Chrysafis Vogiatzis

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CONTACT INFORMATION

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RESEARCH INTERESTS

Operations research, combinatorial optimization, network optimization, evacuation and disaster management, decision support systems.

EDUCATION

Department of Industrial and Systems Engineering,
University of Florida, Gainesville, FL, USA

- *Ph.D.* in Industrial and Systems Engineering **Jan 2010 – Aug 2014**
  Dissertation: *Exact and Heuristic Approaches to Solving Sensor Placement, Routing, and Tracking Problems*
  Advisor: Dr. Panos M. Pardalos
- *M.Sc.* in Industrial and Systems Engineering **Jan 2010 – Aug 2012**

Department of Electrical and Computer Engineering,
Aristotle University of Thessaloniki, Thessaloniki, Greece

- *M.Sc.* in Electrical and Computer Engineering **Sep 2002 – Nov 2009**
  Dissertation Thesis: Iterative distributed decomposition algorithm for solving large–scale transportation problems. Grade: 10/10. Advisor: Dr. Athanasios Migdalas

PUBLICATIONS

ARTICLES

- Aslaam, N. M., **Vogiatzis, C.**, and Szmerekovsky, J., *Biomass feedstock supply chain network design with conversion incentives*, Energy Policy, accepted, 2018.
- **Vogiatzis, C.** and Walteros, J.L., *Integer Programming Models for Detecting Graph Bipartitions with Structural Requirements*, Networks, accepted, 2017.
  http://dx.doi.org/10.1002/net.21786
- Yoshida, R., Fukumizu, K., and **Vogiatzis, C.**, *Multilocus Phylogenetic Analysis with Gene Tree Clustering*, Annals of Operations Research, accepted, 2017.
  https://doi.org/10.1007/s10479-017-2456-9
- **Vogiatzis, C.**, Veremyev, A., Pasiliao, E.L., and Pardalos, P.M., *Integer Programming Approaches for Finding the Most and Least Central Cliques*, Optimization Letters, Vol. 9, No. 4, pp. 615–633, 2015.
- **Vogiatzis, C.**, Pasiliao, E.L., and Pardalos, P.M., *Graph Partitions for the Multidimensional Assignment Problem*, Computational Optimization and Applications, Vol. 58, No. 1, pp. 205–224, 2014.
- Walteros, J.L., **Vogiatzis, C.**, Pasiliao, E.L., and Pardalos, P.M., *Integer Programming Models for the Multidimensional Assignment Problem with Star Costs*, European Journal of Operational Research, Vol. 235, No. 3, pp. 553–568, 2014.
- Davis, J.R., Paramygin, V.A., **Vogiatzis, C.**, Sheng, Y.P., Pardalos, P.M., and Figueiredo, R.J., *Strengthening the resiliency of a coastal transportation system through integrated simulation of storm surge, inundation, and non-recurrent congestion in Northeast Florida*, Journal of Marine Science and Engineering, Vol. 2, No. 2, pp. 287–305, 2014.

- **Vogiatzis, C.**, Yoshida, R., Aviles-Spadoni, I., Imamoto, S., and Pardalos, P.M., *Evacuation planning for livestock in case of natural and man-made emergencies*, International Journal of Mass Emergencies and Disasters, Vol. 31, No. 1, pp. 25–37, 2013.

Books/Special Issues Edited

- Pardalos, P.M., **Vogiatzis, C.**, and Walteros, J.L., *Selected Papers from the Learning and Intelligent Optimization 8 Conference*, Special Issue at Annals of Mathematics and Artificial Intelligence, Vol. 76, No. 1-2, 2016.
- Pardalos, P.M., Resende, M.G.C., **Vogiatzis, C.**, and Walteros J.L., *Learning and Intelligent Optimization: 8th International Conference, Lion 8, Gainesville, FL, USA, February 16-21, 2014 Revised Selected Papers*, Lecture Notes in Computer Science Vol. 8426, Springer, 2014.
- **Vogiatzis, C.**, Walteros, J.L., and Pardalos, P.M., *Dynamics of Information Systems: Computational and Mathematical Challenges*, Springer Proceedings in Mathematics & Statistics Vol. 105, Springer, 2014.

Book Chapters

- **Vogiatzis, C.**, and Pardalos, P.M., *Evacuation and betweenness centrality*, Dynamics of Disasters, pp. 345–359, 2016.
- **Vogiatzis, C.**, Walteros, J.L., and Pardalos, P.M., *Evacuation through clustering techniques*, in Models, Algorithms, and Technologies for Network Analysis, pp. 185–198, 2013.
- **Vogiatzis, C.**, and Pardalos, P.M., *Combinatorial Optimization Techniques in Transportation and Logistics Networks*, in Handbook of Combinatorial Optimization, Pardalos, Panos M., Du, Ding-Zhu; Graham, Ronald L. (Eds.), Vol. 3, pp 673–722, 2013.
- Davis, J. R., Zheng, Q. P., Paramygin, V. A., Tutak, B.. **Vogiatzis, C.**, Sheng, Y. P., Pardalos, P. M., and Figueiredo, R. J., *Development of a Multimodal Transportation Educational Virtual Appliance (MTEVA) to study congestion during extreme tropical events*, Proceedings of the Transportation Research Board (TRB) 91st Annual Meeting, 12–1119, 2012.
- **Vogiatzis, C.** *Sensors in Transportation and Logistics Networks*, in Sensors: Theory, Algorithms, and Applications, Springer Optimization and Its Applications, Volume 61, Part 3, 145–163, 2012.
- Davis, J. R., Paramygin, V. A., Figueiredo, R. J., Sheng, Y. P., **Vogiatzis, C.** and Pardalos, P. M., *The Coastal Science Educational Virtual Appliance (CSEVA)*, Estuarine and Coastal Modeling, Malcolm L. Spaulding ed., ASCE, 2011.

Articles In Preparation/Submitted

- **Vogiatzis, C.** and Can Camur Mustafa, *Identification of essential proteins using induced stars in protein-protein interaction networks*, INFORMS Journal on Computing, under 2nd round of reviews, August 2017 (preprint available at: `https://arxiv.org/pdf/1708.00574.pdf`).
- Forouzandeh Shahraki, A., Yadav, O.P., **Vogiatzis, C.**, *Selective Maintenance Optimization for Multi-state Systems Considering Stochastically Dependent Components and Stochastic Imperfect Maintenance Actions*, submitted to Reliability Engineering and System Safety, October 2017.
- Yasui, N., **Vogiatzis, C.**, Yoshida, R., and Fukumizu, K., *imPhy: Imputing Phylogenetic Trees with Missing Information using Mathematical Programming*, submitted to IEEE/ACM Transactions on Computational Biology and Bioinformatics (code available at: `https://github.com/yasuiniko/imPhy/`), November 2017.
- Rasti, S., **Vogiatzis, C.**, *A survey of computational methods in protein-protein interaction networks*, submitted to Annals of Operations Research, December 2017.

- Rasti, S., **Vogiatzis, C.**, *Novel group centrality metrics for detecting essentiality in protein-protein interaction networks*, in preparation.

Sponsored Research

- **$500,000** (in total, co-PI) by USDA – AFRI, *Nano-enabled Sorbents to Prevent Arsenic Accumulation by Rice (NEAR)* (**submitted**, 2017).
- **$1,071,567** (in total, co-PI) by USDA – AFRI, *Next-Generation Hydroponics and Alternative Water Sources for Urban and Peri-urban Agriculture* (**submitted**, 2017).
- **$5,040** (sole PI) by Swanson Health Products (local industry), *Process Improvement based on Lean Principles* (**awarded**, 2016): Funded an undergraduate student, Ms. Hannah Schnepf, and studied improvements for the process of launching new products. Decreased the time from receipt to launch by an average of 4 weeks.

Honours and Awards

- **University of Florida Teaching Award Winner 2012** (ceremony held in April 2012).
- **Teaching Excellence Award (2012)** by the Department of Industrial and Systems Engineering.
- **Graduate Student Teaching Award 2010-2011** by the Department of Industrial and Systems Engineering.
- **Gerondelis Foundation Scholarship** of 5,000$ for excellence in studies (2011).
- **Full Assistantship** during my studies at the University of Florida (2010-).
- **Awards in the Hellenic Mathematical Society Competition** for all prefectures except for Attiki and Thessaloniki in 1998 (1st), 1999 (1st), and 2000 (3rd).
- **Integrity and Work Ethic** Gator Attribute nomination by the Department of Industrial and Systems Engineering (2012, 2013, and 2014).
- **INFORMS 2013 Future Academician Colloquium**, nominated by the Department of Industrial and Systems Engineering.
- **Faculty mentor** of University of Florida International Center Outstanding International Student Award Recipient, Ms. Areej Al-Bahar (2015).

Teaching Experience

I only include the last three years of experience. A full teaching history, along with all semester evaluations since 2010, is available upon request.

- Fall 2016:
  1. IME 770, Quantitative Modeling
     Evaluations: **4.91/5.00** (College Mean: 4.17, Department Mean: 4.22)
  2. IME 480, Production & Inventory Control
     Evaluations: **4.93/5.00** (College Mean: 4.17, Department Mean: 4.22)
- Spring 2016:
  1. IME 771, Probabilistic & Deterministic Methods
     Evaluations: **4.56/5.00** (College Mean: 4.11, Department Mean: 4.15)
- Fall 2015:
  1. IME 480, Production & Inventory Control
     Evaluations: **4.85/5.00** (College Mean: 4.05, Department Mean: 3.90)
- Summer 2015:
  1. EIN 4360C, Facilities Planning and Work Design
     Evaluations: **5.00/5.00** (College Mean: 4.13, Department Mean: 4.91)
  2. COP 2271, Computer Programming for Engineers (VB.NET)
     Evaluations: **4.93/5.00** (College Mean: 4.13, Department Mean: 4.91)
- Spring 2015:

1. ESI 6323, Models for Supply Chain Management
   Evaluations: **4.83/5.00** (College Mean: 4.14, Department Mean: 4.15)
2. ESI 4221C, Introduction to Quality Control
   Evaluations: **4.96/5.00** (College Mean: 4.14, Department Mean: 4.15)
3. ESI 4523, Industrial Systems Simulation
   Evaluations: **5.00/5.00** (College Mean: 4.14, Department Mean: 4.15)

- Fall 2014:

1. COP 2271, Computer Programming for Engineers (MATLAB)
   Evaluations: **4.91/5.00** (College Mean: 4.13, Department Mean: 3.95)
2. COP 2271, Computer Programming for Engineers (C++)
   Evaluations: **4.82/5.00** (College Mean: 4.13, Department Mean: 3.95)
3. ESI 4221C, Introduction to Quality Control
   Evaluations: **4.92/5.00** (College Mean: 4.13, Department Mean: 3.95)

- Spring 2014:

1. COP 2271, Computer Programming for Engineers (Fortran)
   Evaluations: **4.92/5.00** (College Mean: 4.14, Department Mean: 3.86)

Academic Positions

Assistant Professor	Industrial and Systems Eng. North Carolina A&T State University Greensboro, NC	Jan 2018–
Assistant Professor	Industrial and Manufacturing Eng. North Dakota State University Fargo, ND	Aug 2015–Dec 2017
Lecturer	Industrial and Systems Engineering University of Florida Gainesville, FL	Aug 2014–Aug 2015
Graduate Student	Center for Applied Optimization University of Florida Gainesville, FL	Jan 2010–Aug 2014
Research Assistant	Mathematical Modeling and	
Summer Intern	Optimization Institute	Jun 2014–Aug 2014
	Air Force Research Lab	May 2013–Aug 2013
	Shalimar, FL	Jun 2012–Aug 2012

Students advised

- M.Sc. students (NDSU):
  - Md Mahbubar Rahman, August 2017, "Two-echelon vehicle routing problems using unmanned autonomous vehicles", current position: Ph.D. student at North Dakota State University.
  - Rahul Banothu, December 2017, "Vulnerability Assessment of Interdependent Power and Communications Networks Under Varying Level of Interdependency".
  - Omkar Achrekar, expected May 2018.
- Ph.D. students (NDSU):
  - N Muhammad Aslaam Mohamed Abdul Ghani, expected August 2018.
  - Saeid Rasti, expected December 2019.
- Ph.D. students (NCAT):
  - Sean Suehr, expected December 2021.

Conferences organized

- 2nd Annual Meeting of the Mathematical Modeling and Optimization Institute, 2014. Organizer.
- LION 8 (Learning and Intelligent OptimizatioN), 2014. Local organizing committee.
- 1st Annual Meeting of the Mathematical Modeling and Optimization Institute, 2013. Local organizing committee.
- 5th International Conference on the Dynamics of Information Systems, 2013. Organizer.
- 3rd Conference on Optimization Methods and Software, 2012. Local organizing committee.
- 1st International Conference on Network Analysis, 2011. Organizer.
- The 2nd World Congress on Global Optimization, 2010. Local organizing committee.

Scientific and professional societies

- INFORMS: Institute for Operations Research and the Management Sciences
- IISE: Institute of Industrial and Systems Engineers
- SIAM: Society for Industrial and Applied Mathematics
- ASEE: American Society for Engineering Education

Professional service

- Editorial board member for the journal *4Open*.
- Media coordinator of the INFORMS *Junior Faculty Interest Group* (JFIG) (2017-2018).
- Chair and member of the NDSU College of Engineering Research & Graduate Committee, responsible for awarding two faculty and one student research awards every year, and promoting high-quality, high-impact research (2016-2017, 2015-2017).
- Member of the Steering Committee of the NDSU College of *NAE Engineering Grand Challenges Scholars Program* (2016-2017).
- Graduate Program Coordinator for Industrial & Manufacturing Engineering at North Dakota State University (2016-2017).
- Faculty Adviser for the *IISE* chapter at North Dakota State University (2015-2017).
- I have served as a reviewer for a wide variety of scientific journals in my area of interest, including:
  - Networks
  - OMEGA
  - Annals of Operations Research
  - Computational Optimization and Applications
  - Journal of Combinatorial Optimization
  - Journal of Global Optimization
  - Energy Systems
  - Optimization Letters
  - European Journal of Computational Optimization
- Reviewer for *Mathematical Reviews*.

Languages

- English
- French
- Italian
- Spanish
- Greek

References

- **Dr. Panos M. Pardalos**
  Distinguished Professor
  Department of Industrial and Systems Engineering
  University of Florida
  Email: pardalos@ise.ufl.edu
  Phone number: 352-392-1464
- **Dr. J. Cole Smith**
  Professor and Chair
  Department of Industrial Engineering
  Clemson University
  Email: jcsmith@clemson.edu
  Phone number: 864-656-4716
- **Dr. Ruriko Yoshida**
  Associate Professor
  Department of Operations Research
  Naval Postgraduate School
  Email: ryoshida@nps.edu
  Phone number: 831-656-2973
- **Dr. Om Prakash Yadav**
  Professor and Chair
  Department of Industrial and Manufacturing Engineering
  North Dakota State University
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- **Dr. Athanasios Migdalas**
  Professor
  Department of Business Administration, Technology and Social Sciences
  Luleå University of Technology
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