

Dr. Vasiliki KAZANTZI
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EDUCATION

- ◆ **PhD in Chemical Engineering (GPA = 4.00/4.00)**
Texas A&M University, College Station, Texas, December 2006

Research areas:

- Process Synthesis, Integration and Optimization
- Property Integration and Functionality-based Optimization
- Simultaneous Process and Molecular Design
- Sustainable Design and Pollution Prevention

Description of dissertation research:

The overall objective of the PhD work was to develop systematic and generally applicable techniques for the optimal synthesis, integration and scheduling of processing systems. In particular, my research has introduced the novel concept of property-based pinch analysis for resource conservation and pollution prevention. This is a generalization of the holistic approaches developed for mass and energy integration. Visualization, algebraic and mathematical programming techniques were developed for identifying performance benchmarks and detailed strategies to attain these targets. The developed property-based approach employed property-based insights to systematically conserve process resources and optimize process performance. In addition, the PhD work was extended to include strategies for material substitution alternatives, as well as simultaneous process and molecular design within the scope of process integration and optimization (multi-scale modeling). These concepts have the potential to provide a profound impact on process systems engineering with a plethora of applications, such as in Process Systems Engineering, Process Integration, Pharmaceutical Engineering (property-based engineering), Process and Product Development, Product Innovation, Risk Assessment, Safety and Environmental Engineering.

Areas of the ongoing research:

As an extension of the concepts developed in the PhD work, the following future research developments are being pursued:

- Integration of processes
- Process safety and environmental protection
- Supply Chain Management
- Process risk assessment

- ◆ **Master of Engineering in Chemical Engineering**
Texas A&M University, College Station, Texas, May 2001

Research study:

Probing the Kinetic Mechanism of β -Amyloid Induced G Protein Activation (Spring 2001)

Description of research:

Worked on the kinetic analysis of the formation of β -amyloid related to the Alzheimer's disease. Experimental work included:

- Human neuroblastoma SH-SY5Y cells culture
- Reconstitution of G α vesicles (evaporation technique)
- GTPase Assay to assess GTPase activities (Microplate Scintillation Counter technique for counting radioactive ^{32}P emission)
- Congo Red binding assay to assess the presence of amyloid fibrils using UV-visible spectrophotometer
- Modified Lowry Protein Assay for protein quantitation.

Other Studies:

- An Effective Delivery System for Protein and Peptide Drugs using Temperature Responsive Gels (Spring 2000)
- Vaccine Production to eliminate Alzheimer's Disease (Fall 2000)
- Monitoring the Heat Released by an Exothermic Reaction in a CSTR (Spring 2001)
- Importance of the Hoffmeister Series for Polymeric Stabilization of Colloids (Fall, 2003)

Training Programs:

- General Radiation Safety Training, Environmental Health and Safety Department (January 12, 2001)
- Laboratory Safety Training, Chemical Engineering Department (Spring 2001)
- ERP - SAP training, TEI of Thessaly, Larissa, Greece (May 2011)
- Biotechnology training on osteosynthesis for surgical treatment of fractures for orthopedic surgeons and biotechnology engineers within the framework of the European program "ORTHOBIOMED" (September 2015)

◆ **Bachelor of Science in Chemical Engineering**

Aristotle University of Thessaloniki, Thessaloniki, Greece, March 1994

Diploma Thesis: Determination of fluorite in seawater using the analytical method of addition.

Other studies included a technoeconomic study on the process design of cement production and the process design of biomass pyrolysis.

REFEREED JOURNAL PAPERS

1. Al-Douri, A., Halim, S.Z., Quddus, N., Kazantzi, V., El-Halwagi, M.M. (2022) A Stochastic Approach to Evaluating the Economic Impact of Disruptions in Feedstock Pipelines on Downstream Production, *Process Safety and Environmental Protection* 162, 187-199.

2. Anthopoulos, L., Kazantzi V. (2021) Urban Energy Efficiency assessment models from an AI and big data perspective: tools for policy makers, *Sustainable Cities and Society*, 76, 103492
3. Ray A., Kazantzis N., Foo D.C., Kazantzi V., Tan R.R., Bandyopadhyay S. (2021) Financial Pinch Analysis for Selection of Energy Conservation Projects with Uncertainties, *Chemical Engineering Transactions*, 88, 109-114.
4. Al-Douri A., Kazantzi, V., Currie-Gregg, N. and El-Halwagi, M.M. (2021) Integrating Uncertainty Quantification in Reliability, Availability, and Maintainability (RAM) Analysis in the Conceptual and Preliminary Stages of Chemical Process Design, *Chemical Engineering Research and Design*, 167, 281-291
5. Ortiz-Espinoza, A.P., Jiménez-Gutiérrez, A., El-Halwagi, M.M., Kazantzis, N.K., Kazantzi, V. (2020) Comparison of safety indexes for chemical processes under uncertainty, *Process Safety and Environmental Protection*, 148, 225-236
6. Al-Douri A., Kazantzi, V., Eljack, F.T., Mannan M.S. and El-Halwagi, M.M. (2020) Mitigation of Operational Failures via an Economic Framework of Reliability, Availability and Maintainability (RAM) during Conceptual Design, *Journal of Loss Prevention in the Process Industries*, 67, 104261
7. Kazi M-Khoda, Eljack F, Al-Sobhi SA, Kazantzis N, Kazantzi V (2019) Application of i-SDT for Safer Flare Management Operation, *Process Safety and Environmental Protection*, 132, 249-264
8. Kazi, M.K., Eljack, F. Kazantzi, V. (2019) A property-based risk quantification metrics for inherently safer design during the early stage of process synthesis, *Journal of Loss Prevention in the Process Industries*, 57, 280-290
9. Ortiz-Espinoza, A.P., Kazantzi, V., Eljack, F., Jimenez-Gutierrez, A., El-Halwagi, M., Kazantzis, N. (2019) Framework for Design Under Uncertainty Including Inherent Safety, Environmental Assessment and Economic Performance of Chemical Processes, *Industrial & Engineering Chemistry Research*, 58(29), 13239-13248
10. Kazantzi, V., Kazi, M.K., Eljack, F., El-Halwagi, M.M., Kazantzis, N. (2019) A pinch analysis approach to environmental risk management in industrial solvent selection, *Clean Technologies and Environmental Policy*, 21(2), 351-366
11. Kazi, M.K., Eljack, F., Al-Sobhi, S.A., Kazantzis, N., Kazantzi, V. (2019) Process Dynamic Analysis and Control Strategy for COGEN option Used for Flare Utilization, *Computer Aided Chemical Engineering*, 46, 1255-1260
12. Kazi, M.K., Eljack, F., Amanullah, M., AlNouss, A., Kazantzi, V. (2018) A Process Design Approach to Manage the Uncertainty of Industrial Flaring during Abnormal Operations, *Computers and Chemical Engineering*, 117, 191-208
13. Kazi, M.K., Eljack, F., Kazantzi, V. (2017) Managing uncertain industrial flares during abnormal process operations using an integrated optimization and Monte Carlo simulation approach. *Computer Aided Chemical Engineering*, 40, 2425-2430
14. Roychaudhuri, P.S., Kazantzi, V., Foo, D.C.Y., Tan, R.R., Bandyopadhyay, S. (2017) Selection of energy conservation projects through Financial Pinch Analysis, *Energy*, 138, 602-615
15. Kazantzis, N., Kazantzi, V., Christodoulou, E. (2014) Pollutant Concentration Profile Reconstruction Using Digital Soft Sensors for Biodegradation and Exposure

Assessment in the Presence of Model Uncertainty, *Environmental Science and Pollution Research*, 21 (16), 9553-9568

16. Aspridis, G., Kazantzi, V., Sdrolias, L., Mplanas, N. (2014) Productivity Enhancement Options in the Years of the Economic Crisis, *Procedia*, 148, 516 – 523
17. Anthopoulos L., Ipsilantis P., Kazantzi V. (2014) The Project Management Perspective for a Digital City, *International Journal of Information Technology Project Management*, 5 (1)
18. Kazantzi, V., El-Halwagi, A.M., Kazantzis, N., El-Halwagi, M.M. (2013) Managing uncertainties in a safety-constrained process system for solvent selection and usage: an optimization approach with technical, economic, and risk factors, *Clean Technologies and Environmental Policy*, 15 (2) , 213-224
19. El-Halwagi, A., Kazantzi, V., Kazantzis, N., El-Halwagi, M.M. (2013) Optimizing Safety-Constrained Solvent Selection for Process Systems with Economic Uncertainties, *Journal of Loss Prevention in the Process Industries*, 26 (3), 495-498
20. Aspridis, G., Kazantzi, V., Kyriakou, D. (2013) Social Networking Websites and Their Effect in Contemporary Human Resource Management – A Research Approach, *Mediterranean Journal of Social Sciences*, 4 (1), 29-46
21. Patsikas, S., Aspridis, G., Kazantzi, V., Sdrolias, L. (2013) The Erasmus Student Mobility Program And Its Contribution To Multicultural Education: The Case Of the Technological Education Institute Of Thessaly, *Journal of Educational and Social Research*, 3 (3), 181-200
22. Kazantzis, N., Kazantzi, V. (2012) Reduced-Order State Reconstruction for Nonlinear Dynamical Systems in the Presence of Model Uncertainty, *Applied Mathematics and Computation*, 218 (23), 11708–11718
23. Kazantzi, V., Kazantzis, N., Gerogiannis, V.C. (2011) Simulating the Effects of Risk Occurrences on a Hazardous Material Transportation Model, *Operations and Supply Chain Management*, 4 (2-3), 135-144
24. Kazantzi, V., Kazantzis, N., Gerogiannis, V.C. (2011) Risk Informed Optimization of a Hazardous Material Multi-Periodic Transportation Model, *Journal of Loss Prevention in the Process Industries*, 24 (6), 767-773
25. Kazantzi, V., Bezergianni, S., Elms, R., Eljack, F., El-Halwagi, M.M. (2011) Optimal Scheduling of Biodiesel Plants through Property-Based Integration with Oil Refineries, *Computer Aided Chemical Engineering*, 29, 1005-1009
26. Kalogeras, K., Bezergianni, S., Kazantzi, V., Pilavachi, P. (2010) On the Prediction of Properties for Diesel / Biodiesel Mixtures, *Computer Aided Chemical Engineering*, 28 (C), 973-978
27. Kazantzis, N., Kazantzi, V. (2010) A Toxicity Risk Assessment Method for Spill Incidents Involving Volatile Liquid Hydrocarbons and Aqueous Solutions in Enclosed Areas, *Journal of Loss Prevention in the Process Industries*, 23 (6), 719-726
28. Kazantzis, N., Kazantzi, V., Christodoulou, E.G. (2010) On Aspects of the Dynamic Behavior of Persistent Chemicals in a Multimedia Environment Related to Exposure-Based Hazard Assessment, *Journal of Mathematical Chemistry*, 48 (2), 290–304

29. Kazantzis, N., Kazantzi, V. (2010) Characterization of the Dynamic Behavior of Nonlinear Biosystems in the Presence of Model Uncertainty Using Singular Invariance PDEs: Application to Immobilized Enzyme and Cell Bioreactors, *Mathematical Biosciences and Engineering*, 7 (2), 401-419
30. Kazantzi, V., Xiaoyun, Q., El-Halwagi, M.M., Eljack, F., Eden, M.R. (2007) Simultaneous Process and Molecular Design through Property Clustering Techniques: A visualization tool, *Industrial & Engineering Chemistry Research*, 46 (10), 3400-3409
31. Eljack, F.T., Eden, M.R., Kazantzi, V., Qin, X., El-Halwagi, M.M. (2007) Simultaneous Process and Molecular Design – A Property-based Approach, *American Institute of Chemical Engineers (AIChE) Journal*, 53 (5), 1232-1239
32. Eljack, F.T., Eden, M.R., Kazantzi, V., El-Halwagi, M.M. (2006) Property Clustering and Group Contribution for Process and Molecular Design, *Computer Aided Chemical Engineering*, 21 (C), 907-912
33. Foo, D.C.Y., Kazantzi, V., Almutlaq, A.M.I., El-Halwagi, M.M., Manan, Z.A. (2006) Surplus Diagram and Cascade Analysis Technique for Targeting Property-based Material Reuse Network, *Chemical Engineering Science*, 61 (8), 2626-2642
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35. Grooms, D., Kazantzi, V., El-Halwagi, M.M. (2005) Optimal Synthesis and Scheduling of Hybrid Dynamic / Steady-state Property Integration Networks, *Computers and Chemical Engineering*, 29 (11-12), 2318-2325
36. Almutlaq, A., Kazantzi, V., El-Halwagi, M.M. (2005) An Algebraic Approach to Targeting Waste Discharge and Impure Fresh Usage via Material Recycle/Reuse Networks, *Clean Technologies and Environmental Policy*, 7 (4), 294- 305
37. Kazantzi, V., Harell, D., Gabriel, F., Qin, X., El-Halwagi, M.M. (2004) Property-based Integration for Sustainable Development, *Computer Aided Chemical Engineering*, 18 (C), 1069-1074
38. Wang, S.S.-S., Kazantzi, V., Good, T.A. (2003) A Kinetic Analysis of the Mechanism of β -Amyloid Induced G Protein Activation, *Journal of Theoretical Biology*, 221 (2), 269-278

Citations: 875 – h index: 14 (retrieved from scopus.com on 11.10.2023)

BOOKS

BOOK CHAPTER

V. Kazantzi, V. Gerogiannis and L. Anthopoulos, “Multi-Criteria Decision Making for Supplier Selection in Biomass Supply Networks for Bioenergy Production” in *Outsourcing of Supply Chain Operations and Logistics Services*, pp. 313-343, 2012, IGI Global (DOI: 10.4018/978-1-4666-2008-7, ISBN13: 9781466620087, ISBN10: 1466620080, EISBN13: 9781466620094) <https://www.igi-global.com/chapter/content/69251>

LEXICON

G. Aspridis, V. Kazantzi, Analytical Lexicon of Managerial – Economic Terms (in greek), ISBN: 978-618-5036-15-7, Propobos Ed., 1st edition, Athens 2015
<http://www.propobos.gr/books/117>

CONFERENCE PROCEEDINGS

1. Monzure-Khoda Kazi, Fadwa Eljack, Nikolaos Kazantzis, Vasiliki Kazantzi, Saad Ali Al-Sobhi (2022) Characterization of Industrial Flaring under Uncertainty for the Design of Optimum Flare Recovery and Utilization Systems, *14th International Symposium on Process Systems Engineering (PSE 2021+)*, 19-23 June 2022, Kyoto, Japan
2. Al-Douri, A., Kazantzi, V., Currie-Gregg, N., El-Halwagi, M.M. (2021) Integrating Uncertainty Quantification in Reliability, Availability, and Maintainability (RAM) Analysis in the Conceptual Stage of Chemical Process Design, *3rd Enterprise and Infrastructure Resilience Workshop, AIChE Conference 2021*
3. Raya, A., Kazantzis, N., Foo, C.Y.D., Kazantzi, V., Tan, R.R., Bandyopadhyay, S. Financial Pinch Analysis for Selection of Energy Conservation Projects with Uncertainties, *24th Conference on Process Integration for Energy Saving and Pollution Reduction - PRES'21*, Brno, Czech Republic, Oct. 31 – Nov. 3, 2021
4. Kazi, M.K., Eljack, F.T., Kazantzi, V., Kazantzis, N. (2021) Efficient Energy Recovery and Sustainable Utilization for Industrial Flaring: A Probabilistic Assessment Framework, In: *Proceedings of the 8th International Conference on Environmental Management, Engineering, Planning and Economics (CEMEPE) and SECOTOX Conference*, Thessaloniki, Greece, July 20-24, 2021
5. Ortiz-Espinoza, A.P., Jimenez-Gutierrez, A., Kazantzi, V., El-Halwagi, M., Kazantzis, N. (2019) Comparison of safety indexes for chemical processes under uncertainty, *2019 International Process Safety Symposium*, MKO Process Safety Center, Texas A&M University, College Station, Texas, October 22-24, 2019
6. Kazi, M.K., Eljack, F.T., Kazantzi, V., Kazantzis, N. (2019) Studying the Inherent Safety of Flare Utilization Alternatives during Abnormal Operations, *2019 International Process Safety Symposium*, MKO Process Safety Center, Texas A&M University, College Station, Texas, October 22-24, 2019
7. Kazi, M.K., Eljack, F.T., Kazantzi, V., Kazantzis, N. A Process Integration and Dynamic Control Approach for the Recovery and Utilization of otherwise Flared Streams during Process Upsets, *29th European Symposium on Computer-Aided Process Engineering (ESCAPE 29)*, Eindhoven, The Netherlands, June 16th –19th 2019
8. Ortiz-Espinoza, A.P., Guillén-Cuevas, K.J., Jiménez-Gutiérrez, A., Kazantzi, V., Eljack, F.T., El-Halwagi, M.M., Kazantzis, N. (2018) Uncertainty Analysis Including Safety, Environmental and Economic Performance of Chemical Processes, *2018 AIChE Annual Meeting, Pittsburgh, PA, October 28 - November 2, 2018*
9. Kazi, M.K., Eljack, F.T., Kazantzi, V. (2017) A Property-based Inherent Safety Quantification Framework for Improved Process Design. In: *Proceedings of the 10th*

World Congress of Chemical Engineering - WCCE10, JE - Process Safety Symposium, Barcelona, Spain, 1-5 October 2017, pp. 3215

10. Kazi, M.K., Eljack, F.T., Kazantzi, V. (2017) Managing Uncertain Industrial Flares during Abnormal Process Operations using an Integrated Optimization and Monte Carlo Simulation Approach, In: *Proceedings of the 27th European Symposium on Computer-Aided Process Engineering (ESCAPE 27), Barcelona, Spain, October 1-5, 2017*, pp. 2425-2430
11. Kazantzi, V., Kazi, M.K., Eljack, F.T., El-Halwagi, M.M., Kazantzis, N. (2017) Risk-based solvent selection using pinch analysis in the presence of environmental constraints, In: *Proceedings of the Sixth International Conference on Environmental Management, Engineering, Planning and Economics (CEMEPE), Thessaloniki, Greece, June 25-30, 2017*, pp. 615-624
12. Roychaudhuri, P.S., Bandyopadhyay, S., Foo, D.C.Y., Tan, R.R., Kazantzi, V. (2017) A Pinch Analysis Approach to the Project Selection Program, In: *Proceedings of the 6th International Symposium on Advanced Control of Industrial Processes (AdCONIP), Taipei, Taiwan, May 28-31, 2017*, pp. 49-54
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14. Kazi, M.K., Eljack, F.T., Kazantzi, V. (2016) Extendible Multi-Objective and Multi-Period Optimization Framework with Monte Carlo Simulation to Manage Industrial Flares during Normal and Abnormal Process Operations, In: *Proceedings of the 2016 Spring AIChE Meeting & 12th Global Congress on Process Safety, Houston, TX, April 10-14, 2016*
15. Sdrolas, L., Kakkos, N., Škodová-Parmová, D., Rolinek, L., Cudlínová, E., Aspridis, G., Dvořáková- Líšková, Z., Kazantzi, V. (2016) Cultural product and cultural communication as a dynamic bipolar interaction and creative contribution to the structural recompiled of the local Cultural Units, In: Katsoni V. and Stratigea A. (Eds.), *Proceedings of the 2nd International Conference on Cultural and Digital Tourism (IACUDIT 2015), Athens, Greece, 21- 24 May 2015*, Forms and Norms of Tourism and Culture in the Age of Innovation, Part I, Springer Publishing, Cham, Germany, pp. 41-67
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17. Sdrolas, L., Kakkos, N., Aspridis, G., Kazantzi, V., Škodová-Parmová, D. (2014) Greek Small and Medium Size Enterprises (SMEs) and the Importance of Forming Wide and Competitive Dynamic Multinational Business Alliances, In: *Proceedings of the 5th International Conference on International Business (ICIB 2014), Thessaloniki, Greece, 23-25 May 2014*, pp. 49-61
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Conference on Strategic Innovative Marketing (IC-SIM), Prague, Czech Republic, September 13-17, 2013

19. Gkamplia V., Kazantzi, V., Blanas N., Aspridis, G. (2012) Economic Evaluation of Strategic Biogas Investment Options – A Case Study in the Region of Larissa, In: *Proceedings of the 2012 International Conference on Management of International Business and Economic Systems (MIBES), TEI of Larissa, Larissa, Greece, May 25-27, 2012*, pp. 141-159
20. Konstantinou, P., Tselios, D., Kazantzi, V., Trivellas, P. (2012) Supply Chain Management Practices, Integration and Quality Management: A Case Study Analysis in Thessaly, In: *Proceedings of the 2nd International Conference on Supply Chains (ICSC 2012), Katerini, Greece, 5-6 October 2012*
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28. Kazantzi, V., Kazantzis, N., Gerogiannis, V.C. (2010) Simulating the Effects of Risk Occurrences on a Hazardous Material Transportation Model, In: *Proceedings of the 1st International Conference on Supply Chains, Katerini, Greece, 1-2 October 2010*
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30. Gerogiannis, V.C., Kazantzi, V., Mitropoulos, K. (2010) A Multi-Perspective Approach to Evaluate Sustainability and Competitiveness of Renewable Energy Sources, In: *Proceedings of the 10th International Conference "Protection and Restoration of the Environment" (PRE10), Corfu, Greece, 5-9 July 2010*
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PRESENTATIONS

1. Vassilis C. Gerogiannis, Stella Manika and Vasiliki Kazantzi. The "human factor" in logistics: Deciphering the success factors of this relationship, *17th CSCMP European Research Seminar on Logistics and SCM (ERS 2022)*, June 20-21, 2022, Milan, Italy
2. Al-Douri A., Halim, S.Z., Quddus, N., Kazantzi, V. and El-Halwagi, M.M. (2021) Impact of Natural Gas Pipeline Incidents on Process Plants, 3rd Natural Gas Utilization Workshop, AIChE, April 24-25, 2021 (virtual)
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4. K. Khoda, F.T. Eljack, and V. Kazantzi, Extendible Multi-Objective and Multi-Period Optimization Framework with Monte Carlo Simulation to Manage Industrial Flares during Normal and Abnormal Process Operations, *2016 Spring AIChE Meeting & 12th Global Congress on Process Safety*, Houston, TX, April 10-14, 2016
5. El-Halwagi, A., V. Kazantzi, M.M. El-Halwagi and N. Kazantzis, Optimizing Safety-Constrained Solvent Selection for Process Systems with Economic Uncertainties, 2011 Process Safety Symposium, College Station, TX, October 25-27, 2011
6. Kazantzi, V., S. Bezergianni, R. Elms, F. Eljack and M.M. El-Halwagi, Optimal Scheduling of Biodiesel Plants through Property-Based Integration with Oil Refineries, *Proceedings of European Symposium on Computer-Aided Process Engineering 21 (ESCAPE 21)*, Chalkidiki, Greece, May 29-June 1, pp. 1005-1009, 2011
7. Kazantzi, V., S. Bezergianni, R. Elms, F. Eljack, and M. M. El-Halwagi, Optimal Scheduling of Biodiesel Production Plants via Property-based Integration with Oil Refineries, 8th Panhellenic Scientific Chemical Engineering Congress, HELEXPO, Thessaloniki, 26-28 May 2011
8. Kazantzi, V. A. El-Halwagi, M.M. El-Halwagi and N. Kazantzis, Managing Uncertainties in a Safety-Constrained Process System for Economic Performance Enhancement, 8th INTERNATIONAL CONFERENCE ON COMPUTATIONAL MANAGEMENT SCIENCE, Neuchatel, Switzerland, 28-30 April, 2011
9. Kalogeras, K., S. Bezergianni, V. Kazantzi, and P. Pilavachi, On the Prediction of Properties for Diesel / Biodiesel Mixtures. *Proceedings of European Symposium on Computer-Aided Process Engineering 20 (ESCAPE 20)*, Ischia, Naples, Italy, June 6-9, 2010

10. Dailiana, Z., Basdekis, G., Varitimidis, S., Karamanis, N., Kazantzi, V., Rizos, P., Fotiadis, D., Malizos, K. Intra-articular Distal Radius Fractures: Importance of Different Tools for Minimally Invasive Surgical Treatment, 11th EFORT Congress, Madrid, Spain, June 2-5, 2010
11. Dailiana, Z., Varitimidis, S., Giannakos, R.A., Kazantzi, V., Rizos, P., Fotiadis, D., Malizos, K. Minimally Invasive Surgical Treatment of Scaphoid Fractures, 11th EFORT Congress, Madrid, Spain, June 2-5, 2010
12. Bezergianni, S., Kazantzi, V. (2007) The Biofuels Technology Platform, In: Proceedings of the 2nd International Conference on Renewable Energy Sources and Energy Efficiency (ENERTECH 2007), Athens, October 18-21, 2007
13. Eljack, F. T., C. C. Solvason, M. R. Eden, V. Kazantzi, and M. M. El-Halwagi. Process and Molecular Design: a Simultaneous Approach, Annual Meeting of the American Institute of Chemical Engineering (AIChE), San Francisco, CA, November 11-18, 2006
14. Eljack, F. T., C. C. Solvason, M. R. Eden, V. Kazantzi, and M. M. El-Halwagi. Property Clusters and Group Contribution for Simultaneous Process and Molecular Design, Annual Meeting of the American Institute of Chemical Engineering (AIChE), San Francisco, CA, November 11-18, 2006
15. Eljack, F. T., C. C. Solvason, M. R. Eden, V. Kazantzi, and M. M. El-Halwagi. Property Based Approach for Integrated Process and Molecular Design, Annual Meeting of the American Institute of Chemical Engineering (AIChE), San Francisco, CA, November 11-18, 2006
16. Ng, D. K. S., D. C. Y. Foo, V. Kazantzi, M. M. El-Halwagi. Cascade Analysis Technique for Targeting Property-Based Material Reuse/Recycle Network, Annual Meeting of the American Institute of Chemical Engineering (AIChE), San Francisco, CA, November 11-18, 2006
17. Kazantzi, V., Q. Xiaoyun, M.M. El-Halwagi, and Dominic C.Y. Foo. Pollution Prevention through Property-based Process Design, Annual Meeting of the American Institute of Chemical Engineers (AIChE), Cincinnati, OH, October 30 - November 4, 2005
18. Xiaoyun, Q., V. Kazantzi, J. Rao, and M.M. El-Halwagi. Simultaneous Process and Molecular Design for Sustainability through Property Integration, Annual Meeting of the American Institute of Chemical Engineers (AIChE), Cincinnati, OH, October 30 - November 4, 2005
19. Eljack, F., M. Eden, V. Kazantzi, and M.M. El-Halwagi. Visual Solution of Process and Molecular Design Problems by Combining Group Contribution and Property Clustering Techniques, Annual Meeting of the American Institute of Chemical Engineers (AIChE), Cincinnati, OH, October 30 - November 4, 2005.
20. Kazantzi, V., and M.M. El-Halwagi. Property-based Pinch Analysis for Material Reuse, Annual Meeting of the American Institute of Chemical Engineers (AIChE), Austin, TX, November 7-12, 2004
21. Kazantzi, V., X. Qin, and M.M. El-Halwagi. Sustainable Design through Property-based Process Modification. Annual Meeting of the American Institute of Chemical Engineers (AIChE), Austin, TX, November 7-12, 2004

22. Grooms, D., V. Kazantzi, and M.M. El-Halwagi. Sustainable Design through Scheduling and Operation of Property-Interception Networks, Annual Meeting of the American Institute of Chemical Engineers (AIChE), Austin, TX, November 7-12, 2004
23. Kazantzi, V., D.C.Y. Foo, A.M. Almutlaq, M.M. El-Halwagi, and Z.A. Manan. Resource Conservation and Waste Minimization for Property Networks Using Cascade Analysis, Annual Meeting of the American Institute of Chemical Engineers (AIChE), Austin, TX, November 7-12, 2004
24. Foo, D.C.Y., A.M. Almutlaq, V. Kazantzi, M.M. El-Halwagi, and Z.A. Manan. Material-reuse Targeting Using Property-based Surplus Technique, 54th Canadian Chemical Engineering Conference, Calgary, Alberta, Canada, October 3-6, 2004
25. Kazantzi, V. X. Qin, D. Harell, F. Gabriel, and M.M. El-Halwagi. Process Modification through Visualization and Inclusion Techniques for Property-based Integration, FOCAPD 2004 (Foundations of Computer Aided Process Design), Princeton, NJ, July 11-16, 2004
26. Kazantzi, V., X. Qin, D. Harell, F. Gabriel, and M.M. El-Halwagi. Property-based Integration for Sustainable Development, ESCAPE-14 (European Symposium on Computer Aided Process Engineering), Lisbon, Portugal, May 16-19, 2004
27. Kazantzi, V., X. Qin, D. Harell, F. Gabriel, and M.M. El-Halwagi. Advances in Componentless Process Integration, Spring Meeting of the American Institute of Chemical Engineers (AIChE), N.Orleans, LA, April 2004
28. Qin, X., F. Gabriel, D. Harell, V. Kazantzi, and M.M. El-Halwagi. Algebraic Approach to Property Integration, Spring Meeting of the American Institute of Chemical Engineers (AIChE), N.Orleans, LA, April 2004
29. Kazantzi, V., X. Qin, D. Harell, F. Gabriel, and M. M. El-Halwagi. Property-based Integration for Sustainable Design, Annual Meeting of the American Institute of Chemical Engineers (AIChE), San Francisco, CA, November 2003.
30. Gabriel, F., X. Qin, D. Harell, V. Kazantzi, and M.M. El-Halwagi. Novel Approach to the Synthesis of Property Integration Networks, Annual Meeting of the American Institute of Chemical Engineers (AIChE), San Francisco, CA, November 2003
31. Gabriel, F., D. Harell, V. Kazantzi, and M.M. El-Halwagi. Rigorous Targeting for Resource Conservation and Waste Reduction, Annual Meeting of the American Institute of Chemical Engineers (AIChE), San Francisco, CA, November 2003
32. Kazantzi, V., S. S.-S. Wang and T. Good. Kinetic Analysis of β -Amyloid Induced G Protein Activation, Annual Meeting of the American Institute of Chemical Engineers (AIChE), Reno, NV, November 2001

WORK EXPERIENCE

- ◆ **Professor, Department of Business Administration, University of Thessaly**, Larissa, Greece

Primary Research Area: Production Systems and Supply Chain

Associate Professor (2015 - 2019), University of Thessaly & former University of Applied Sciences - TEI of Thessaly, Larissa, Greece

Assistant Professor (2010 - 2015), University of Applied Sciences - TEI of Thessaly, Larissa, Greece

Research interests: Supply Chain and Operations Management, Productive Process System Analysis and Optimization, Process Risk Management, Property Integration

Courses taught in Graduate and Postgraduate Studies: Supply Chain Management, Management of Distribution and Transportation Systems, Operations Management (Procurement and Production Management), Operations Research, Risk and Safety Management, Quality Management, Quality Assurance Systems

◆ **Visiting Professor, Karlsruhe University of Applied Science, Germany**

Courses taught: Supply Chain Management, Production, Procurement and Warehousing Management (2010 – today)

◆ **Visiting Scholar, Texas A&M University, College Station, TX USA**

Research on Process Systems Engineering (Sabbatical period from 01/04/2017-30/09/2017)

◆ **Research Fellow, Qatar University, Doha, Qatar**

Research on Process Systems Engineering (Sabbatical period from 01/10/2016 - 31/3/2017)

◆ **Director of the Interdepartmental MSc Program in Entrepreneurship**, Department of Economics and Business Administration Department, University of Thessaly (October 2023)

◆ **Researcher, Medical School, University of Thessaly, Greece**

Biotechnology research within the Leonardo da Vinci European Project of innovation transfer - “OrthoBioMed” (1/10/2013 - 30/9/2015)

◆ **Scientific Responsible of Projects, University of Applied Sciences - TEI of Thessaly, Greece**

Scientific Responsible for the European Program ERASMUS IP “SINTROME 2012” and “SINTROME 2013” (Simulation Training in Operations Management)

Scientific Responsible for the project “Operations- und Supply Chain Management” in a collaboration with the University of Applied Science, Hochschule Karlsruhe, Deutscher Akademischer Austauschdienst (DAAD) 2017.

◆ **Executive Director, Technology Park of Thessaly, S.A., Greece**

Responsible for initiatives and actions facilitating the transfer of technology and knowledge from research institutes and centers to private companies (2009-2010)

◆ **Manager, Centre for Research and Technology - Thessaly (CERETETH), Greece**

Manager of European projects (2008-2010)

◆ **Biofuels Technology Platform, Thessaly, Greece**

Coordinator of actions aiming to promote the biofuels sector development and acceleration of biofuels distribution in the Greek market (2007-2008)

◆ **Adjunct Lecturer and Scientific Supervisor**

Technological Educational Institute of Larissa, Larissa, Greece (2007-2009)
Taught Supply Chain Management, Material Technology & Techno economic Analysis

◆ **Teaching Assistant**

Chemical Engineering Department, Texas A&M University (2002-2005) Co-taught: plant design, process design and integration, process optimization, reactor design

◆ **Operations Manager and Process Engineer**

Karkanias Environmental Technology SA, Larisa, Greece (1997-1999)

Work included the operations management of wastewater treatment plants (private and public sector's projects)

◆ **Adjunct Lecturer and Scientific Supervisor**

Technological Institute of Larissa, Larissa, Greece (1996-1997)

Supervised the Chemistry Lab and taught the Chemical Technology and Inorganic Chemistry courses

◆ **Training Project Manager and Environmental Project Consultant**

Institute of Vocational Training "DIMITRA", Larissa, Greece (1995-1997)

Supervised several European Union and nationally sponsored projects on vocational training for engineers and projects favoring entrepreneurial actions (adapt, retext, Leonardo Da Vinci)

Association of Thessalian Industries, Larissa, Greece (1995-1997)

Supervised and developed projects (sponsored by the European Union) for the just-in-time and continuous vocational training of employees of Thessalian industries

Expert Consulting, Larissa, Greece (1994-1995)

Developed regional, national and European projects on environmental consulting actions ("sustainable development", community development projects on environmentally "clean" technologies, etc.)

RESEARCH AND EDUCATIONAL PROGRAMS

- ◆ Principal Investigator (PI) for the research program entitled «Addressing Design Challenges for Effective Implementation of Flare Recovery Systems» in partnership with Qatar University, Worcester Polytechnic Institute and RasGas Ltd (23/01/2018 - 22/01/2021)
- ◆ PI of the educational program entitled "Operations and Supply Chain Management – an e-learning program" in partnership with University of Applied Sciences of Karlsruhe, Department of Computer Science and Business Information Systems, Hochschule Karlsruhe, Germany funded by DAAD (2017-2019)
- ◆ Participation in the European Program DEVOPS (training material development for smart cities' employees) involved in the development of the training module "Decision Making and Problem Solving" (May – October 2020)
- ◆ Participation in the European Program SALE (Social Media Training to Combat Unemployment Among Higher Education Graduates - <https://www.facebook.com/SALEEUPROJECT/?fref=ts>) within the ERASMUS+ framework (01/10/2014 - 30/09/2016)

- ◆ Participation as a researcher in the European Program for innovation transfer “Leonardo da Vinci” entitled “OrthoBioMed”, University of Thessaly, Medical School (1/10/2013 - 30/9/2015)
- ◆ Participation in the project “Alumni Knowledge Upgrading” under the European Operational Program “Education and Life-long Learning”, TEI of Thessaly (15/06/2015 - 30/10/2015)
- ◆ Participation in the Program entitled “Hellenic Academic Open courses” at TEI of Thessaly (27/03/2014 – 04/07/2014)
- ◆ Scientific responsible for the European program entitled SINTROME 2013 (SIMulation N Training in Operations ManagEment) within the ERASMUS IP framework (21/06/2013 - 30/05/2015)

AWARDS AND DISTINCTIONS

Research program entitled “Addressing Design Challenges for Effective Implementation of Flare Recovery Systems” awarded by the Qatar National Research Fund (within Qatar’s National Priorities Research Program -- NPRP10-0205-170347), 23/01/2018 – 23/01/2021 (partners: Qatar University, University of Thessaly, Worcester Polytechnic Institute, and RasQas Ltd)

First place CAST Director’s award for the paper entitled "Combining Group Contribution and Property Clustering Techniques for Visual Solution of Process and Molecular Design Problems" by Eljack, F., M. Eden, V. Kazantzi, and M.M. El-Halwagi, American Institute of Chemical Engineers 2005 Annual Meeting, Cincinnati, Ohio, USA

Invited lecturer at the Department of Chemical Engineering, Texas A&M University, College Station, TX, for a Supply Chain Simulation Training Program, July 8-20, 2019

Invited speaker at the Energy Institute of Texas A&M University, College Station, TX, April 6, 2017

Invited speaker at the Chemical Engineering Department, Qatar University, Doha, Qatar, December 8-13, 2013

National Merit Award in the Department of Chemical Engineering, Aristotle University of Thessaloniki, Greece, #2 out of 250 students

Scholarships from the Department of Chemical Engineering, Texas A&M University (research and teaching assistant, 2002-2006), and from Chemical Processes Engineering Research Institute of the Center for Research and Technology Hellas (CERTH), 1994

Reviewer recognition from international scientific journals (2013 Certificate of Excellence in Reviewing and 2015 Certificate of Outstanding Contribution in Reviewing for “*Computers & Chemical Engineering*” Journal), 2018 Certificate of Outstanding Contribution in Reviewing for “*Journal of Loss Prevention in the Process Industries*”), etc.

EDITOR AND REVIEWER OF INTERNATIONAL SCIENTIFIC JOURNAL PAPERS

- Subject Editor of the *Process Safety and Environmental Protection* Journal (“Resource and waste management” sector), 2022 - today
- Reviewer for the following journals:
 1. *Process Safety and Environmental Protection (IChemE)*

2. *Clean Technologies and Environmental Policy (Springer)*
3. *Industrial & Engineering Chemistry Research (ACS)*
4. *Computers & Chemical Engineering (Elsevier)*
5. *IEEE Systems Journal*
6. *Process Integration and Optimization for Sustainability (Springer)*
7. *Journal of Hazardous Materials (Elsevier)*
8. *Journal of Loss Prevention in the Process Industries (Elsevier)*
9. *Journal of Cleaner Production (Elsevier)*
10. *Journal of Environmental Chemical Engineering (Elsevier)*
11. *Environmental Engineering and Management Journal (EcoZone)*
12. *Energy (Elsevier)*
13. *Scientific Research and Essays (Academic Journals)*
14. *International Journal of Risk Assessment and Management (InderScience)*
15. *Advances in Mechanical Engineering (SAGE)*
16. *International Journal of Operations Research and Information Systems (IGI Global),*
and more.

PROFESSIONAL MEMBERSHIPS

- Member of the American Institute of Chemical Engineers (AIChE)
- Member of the Society of Women Engineers (SWE)
- Member of the Greek Institute of Chemical Engineering
- Registered Professional Engineer of the Technical Chamber of Greece