# Pavlos Eirinakis

Current position:	Assistant Professor Analytical Methods in the Industry University of Piraeus School of Maritime and Industrial Studies Department of Industrial Management and Technology		
Contact:	Deligiorgi 107, Piraeus 18534 (Office 503) pavlose@unipi.gr (+30) 210-4142390		
Education			
06.2006 – 10.2010	PhD in Operations Research Department of Management Science and Technology Athens University of Economics and Business Thesis: "2-sided and multi-sided Stable Matchings: Structures, Algorithms and Applications"		
10.2002 – 06.2004	Master in Business Administration (MBA) Department of Business Administration & Department of Marketing and Communication Athens University of Economics and Business		
10.1998 – 06.2002	<b>BSc in Informatics</b> Department of Informatics Athens University of Economics and Business		
Academic/Research Experience			
09.2018 – Today	Assistant Professor Department of Industrial Management and Technology University of Piraeus		
05.2013 – 09.2018	<b>R&amp;D Engineer</b> Danaos Research Center Danaos Management Consultants		
07.2012 – 09.2018	<b>Postdoctoral Researcher</b> Department of Management Science and Technology Athens University of Economics and Business		
08.2011 – 06.2012	<b>Postdoctoral Research Fellow</b> Lane Department of Computer Science and Electrical Engineering West Virginia University		

10.2010 - 07.2011	Postdoctoral Researcher
	Department of Management Science and Technology
	Athens University of Economics and Business

## Teaching Experience

10.2018 – Today	University of Piraeus			
	Department of Industrial Management and Technology			
	Business Analytics: 2022-Today			
	Operation Research I: 2018-19, 2023-Today			
	Operation Research II: 2018-19, 2023-Today			
	Project Management: 2019-22			
	Quality Assurance and Control: 2019-2023			
	Queueing Theory and System Simulation: 2018-2023			
	Master in Industrial Management and Technology			
	Analytical Methods: 2018-19			
	Big Data and Business Analytics: 2021-Today			
	Project Management: 2019-22			
	Project Management in Practice: 2023-Today			
10.2012 - 02.2019	Harokopio University of Athens			
	MSc in Web Engineering			
	Computational Methods: 2012-14			
	Computation and Optimization: 2015-18			
10.2017 – 07.2018	Hellenic Open University			
	Department of Informatics			
	Discrete mathematics and mathematical logic: 2017-18			
10.2013 - 08.2018	Athens University of Economics and Business			
	Department of Management Science and Technology			
	Mathematical programming: 2017-18			
	Master in Public Policy and Public Management			
	Decision making techniques in the public sector: 2013-14			

Principal Investigator in Research Projects

01.2023 – Today	MODAPTO: Interoperable Horizon-CL4-2 Principal Inve	Modular e Digital Tw 2022-TWIN- stigator (U	Manufacturing ins TRANSITION-01: N niversity of Piraeu	and /IODAP Is)	<b>Distributed</b> TO – GA no. 10	<b>Control</b>	via
11.2019 - 04.2023	FACTLOG: Energy-aware Factory Analytics for Process Industries Horizon-DT-SPIRE-06-2019 - GA no. 869951 Principal Investigator (University of Piraeus)						

Participation in Research Projects

08.2023 – Σήμερα	<b>PLOOTO: Product Passport for through Twinning of Circular Value Chains</b> HORIZON-CL4-2022-RESILIENCE-01: PLOOTO – GA no. 101092008
02.2021 – Today	AQUASPICE: Advancing Sustainability of Process Industries through Digital and Circular Water Use Innovations Horizon-CE-SPIRE-07-2020: AQUASPICE - GA no. 958396
09.2016 – 08.2019	<b>DISRUPT: Decentralised architectures for optimised operations via virtualized processes and manufacturing ecosystem collaboration</b> Horizon-FOF.11-2016: DISRUPT - GA no. 723541
06.2015 – 05.2018	<b>U-TURN: Rethinking urban transportation through advanced tools and supply chain collaboration</b> Horizon-MG.5.2-2014: U-TURN - GA no. 635773
05.2013 – 05.2015	<b>AMINESS: Analysis of Marine Information for Environmentally Safe Shipping</b> Synergasia: AMINESS - 11-ΣΥΝ-9-1071
10.2012 - 09.2015	From Graph Theory to Matroids: Algorithmic Issues and Applications Thalis 85418, MIS: 379437
04.2012 - 09.2015	<b>Energy efficiency of road networks and vehicles</b> Thalis Δ.562, MIS: 380232
05.2012 - 06.2015	(k,s)-Assignments and alldifferent constraint systems Archimedes III, Sub-project 28, MIS: 379389
12.2012 - 12.2014	Matchings under preferences: Algorithms and Structures Bilateral S&T Cooperation GR-SL: EP 1993–12SLO_ET30_1116
06.2012 - 04.2014	ARTISAN: Energy Aware Enterprise Systems for low-carbon intelligent operations FP7 - ICT.7-2011: ARTISAN - GA no. 287993
08.2011 - 06.2012	Polyhedral Approaches to Selected Problems in Computational Logic NSF Award CCF-0827397
06.2011 - 03.2012	Assignment and alldifferent constraint systems Basic Research Funding Program
03.2009 - 02.2010	Multisided Stable Matchings: Structures and Algorithms Basic Research Funding Program

#### Papers in Journals

- [J1] Eirinakis P, Magos D, Mourtos I, Miliotis P (2012). Finding all stable pairs and solutions for the many-to-many Stable Matching problem. *INFORMS Journal on Computing* 24(2), 245-259.
- [J2] Eirinakis P, Ruggieri S, Subramani K, Wojciechowski P (2012). A complexity perspective on entailment of parameterized linear constraints. *Constraints* 17, 461-487.
- [J3] Eirinakis P, Magos D, Mourtos I, Miliotis P (2013). Finding a minimum-regret many-to-many Stable Matching. *Optimization: A Journal of Mathematical Programming and Operations Research* 62(8), 1007-1018.
- [J4] Eirinakis P, Ruggieri S, Subramani K, Wojciechowski P (2014). On Quantified Linear Implications. Annals of Mathematics and Artificial Intelligence 71(4), 301-325.
- [J5] Ruggieri S, Eirinakis P, Subramani K, Wojciechowski P (2014). On the complexity of Quantified Linear Systems. *Theoretical Computer Science* 518, 128-134.
- [J6] Eirinakis P, Magos D, Mourtos I (2014). Blockers and antiblockers of stable matchings. *Theoretical Computer Science* 524, 126-133.
- [J7] Eirinakis P, Magos D, Mourtos I, Miliotis P (2014). Polyhedral aspects of stable marriage. *Mathematics of Operations Research* 39(3), 656-671.
- [J8] Cechlárová K, Eirinakis P, Fleiner T, Magos D, Mourtos I, Potpinková E (2014). Pareto optimality in many-to-many matching problems. *Discrete Optimization* 14, 160-169.
- [J9] Eirinakis P, Magos D, Mourtos I (2014). From one stable marriage to the next; how long is the way? *SIAM Journal on Discrete Mathematics* 28(4), 1971-1979.
- [J10] Shankar N, Subramani K, Eirinakis P (2015). Identifying negative cost cycles in strongly polynomial time. Nordic Journal of Computing 15(2), 154-171.
- [J11] Williamson M, Eirinakis P, Subramani K (2016). Fast algorithms for the Undirected Negative Cost Cycle Detection problem. *Algorithmica* 74, 270-325.
- [J12] Cechlárová K, Eirinakis P, Fleiner T, Magos D, Manlove DF, Mourtos I, Oceláková E, Rastegari B (2016). Pareto Optimal Matchings in Many-to-Many Markets with Ties. *Theory of Computing Systems* 59(4), 700-721.
- [J13] Wojciechowski P, Eirinakis P, Subramani K (2016). Analyzing restricted fragments of the theory of linear arithmetic. *Annals of Mathematics and Artificial Intelligence* 77(1-3), 245-266.
- [J14] Eirinakis P, Williamson M, Subramani K (2017). On the Shoshan-Zwick algorithm for the all-pairs shortest path problem. Journal of Graph Algorithms and Applications 21(2), 177-181.
- [J15] Eirinakis P, Magos D, Mourtos I (2018). The stable b-matching polytope revisited. *Discrete Applied Mathematics* 250, 186-201.
- [J16] Eirinakis P, Magos D, Mourtos I (2020). The diameter of the stable marriage polytope: Bounding from below. *Discrete Mathematics* 343(5), 111804.
- [J17] Eirinakis P, Kasapidis G, Mourtos I, Repoussis P, Zampou E (2021). Situation-aware manufacturing systems for capturing and handling disruptions. *Journal of Manufacturing Systems* 58, 365-383.
- [J18] Rožanec JM, Trajkova E, Lu J, Sarantinoudis N, Arampatzis G, Eirinakis P, Mourtos I, Onat MK, Yilmaz DA, Košmerlj A, Kenda K (2021). Cyber-Physical LPG Debutanizer Distillation Columns: Machine-Learning-Based Soft Sensors for Product Quality Monitoring. *Applied Sciences* 11(24), 11790 (SI: Smart Resilient Manufacturing).
- [J19] Eirinakis P, Lounis S, Plitsos S, Arampatzis G, Kalaboukas K, Kenda K, Lu J, Rožanec JM, Stojanovic N. (2022). Cognitive Digital Twins for Resilience in Production: A Conceptual Framework. *Information* 13(1), 33 (SI: Cognitive Digital Twins: Challenges and Opportunities for Process and Manufacturing Industries).

- [J20] Eirinakis P, Mourtos I, Zampou E (2022). Random Serial Dictatorship for horizontal collaboration in logistics. *Omega*, 102662.
- [J21] Spyrou-Sioula K, Kontopoulos I, Kaklis D, Makris A, Tserpes K, Eirinakis P, Oikonomou F (2022). AIS-Enabled Weather Routing for Cargo Loss Prevention. *Journal of Marine Science and Engineering* 10, 1755.
- [J22] Eirinakis P, Mourtos I, Samaris M (2024). On Pareto optimal balanced exchanges. *Discrete Optimization* 52, 100835.
- [J23] Eirinakis P, Koronakos G, Plitsos P (2024). Optimizing LPG production under quality specifications by preprocessing MILP withPareto dominance and DEA. *International Journal of Production Research* (accepted).

#### Papers in Conference Proceedings (peer-reviewed)

- [C1] Eirinakis P, Magos D, Mourtos I, Miliotis P (2007). Hyperarc consistency for the Stable Admissions problem. In: Proceedings of the 19th IEEE International Conference on Tools with Artificial Intelligence (ICTAI07) 1, Patra, Greece, pp. 239-242.
- [C2] Eirinakis P, Magos D, Mourtos I, Miliotis P (2008). Finding all stable pairs for the (many-to-many) Stable Matching. In: *Proceedings of 1st International Workshop on Matching Under Preferences* 2008 (MATCH-UP08), Reykjavik, Iceland, pp. 145-156.
- [C3] Eirinakis P, Ruggieri S, Subramani K, Wojciechowski P (2012). Computational complexity of inclusion queries over polyhedral sets. In: *Proceedings of the International Symposium on Artificial Intelligence and Mathematics* (ISAIM12), Fort Lauderdale FL, USA.
- [C4] Wojciechowski P, Eirinakis P, Subramani K (2014). Variants of Quantified Linear Programming and Quantified Linear Implication. In: *Proceedings of the International Symposium on Artificial Intelligence and Mathematics* (ISAIM14), Fort Lauderdale FL, USA.
- [C5] Cechlárová K, Eirinakis P, Fleiner T, Magos D, Mourtos I, Potpinková E (2015). Approximation Algorithms for the Teachers Assignment Problem. In: *Proceedings of the 13th International Symposium on Operations Research in Slovenia* (SOR15), Bled, Slovenia, pp. 479-484.
- [C6] Archontaki S, Eirinakis P, Varelas T (2015). Fermat minimizes fuel cost expenses in anisotropic sea passages. In: Proceedings of the 4th International Symposium & 26th National Conference on Operational Research (HELORS15), Chania, Greece, pp. 191-195.
- [C7] Cechlárová K. Eirinakis P, Fleiner T, Magos D, Manlove DF, Mourtos I, Oceláková E, Rastegari B (2015). Pareto Optimal Matchings in Many-to-Many Markets with Ties. In: Algorithmic Game Theory, LNCS 9347, Proceedings of the 8th International Symposium on Algorithmic Game Theory (SAGT15), Springer Berlin Heidelberg, Saarbrücken, Germany, pp. 27-39.
- [C8] Wojciechowski P, Subramani K, Eirinakis P (2016). On the computational complexities of Quantified Integer Programming variants. In: *Proceedings of the International Symposium on Artificial Intelligence and Mathematics* (ISAIM16), Fort Lauderdale FL, USA.
- [C9] Eirinakis P, Buenabad-Chavez J, Fornasiero R, Gokmen H, Mascolo J-E, Mourtos I, Spieckermann S, Tountopoulos V, Werner F, Woitsch R (2017). A Proposal of Decentralised Architecture for Optimised Operations in Manufacturing Ecosystem Collaboration. In: *Proceedings of the Working Conference on Virtual Enterprises* (PRO-VE17), pp. 128-137. Springer, Cham.
- [C10] Eirinakis P, Kalaboukas K, Lounis S, Mourtos I, Rožanec JM, Stojanovic N, Zois G (2020). Enhancing Cognition for Digital Twins. In: Proceedings of the 2020 IEEE International Conference on Engineering, Technology and Innovation (ICE/ITMC20), pp. 1-7. IEEE.

- [C11] Eirinakis P, Koronakos G (2022). A mathematical programming approach for optimizing on-specs production for industrial processes under input uncertainty. *IFAC-PapersOnLine*, *55*(10), pp.2822-2827.
- [C12] Kaklis D, Eirinakis P, Giannakopoulos G, Spyropoulos C, Varelas TJ, Varlamis I (2022). A big data approach for Fuel Oil Consumption estimation in the maritime industry. In: Proceedings of the 2022 IEEE 8th International Conference on Big Data Computing Service and Machine Learning Applications (BSD22), Fremont, CA, United States, pp. 39-47.
- [C13] Kaklis D, Varelas TJ, Varlamis I, Eirinakis P, Giannakopoulos G, Spyropoulos CV (2023). From STEAM to Machine: Emissions control in the shipping 4.0 era. In SNAME 8th International Symposium on Ship Operations, Management and Economics. OnePetro.

#### **Extended Abstracts in Conferences**

- [P1] Eirinakis P, Magos D, Mourtos I, Miliotis P (2009). On weighted stable b-matchings and their implications on Supply Chain Networks. In: 20th International Symposium on Mathematical Programming (ISMP'09), Chicago, IL, USA.
- [P2] Eirinakis P, Magos D, Mourtos I, Miliotis P (2010). Non-stable pairs in the Stable Marriage problem and multi-index configurations. In: 24th European Conference on Operational Research (EURO'10), Lisbon, Portugal.
- [P3] Eirinakis P, Magos D, Mourtos I, Miliotis P (2011). Finding a minimum-regret many-to-many Stable Matching. In: 1st International Symposium & 10th Balkan Conference on Operational Research (BALCOR'11), Thessaloniki, Greece.
- [P4] Eirinakis P, Magos D, Mourtos I, Miliotis P (2012). On the structural characteristics of the Stable Marriage polytope. In: 2nd International Workshop on Matching Under Preferences 2012 (MATCH-UP'12), Budapest, Hungary.
- [P5] Eirinakis P, Ruggieri S, Subramani K, Wojciechowski P (2012). Quantified Linear Programs and Implications. In: *8th Scandinavian Logic Symposium* (SLS'12), Roskilde University, Denmark.
- [P6] Eirinakis P, Ruggieri S, Subramani K, Wojciechowski P (2013). Analysis and Applications of Quantified Linear Programming and Quantified Linear Implication. In: 13th INFORMS Computing Society Conference (ICS'13), Santa Fe, NM, USA.
- [P7] Eirinakis P, Ruggieri S, Subramani K, Wojciechowski P (2013). On the conjunctive fragments of theory of linear arithmetic. In: Automated Deduction: Decidability, Complexity, Tractability 2013 (ADDCT'13), Lake Placid, NY, USA.
- [P8] Eirinakis P, Magos D, Mourtos I (2013). Exploring the many-to-many Stable Matching polytope and transportation-related generalizations. In: 26th European Conference on Operational Research (EURO'13), EURO - INFORMS Joint International Meeting, Rome, Italy.
- [P9] Cechlárová K, Eirinakis P, Fleiner T, Magos D, Mourtos I, Potpinková E (2014). Pareto-optimal many-to-many-matchings: complexity and integer programs. In: 20th Conference of the International Federation of Operational Research Societies (IFORS'14), Barcelona, Spain.
- [P10] Eirinakis P, Magos D, Mourtos I (2014). On the polytope of closed subsets of directed graphs and its extension to ordinal transportation. In: 20th Conference of the International Federation of Operational Research Societies (IFORS'14), Barcelona, Spain.
- [P11] Eirinakis P (2014). Pareto optimal matchings. In: *18th International Conference on Mathematical Methods in Economy and Industry* (MMEI'14), Smolenice, Slovakia.
- [P12] Eirinakis P, Magos D, Mourtos I (2014). Polyhedral results for 2-sided stable matchings and ordinal transportation. In: *INFORMS Annual Meeting 2014*, San Francisco, CA, USA.

- [P13] Eirinakis P, Magos D, Mourtos I (2015). Linear and Integer Programming formulations for Stable Allocations and House Allocations (poster). In: 3rd International Workshop on Matching Under Preferences (MATCH-UP'15), Glasgow, UK.
- [P14] Eirinakis P, Magos D, Mourtos I (2015). Polyhedral aspects of stable b-matching. In: *3rd International Workshop on Matching Under Preferences* (MATCH-UP'15), Glasgow, UK.
- [P15] Eirinakis P, Magos D, Mourtos I (2015) A model for House Allocation. In: *International Conference Science in Technology*' (SCinTE'15), Athens, Greece.
- [P16] Cechlárová K. Eirinakis P, Fleiner T, Magos D, Manlove DF, Mourtos I, Oceláková E, Rastegari B (2015). Pareto Optimal Matchings in Many-to-Many Markets with Ties. In: 9th Conference on Economic Design (CoED'15), Istanbul, Turkey.
- [P17] Wojciechowski P, Eirinakis P, Subramani K (2015). Quantifying Linear Programs and Implications. In: 22nd International Symposium on Mathematical Programming (ISMP'15), Pittsburgh, PA, USA.
- [P18] Eirinakis P, Magos D, Mourtos I (2015). A minimal polyhedral description of stable b-matching. In: 22nd International Symposium on Mathematical Programming (ISMP'15), Pittsburgh, PA, USA.
- [P19] Zampou E, Trachana T, Eirinakis P, Zeimpekis V (2016). Collaborative logistics models in urban areas: Current status and evidence from the Fast Moving Consumer Goods sector. In: 28th European Conference on Operational Research (EURO'16), Poznan, Poland.
- [P20] Eirinakis P, Mourtos I (2016). Pareto-optimal allocations. In: *3rd International Conference on Energy, Sustainability and Climate Change* (ESCC'16), Marathon, Greece.
- [P21] Zeimpekis V, Ntzoufas A, Trachana T, Zampou E, Eirinakis P (2017). Shared logistics opportunities in urban areas: Assessing route sharing practices for 3PL freight distributions in the region of Attica. In: 6th International Symposium and 28th National Conference on Operational Research (HELORS'17)
- [P22] Eirinakis P, Mourtos I (2018). Pareto-optimal allocations and their application in logistics. In: *Operational Research Society Conference* (OR60), Lancaster, UK.
- [P23] Eirinakis P, Mourtos I, Zampou E (2019). Energy-aware Manufacturing Systems. In: 9th IFAC Manufacturing Modelling, Management and Control (MIM19), Berlin, Germany.
- [P24] Samaris M, Eirinakis P, Mourtos M (2021). The Pareto optimal balanced exchange problem. In: 31st European Conference on Operational Research (EURO21), Athens, Greece.
- [P25] Mourtos I, Kasapidis G, Repoussis P, Eirinakis P (2021). Combined Production Scheduling and Predictive Maintenance for PCB Manufacturing. In: 31st European Conference on Operational Research (EURO21), Athens, Greece.
- [P26] Sarantinoudis N, Tsinarakis G, Kalaboukas K, Eirinakis P, Arampatzis G (2021). Cognitive Manufacturing: The role of process modelling and optimisation. In: 31st European Conference on Operational Research (EURO21), Athens, Greece.
- [P27] Eirinakis P, Arampatzis G, Košmerlj A, Rožanec J, Sarantinoudis N (2021). Utilizing an enhanced digital twin to optimize on-specs LPG recovery. In: 31st European Conference on Operational Research (EURO21), Athens, Greece.

#### **Preprints / Other Publications**

[M1] Eirinakis P, Magos D, Mourtos I, Miliotis P (2010). Stability in a specialized Supply Chain setting. In: Proceedings of the 7th Management Science and Technology Student Conference, Astrolavos 13, Greek Mathematical Society, Athens, Greece, pp. 68-79.

- [M2] Cechlarova K, Eirinakis P, Fleiner T, Magos D, Mourtos I, Ocel'áková E (2014). Approximation algorithms for the teachers assignment problem. *Institute of Mathematics Preprint*, series A, (5), 1-10.
- [M3] Cechlárová K, Eirinakis P, Fleiner T, Magos D, Manlove DF, Mourtos I, Oceľáková E, Rastegari B (2015). Pareto Optimal Matchings in Many-to-Many Markets with Ties. arXiv:1507.02866
- [M4] Eirinakis P, Williamson M, Subramani K (2016). On the Shoshan-Zwick algorithm for the all-pairs shortest path problem. arXiv:1603.08627.
- [M5] Eirinakis P, Mourtos I, Samaris M (2021). Pareto optimal exchange with indifferent endowments. arXiv:2104.00465.
- [M6] Rožanec JM, Trajkova E, Lu J, Sarantinoudis N, Arampatzis G, Eirinakis P, Mourtos I, Onat MK, Yilmaz DA, Košmerlj A, Kenda K (2021). Cyber-Physical LPG Debutanizer Distillation Columns: Machine Learning-Based Soft Sensors for Product Quality Monitoring. Preprints, 2021100364.

#### Theses

- [T1] Eirinakis P (2004). Development of a Decision Support System using Fuzzy Logic. MBA Thesis (in Greek). Athens University of Economics and Business.
- [T2] Eirinakis P (2010). 2-sided and multi-sided Stable Matchings: Structures, Algorithms and Applications. PhD Thesis. Athens University of Economics and Business.

#### Reviewer (journals)

- Annals of Operations Research
- Computers in Industry
- Computers & Industrial Engineering
- Electronics (SI: Big Data and Artificial Intelligence for Industry 4.0)
- International Journal of Industrial Engineering and Management
- Journal of Manufacturing Systems
- Journal of Industrial Information Integration
- o Journal of the Operations Research Society of China
- o Theoretical Computer Science
- o Operational Research: An International Journal
- o Optimization Letters

#### **Reviewer** (conferences)

PCI23	27th Panhellenic Conference on Informatics
PCI22	26th Panhellenic Conference on Informatics
AAMAS22	International Conference on Autonomous Agents and Multiagent Systems 2022
PCI21	25th Panhellenic Conference on Informatics
ADT21	7th International Conference on Algorithmic Decision Theory
ECIS21	29th European Conference on Information Systems
IPCO20	21st Conference on Integer Programming and Combinatorial Optimization
PCI20	24th Panhellenic Conference on Informatics
MATCH-UP19	5th International Workshop on Matching Under Preferences

DISC19	33rd International Symposium on Distributed Computing
PCI17	21st Panhellenic Conference on Informatics
ICPP17	46th International Conference on Parallel Processing
ECIS17	25th European Conference on Information Systems
SWAT16	15th Scandinavian Symposium and Workshops on Algorithm Theory
PCI15	19th Panhellenic Conference on Informatics
ICALP15	42nd International Colloquium on Automata, Languages and Programming
SEA15	14th International Symposium on Experimental Algorithms
PCI14	18th Panhellenic Conference on Informatics
ESA13	21st European Symposium on Algorithms
SODA12	ACM-SIAM Symposium on Discrete Algorithms 2012
ESA12	20th European Symposium on Algorithms
SWAT12	13th Scandinavian Symposium and Workshops on Algorithm Theory
ICALP11	38th International Colloquium on Automata, Languages and Programming

## Other Service to the Community

Associate Editor	30th European Conference on Information Systems (ECIS22) Track on Artificial Intelligence in IS Research and Practice
Session Organizer	31st European Conference on Operational Research (EURO21) Organization of 2 sessions titled: OR in Manufacturing and Digital Twins
PC member	5th International Workshop on Matching Under Preferences (MATCH-UP'19)
PC member	Panhellenic Conference on Informatics (PCI) 2014 – 2018, 2020-Today

## Academic Visits

02.2013, 09.2014 Pavol Jozef Šafárik University Institute of Mathematics Košice, Slovakia

## Languages

English	Excellent. Certificate of Proficiency in English, Cambridge.
German	Fair. Grundstufe Prüfung, Goethe Institut.

### Programming Skills

C, C++, C#, VB, Java, JavaScript, SQL, NoSQL, CPLEX-OPL, Python