point Method for Constrained Optimization,” *Journal of Global Optimization*, **40** (4), 679-695, 2008.

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M. Adibi, R. Polyak, I. Griva, L. Mili, S. Ammari, "Optimal Transformer Tap Selection Using Modified Barrier-Augmented Lagrangian Method", *IEEE Transactions on Power Systems*, **18** (1), pp. 251-257, 2003.

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