

CURRICULUM VITAE

Antonis Kokossis, CEng, FIChemE, FRSA, FIET

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ACADEMIC CAREER

- 2009- Professor, Process Systems Engineering, School of Chemical Engineering, National Technical University of Athens, Greece; Director, Industrial Process Systems Engineering (IPSEN)
- 2012- Adjunct Research Professor, Research and Innovation Center in Information, Communication and Knowledge Technologies (ATHENA), Athens, Greece
- 2000-2009, Professor and Head, Process and Information Systems Engineering, School of Engineering, University of Surrey, UK
- 1993–2000 Senior Lecturer/Lecturer (1993–1997), Department of Process Integration, School of Chemical Engineering, University of Manchester (formerly UMIST), UK

EDUCATION

- Princeton University, Princeton, New Jersey, USA
Ph.D. in Chemical Engineering, 1992; Thesis title: Synthesis and optimization of reactor networks and reactor-separation-recycle systems
- National Technical University of Athens, Greece
Diploma in Chemical Engineering, 1985

WORK EXPERIENCE

Academic and administration service

University of Manchester (formerly UMIST)

- Postgraduate Admissions Tutor, Department for Process Integration, 1994-1997
- Postgraduate Admissions Tutor, Department for Process Integration, 1999-2000
- Process Integration Industrial Research Consortium Board, Member, 1993-2000
- Academic relations and library committees, School representative, 1993-2000
- Departmental Seminar Programmes, Coordinator: 1993-1996 & 1999-2000

University of Surrey

- Director, Research Centre of Process and Information Systems Engineering (PRISE) for excellence on optimization, synthesis, and knowledge management, 2000-2009
- Director, Chemical and Process Engineering, Postgraduate Programmes, since 2001
- Director, Board of Studies and Examiners, since 2001
- Programme Director of 7 MSc programmes in Process Systems Engineering, Advanced Chemical Engineering, Information and Process Systems, Advanced Chemical Engineering, Technology Management, Business and Information Systems Engineering, Engineering, since 2001
- Member, School of Engineering, Strategy and Planning, 2001-02
- Member, Advisory Board, School of Engineering, 2002-03

School of Chemical Engineering, NTUA

- Coordinator, International Seminars & Continuing Education Committee, (2010-2011)
- Coordinator, School of Engineering, Strategy and Planning, 2010

Other work in research and development

- Aspen Technology, Cambridge, MA, USA. 1992 - 1993: Senior Development Engineer

Industrial consultancies & collaborations

- Mitsubishi Chemical Corporation, Kurashiki, Japan; Process optimization and synthesis, optimization of utility networks and design of steam turbine systems, production scheduling, combined delivery scheduling and planning, supply chain optimization
- United Oil Products; USA, Multi-phase reactor design, ammoxidation and hydrotreatment reactions
- BP Oil: LNG processes, water minimization, wastewater management
- Linnhoff-March, UK, Automated heat exchanger network design, retrofit studies, utility network optimization
- Granherne Ltd, Optimization of exploration operations and platform design
- ICI, UK, Multi-phase reactor design
- Aspen Tech, Energy integration, thermally integrated distillation
- MW Kellogg, Thermally integrated distillation
- Unilever, UK, Large-scale production scheduling using graph-based methods in food and personal health care (HPC) products
- Bayer AG, Thermally integrated distillation, multi-phase reactor design, reactive separation systems, production scheduling and planning, production scheduling with delay compensation and uncertainties
- ARKEMA, France; development of short-cut models for plant design; modelling and design of oleo-chemical, lignocellulosic and waste biorefineries
- INRA, France; Research Infrastructure IBISBA; integration of bio-catalyst design with process engineering; lignocellulosic biorefineries
- DLO/Wageningen, Netherlands; in-situ product recovery systems, design of fermentation systems for the production of biofuels; integration of algo-biorefineries with ligno-cellulosic biorefineries
- CIMV (Compagnie Industrielle de la Matière Végétale), France; Design, modelling and optimization of organosolv process; lignocellulosic biorefineries
- A4F, Portugal; modelling and novel design of PBRs and open pond systems
- NATECO, Germany; Modelling and design of supercritical extraction systems in algo-biorefineries
- Monzon Biotech, S.L, Spain; energy integration in algal production; design of algal ponds
- IFEU, Germany; integration of process design with LCA; lignocellulosic and aquatic biorefineries
- CO-Lan, France; modelling standards in multi-scale applications
- BioChem Tech, Italy; enzymatic production of ethanol from textiles; modelling and scale-up
- VTT, Finland; fermentation of hemicellulosic substrates; Research Infrastructure IBISB;
- BPF (Bioprocess Pilot Facility), Netherlands; Biomass pre-treatment and process integration
- Helector, Greece; Valorisation and processing of organic waste, Supply chain development
- VITO, Belgium; collaboration in the context of Research Infrastructure IBISBA, bioprocess design
- IBJ, Denmark; Modelling and design of hydrothermal liquefaction; thermal integration; process integration with wastewater and anaerobic digestion
- Dynamic Extraction, UK; solvent-based extraction; process integration
- Greene, Spain; design and process integration of gasification systems; waste biorefineries
- DSM, Netherlands; development of fermentation models; process integration; ligno-cellulosic substrates
- Quantis, Switzerland; LCA models and integration with software and databases; social-LCA
- PML (Plymouth Marine Laboratory), UK; integration of metabolic engineering with process engineering in the growth of *Dunalliella Salina*
- Superfoods, Greece, Integrated product and process design on the value chains of *Dunalliella salina*
- NBT, Israel; Modelling of open ponds for *Dunalliella salina* cultures

ACADEMIC HONORS AND PROFESSIONAL SERVICE

Fellow, Institute of Chemical Engineering (IChemE), 2001

Fellow, Royal Society of Arts (RSA), 2006

Fellow, Institution of Engineering and Technology (IET), 2008 Vice-Chair, AIChE National Programming Committee, 1997

Director, National Technology Platform for Sustainable Chemistry (www.suschem.org), launched 2016
National Representative

- DG Directorate I: Climate Action & Environment
 - National Technology Platform for Sustainable Chemistry (www.suschem.org)
 - European Federation of Chemical Engineering, Computer-aided Process Engineering (EFCE), since 2010-
 - International Energy Agency, Bioenergy, since 2012
 - Industrial Energy-related Technologies and Systems, since 2012
- National Contact Point, Industrial Biotechnology Innovation and Synthetic Biology Accelerator (IBISBA) platform (www.ibisba.com)
 Institution Membership Representative
- Bio-Based Industries Public-Private Partnership, since 2016
 - European Energy Research Alliance (EERA Bioenergy), since 2016
- Renewable Materials, Advisory committee, Bio-fuels and biomaterials, DTI, 2006-2010
 External Examiner, Cranfield University, 2006-2012
 EPSRC Peer Review College, elected 2001, re-elected 2006

Organization of international conferences

- Section Chair, European Symposium on Computer-Aided Process Engineering (ESCAPE-27) incorporated in the 10th World Congress of Chemical Engineering WCCE10), Barcelona, October 2017
- Chair, Computer-Aided Process Design Forum, Athens, Greece, Sept 2017
- Chair, Organizing Committee, European Symposium of Computer-Aided Process Engineering (ESCAPE), Athens, Greece, 2011
- Section Chair, Chemical Engineering Congress, Thessaloniki, Greece, 2011
- Chair, Conference on energy waste and valorisation, Athens, 2013
- Process Development Section Chair, Environmental Division, AIChE, 1997-2001
- Vice-Chair, AIChE National Programming Committee, 1997
- Memberships in International Programming Committees:
 - Process Systems Engineering (PSE), 2018, San Diego USA, July 1-5, 2018
 - European Symposium of Computer Aided Process Engineering, (ESCAPE): 1999, 2002, 2003, 2005, 2006, 2007, 2008, 2009, 2010, 2012, 2013, 2014, 2015, 2016, 2017
 - AIChE, Computer Aided Systems Technology (CAST): 1995, 1996, 1997, 1998, 1999, 2001, 2003, 2006, 2008, 2009, 2012
 - AIChE, Environmental Division 1998, 1999, 2003, 2008
 - AIChE, Process Systems Engineering: 2012, 2009, 2006
 - International Scientific Committee, Knowledge Management in Process Engineering, 8th World Congress of Chemical Engineering (WCCE8), Montreal, 2009
 - World Congress of Engineering (WCE), International Programme and Conference Committee, London, UK, July 2007
 - Conference for Informatics and Environmental Protection, Brno, Czech Republic, 2005
 - Environmental Informatics Symposium, Brno, Czech Republic, September, 2005
 - International Conference on Foundations of Computer Aided Process Operations (FOCAPO), Coral Springs, Florida, 2003
 - 2nd Conference in Process Integration, Modelling and Optimization for Energy Saving and Pollution Reduction, Budapest, Hungary, May 1999
 - International Conference on Foundations of Computer Aided Process Design (FOCAPD) 1995, 1997
 - International Conference of Efficiency, Costs, Optimization, Simulation, and Environmental Impact of Energy Systems, Istanbul, Turkey, 1995

Contributions to early careers researchers & research expeditions

- 3rd RENESENG biorefinery workshop June 5th-10th, 2016 in Athens, Greece. Research expeditions: Wastewater treatment (EYDAP, Psitaleia Island); technical visits to MSW facilities (EMAK, BEAL)

- 2nd RENESENG workshop May 27th – June 2nd, 2015, Copenhagen, DK. Research expeditions: technical visits to the BRISK facilities (entrained flow reactors); biogas plants (Biogasol); Industrial Symbiosis center (Kalundborg), Power plant (DONG Energy)
- 1st RENESENG Training School, November 3rd-5th, 2014, Delft, Netherlands. Research expeditions: technical visits to FBR facilities, algal production units (AlgaeParc), biomass pre-treatment facilities (BPF)
- 1st RENESENG workshop April 28th – 29th, 2014 in Guilford, UK
- 3rd European Biorefining Training School (KIC), Budapest, July, 2014
- European Biorefining Training School (WUR/Wageningen) June, 2012
- European Biorefining Training School (BIOCORE/Paris), July, 2010
- European Biorefinery School (run by INRA), Board of Studies, Member, since 2010

Honorary appointments

- Visiting Professor, Faculty of Engineering and Engineering Science, City University, UK
- Visiting Professor, Laboratory for Process and Information Systems Engineering, Institute of Chemical Engineering, University of Veszprem, Hungary
- External Member, Doctoral School on Information Technology, University of Veszprem, Hungary

INVITED PRESENTATIONS, KEYNOTE AND PLENARY LECTURES

- Synthesis and development of integrated biorefineries, AIChE, Minneapolis MN, USA, October 2017
- Reflections on mathematical modelling and optimization, Princeton University Symposium, Princeton USA, May 2017
- Plenary lecture, Chisa 22nd International Congress on Process and Product Engineering, Prague, Czech Republic, Aug/Sept 2016
- School of Chemical Engineering, University of Tokyo, Japan, July 2016
- Engineering School, University of Eindhoven, Holland, June 2016
- Plenary lecture, 4th International Conference on Sustainable Chemical Product and Process Engineering, Nanjing, China May 31-June 3, 2016
- School of Chemical Engineering, Imperial College, UK, May 2016
- Keynote lecture, CAPE Forum, École polytechnique fédérale de Lausanne, Switzerland, March 2016
- University of Slovenia, Maribor, December 2015
- Chemical Engineering School, University of Manchester, October 2015
- Plenary lecture, South China University of Technology, Quanzhou, China, 2015
- Keynote lecture, International Conference on Sustainable Material and Processes for Industrial Products, Beijing, China, July 27-30, 2015
- Plenary lecture, School of Chemical Engineering, University of Aachen, May 2014
- School of Chemical Engineering, University College London, March 2014
- Keynote lecture, International Process Integration Jubilee Conference, Process Integration for the systematic and holistic evaluation of integrated biorefinery paths, Gothenburg, Sweden, March 2013
- Bio-commodity Biorefinery: The European industrial concept for the holistic production of energy and chemicals from biomass, Sustainable Agriculture and Bio-economy conference, Athens, March 2013
- University of Campinas and Biotechnology Center, Brazil, August 2014
- A novel paradigm for technology-enabled Industrial Symbiosis, Linköping University, Sweden, October 2012
- Keynote lecture, Industrial Symbiosis, Corporate Waste and Recycling Conference, Athens, June, 2012
- Renewable Systems Engineering: New Frontiers and Challenges in Chemical Engineering, Zurich, ETH, Switzerland, May 2012
- Plenary lecture, University of Texas A&M, Doha, Design and development of sustainable biorefineries, April 2012
- Plenary lecture, Waste to energy networks and Industrial symbiosis, Ministry of the Environment, Energy and Climate Change, Athens, May 2011
- Keynote lecture, Annual Conference of Artificial Intelligence (SETN), Industrial exploitation of AI technologies, Athens, May 2010

- Plenary lecture, Energy networks and Industrial Symbiosis, Ministry of Foreign Affairs, Athens, March 2010
- Keynote Lecture, Federation of Hellenic Recycling and Energy Recovery Industries, Sustainable use of energy and waste, Zappion Megaron by the Greek Government, November, 2009
- Keynote lecture, Foundations of Computer Aided Process Design (FOCAPD), Plenary lecture, Sustainable bio-energy: challenges in process synthesis, design and operations, Breckenridge, Colorado, USA, July, 2009
- Open Grid Forum (OGF23), Plenary lecture, Grids for product and process development, Barcelona, June, 2008
- Cranfield University, UK, Process synthesis and optimization: new challenges and opportunities, November, 2006
- Recent trends in information systems engineering: a process engineering perspective, Computer Aided Process Engineering, Institution of Chemical Engineering (IChemE), September, 2006, Guildford, UK
- Newcastle University, UK, Process systems technologies as a platform for advanced solutions, novel designs, and innovation, November, 2005
- Keynote lecture, Emerging Cyber Infrastructure Trends and Capabilities, Annual Meeting, American Institution of Chemical Engineering AIChE, Cincinnati, Ohio, November, 2005
- Keynote lecture, Advanced grid technologies for business and industry, Information and Systems Technology, European Union, Brussels, January, 2005
- National Technical University, Athens, Industrial optimization in process and product engineering, November, 2004
- University of Patras, Industrial optimization in process engineering, July 2004
- Oxford University, UK, Industrial optimization in process engineering, July, 2004
- BAE Systems, Grids for new materials and novel services, London, March, 2003
- Keynote lecture to honour Prof. G. Wozny, Process Synthesis, Technical University of Berlin, Invited Programme Berlin, June, 2003
- IST 2002, Electronic Assets for the Chemical Industry, Copenhagen, November, 2002
- Imperial College, UK, Sustainable chemical industries with IT strengths for integration, speed, and innovation, London, December, 2002
- EURATEX, Cross-sectorial integration of knowledge for creative and sustainable industries, Brussels, November, 2002
- Annual Meeting, American Institution of Chemical Engineering (AIChE), Invited paper on Process Synthesis and Optimization, Los Angeles, November, 2000
- Energy Efficiency for the Process Industry, Mathematical Optimization, Darlington, UK, February, 2000
- CHISA, Plenary lecture, On process automation and energy integration, Czech Republic, August, 2000
- DuPont, Multiphase chemical reactor design and optimization, Wilmington, DE, USA, May, 2000
- DSM, Novel synthesis of reaction and separation processes, Geleen, Holland, March, 2000
- Bayer AG, Optimization Approaches for the Synthesis of Novel Reactors, Separators and Chemicals, Leverkusen, Germany, May, 2000
- Bayer AG, Contextual Optimization for Scheduling, Planning and Supply Chain Management, Leverkusen, Germany, April 1999
- University of Surrey, UK, On the development of novel designs, Guildford, March, 1999
- Mitsubishi Chemical Corporation, Maximum dispersion and integrated scheduling, Kurarski, Japan, April, 1998
- Mitsubishi Chemical Corporation, Process Optimization, Kurarski, Japan, June, 1997
- HKSTU, Hong Kong, Wastewater minimisation, June, 1997
- University of Stuttgart, Germany, Multiphase reactor design, April, 1997
- University of Aachen, Germany, Hardware composites and utility optimisation, April, 1997
- University of Leeds, UK, On the development of novel chemical reactors, February, March
- Tennessee Eastman, Industrial applications of Process Integration, Kingsport, TN, February, 1977
- University of Veszprem, Hungary, Contextual optimisation applications, January, 1997
- UOP, Multiphase reactor design, Des Plaines, IL, USA, 1996

- Hungarian Academy of Sciences, Process Integration with an industrial perspective, Veszprem, May, Hungary, 1996
- Congress on Heat and Mass Transfer (MIF), Keynote paper, Application of Pinch Analysis to Crude Oil Distillation, Ukraine, Minsk, March, 1996
- National Programming Meeting, AIChE, Technology Transfer for the 21st Century, Miami, USA, November, 1995
- International Conference on Integrated Manufacturing in the Process Industries, A Logic Based System for the Optimisation of Utility Networks, Eindhoven, Netherlands, 1995

RESEARCH PROJECTS & FUNDING

1. EU Research Infrastructure IBISBA 1.0, Industrial Biotechnology Innovation and Synthetic Biology Accelerator, Horizon 2020 - Research and Innovation Framework Programme, 2018-2022, Project Value: €5,000,000 (NTUA €204,000), Lead Scientist: A. Kokossis,
2. RENESENG II, Renewable Systems Engineering, Horizon 2020 - Research and Innovation Framework Programme, 2017-2021, Project Value: €666,000, Project coordinator/Lead Scientist: A. Kokossis
3. BIOPEN, Bio-Based Industries Joint Undertaking under the European Union's Horizon 2020, 2017-2019, Project Value: € 994,531, Lead Scientist: A. Kokossis
4. MATHER, LIFE, Renewable materials in end-user products, 2017-2021, Project Value: € 935,521, Lead Scientist: A. Kokossis
5. SYMBIOSIS, Promoting cross-border communication on symbiosis, Interreg IPA Cross-border Cooperation Programme 2014-2020, Project Value: € 1,099,243, Lead Scientist: A. Kokossis
6. RESYNTEX, H2020, Textile-waste biorefineries, Collaborative project, 2015-2018, Project Value: € 9,060,000 (NTUA: €480,000), Lead Scientist: A. Kokossis
7. Renewable Systems Engineering (RENESENG), Marie Curie, ITN-2013, Collaborative project, 2013-2017, Project value: € 4,200,000 (NTUA: €957,000), Project coordinator/Lead Scientist: A. Kokossis
8. D-Factory: The micro-algae biorefinery (FP7-KBBE-2013), Collaborative project, 2013-2017, Project value: € 10,500,000 (NTUA: €590,000), Lead Scientist: A. Kokossis
9. Symbiotic bio-Energy Port Integration with Cities by 2020 (EPIC 2020), IEE Europe, Collaborative project, 2013-2016, Project value: € 2,000,000 (NTUA: €170,000), Lead Scientist: A. Kokossis; Project coordinator: City of Malmoe, Sweden
10. Accountable Bioenergy Networks using Symbiotic IT Infrastructures for Regional Development and Planning (ESPA), Collaborative project, 2013-2016, Project value: € 1,600,000 (NTUA: €275,000), Lead Scientist: A. Kokossis
11. Biocommodity Biorefinery (BIOCORE), Integrated Collaborative Project (IP), FP7/KBBE, 2010-2014, Project value: € 25,000,000 (NTUA: €800,000), Lead Scientist: A. Kokossis; Project coordinator: Dr O'Donohue, INRA, France
12. Saving energy in schools and municipal buildings using bioclimatic designs and a model-assisted approach: the case of Filothei and Psychico districts, 2012, Project value: €25,000, Lead Scientist: A. Kokossis
13. Environmentally sustainable and bioclimatic designs in public outdoor areas using district modelling: a case study for Metamorphosis, 2011-2012, Project value: €30,000, Lead Scientist: A. Kokossis
14. eSymbiosis: technology-enabled symbiosis and waste-to-energy industrial networks, Collaborative Project, (LIFE Plus), 2011-2013, Project value: € 2,000,000 (NTUA: €330,000), Lead Scientist: A. Kokossis
15. A Systems Platform for Substituting and Integrating Renewable Materials and Chemicals Manufacturing, with Applications in North East UK, DTI/DEFRA, 2008-2011, Project value: £1,500,000 (University of Surrey: £250,000), Lead scientist: A. Kokossis; Project coordinator: Dr M Lewis, North England Process Industry Cluster
16. Semantically-enabled services to support software engineering systems, Knowledge Transfer Partnership Award, 2008-2010, Project value: £90,000, Lead Scientist: A. Kokossis; Project coordinator: AVCO Ltd, UK
17. BeinGrid: Experiments using the Grid, Integrated Collaborative Project (IP), (FP6/IST): 2004-2008,

- Project value: €26,000,000, (University of Surrey: €120,000), Lead Scientist: A. Kokossis; Project coordinator: Atos Origin, Spain
18. h-TechSight: A knowledge management platform with intelligence and insight capabilities for technology intensive industries, Collaborative Project (IST-2001-33174), Project value: €2,000,000, Lead and co-ordinator: A. Kokossis
 19. SIM-SERV: A Virtual Institute for Production Simulation Services, Collaborative Project (G7RT-CT-2001-05044), 2002-2007, Project value: €600,000, Lead Scientist: A. Kokossis; Project co-ordinator: D. Boland, City University, UK
 20. SUPREME: Sustainable production and growth in the chemical process industries – A modernized and competitive industry for the future, Collaborative Project (G1MA-CT-2002-00016), 2001-2003, Project value: €100,000, Leader and co-ordinator: A. Kokossis
 21. EU Networks of Excellence for the development of sustainable and efficient Chemical Process Industries, EPSRC Network Grant (GR/S06011/01), 2001-02, Project value: £12,990, Principal investigator: A. Kokossis
 22. Novel Designs of Multiphase Reaction Systems Using Systematic Optimization Techniques, EPSRC Research grant (GR/K91958/01), 1996-1999, Project Value: £70,204, Leader and Principal investigator: A. Kokossis
 23. Integrated Design of Chemical Reactor Networks Using Stochastic Optimization, EPSRC Research Grant (GR/L01015/01), 1994-1997, Project value: £19,975, Leader and principal investigator: A. Kokossis
 24. An Integrated Framework for the Design of Recycle and Re-Use Networks in Wastewater Minimization”, EPSRC Research grant (GR/L03194/01), 1993-1996, Project value: £118,350, Principal investigator: A. Kokossis
 25. Creating Energy Savings Technology, NATO, Project value: £20,000, 1993-1996, Lead Scientist: R. Smith, UMIST
 26. EC/TEMPUS-Phare programme to disseminate energy integration techniques in Poland, Bulgaria, and Hungary, 1993-1997, Project value: £130,000, Lead Scientist: R. Smith, UMIST
 27. Application of energy integration in food and process industries, British Council, Series of projects in cooperation with local Councils in Latvia, Romania, Belarus, Kyrgystan, 1995-1997, Total value: £200,000, Lead Scientist: R. Smith, UMIST
 28. Energy conservation for combined heat and power systems, British Council, Project value: £13,500, 1994, Lead Scientist: F. Friedler, University of Vezsprem

MEMBERSHIPS IN SCIENTIFIC SOCIETIES AND COMMITTEES

Membership in professional societies

- AIChE, since 1988
- Computer Aided Systems Technology (CAST), since 1992
- International Federation for Information Processing, IFIP, since 2006
- Institution of Chemical Engineers, since 1995
- Environmental Division, AIChE, Member 1997-2002
- AIChE International Activities Committee, 1996-1998
- American Chemical Society, 1990-1997
- Technical Chamber of Greece, Member since 1986
- IChemE/CAPE, Process Control, and Water groups, since 1999

Membership in International scientific committees

- AIChE, Computer Aided Systems Technology (CAST) 1995, 1996, 1997, 1998, 1999, 2001, 2003, 2006, 2008, 2009, 2012
- Chemical Engineering Congress, Thessaloniki, Greece, 2011
- International Conference on Foundations of Computer Aided Process Design (FOCAPD) 1995, 1997
- International Conference on Foundations of Computer Aided Process Operations (FOCAPO), Coral Springs, Florida, 2003
- AIChE, Environmental Division 1998, 1999, 2003, 2008

- Process Systems Engineering
2012, 2009, 2006
- International Scientific Committee, Knowledge Management in Process Engineering, 8th World Congress of Chemical Engineering (WCCE8), Montreal, 2009
- World Congress of Engineering (WCE), International Programme and Conference Committee, London, UK, July 2007
- 19th Conference for Informatics and Environmental Protection, Brno, Czech Republic, 2005
- Environmental Informatics Symposium, Brno, Czech Republic, September, 2005
- 2nd Conference in Process Integration, Modelling and Optimization for Energy Saving and Pollution Reduction, May 1999, Budapest, Hungary
- International Conference of Efficiency, Costs, Optimization, Simulation, and Environmental Impact of Energy Systems, Istanbul, Turkey, 1995

REVIEW AND EDITORIAL SERVICES

Guest Editor

Biomass and Bionergy, Special Issue on Biorefinery Modelling and Tools (with Prof. Gani)
Computers & Chemical Engineering, Special Issue, (with Pistikopoulos and M. Gergiadis), Elsevier, 2011

Editorial Boards

Clean Technologies and Environmental Policy, 2016
Frontiers in Energy Research, since 2014
Informatica, since 1997
Sustainable Technologies systems & policies, since 2010

Review panels

EU expert evaluator: 1998-2011
FP7 (IST, KBBE, Energy, NMP), FP5 (NMP, IST) and FP6, Marie Curie and mobility
NSF, USA: 1994-1998, 2001-2004, 2007-11
Chemical Engineering, Optimization, Process Systems Engineering, Operations Research
QNRF, Qatar: 2008-2011
National Research Funds
Czech Republic, Israel, Austria, Norway, Denmark
Greek Research Council: 2010-2012
EPSRC Peer Review College, elected 2001, re-elected 2006
Innovative Manufacturing Equipment Programme, 2005
Computer Science and communication, 2004
Panel on business functions and interoperability (IFIP), 2005
Mathematics, EPSRC Regional Programme, 2004

Scientific Journals

- Chemical Engineering Science, since 1991
- AIChE Journal, since 1991
- Industrial Engineering Chemistry and Research, since 1991
- Computers and Chemical Engineering, since 1993
- Canadian Journal of Chemical Engineering, since 1991
- Journal of Global Optimization, since 1998
- Chemical Engineering Research and Design (Transactions of IChemE), since 1987
- International Journal of Electrical Power & Energy Systems, since 2001
- Informatica, since 1995
- Chemical Engineering Communications, since 1995
- Optimization and Engineering, 1997
- Journal of Food Engineering, since 1998
- Annals of Operations Research, since 2001
- Biomass & Bioenergy, since 2008
- Bioresource Technology, 2007

- Waste and biomass valorization, since 2007

Books

- Textbooks, Edited books on behalf of Prentice-Hall, McGraw Hill, Springer-Verlag, John Wiley, Elsevier, Bloomberg
- (on behalf of authors)
 - Chemical process design, R. Smith, ISBN 0-07-059220-9, McGraw Hill, 1995
 - Systematic Methods of Chemical Process Design”, L.T. Biegler I.E. Grossmann A.W. Westerberg, ISBN 0134924223, Prentice Hall, 1997
 - Introduction to Applied Optimization, U. Diwekar, Kluwer Academic Publishers, ISBN 1-4020-7456-5, 2003

Conference stewardships and chairmanships

- ESCAPE 26, 2016
- 10th. Panhellenic Scientific Chemical Engineering Congress, 2015
- AIChE, Annual Meetings: 1994-2012, over 50 sessions
- AIChE, Spring Meetings: 1995-2001, over 30 sessions
- FOCAPO, FOCAPO, several sessions
- ESCAPE and PRESS, 1997-2012, over 20 sessions
- PSE, 1998-2012, several sessions
- International Energy Agency (IEA), 1998

RESEARCH SUPERVISION

Postgraduate and diploma students

- 30 PhD students: 23 graduated, 7 under completion
- 4 post-doctoral students
- Over 35 MSc students and 65 diploma dissertation students

PhD graduates [name, dissertations title, graduation year (current position)]

1. Stylianos Mavromatis, Conceptual design and operation of industrial steam turbine networks, 1996 (Senior Engineer, ELPE, Greece)
2. Victor Briones-Vallejo, An integrated framework for the design of heat exchanger networks, 1996 (Managing Director, Instituto Mexicano Petroleum, Mexico)
3. Vipul Mehta, Synthesis and optimization of multiphase reactor networks, 1998, (Bayer AG, Germany)
4. Eftychia Marcoulaki, Stochastic optimization tools for targeting and design chemical engineering processes, 1998, Senior Researcher (National Centre for Scientific Research, Demokritos)
5. Piyush Shah, Conceptual Programming: a new approach for the optimization, analysis and novel development of simple and complex separation Systems, 1999 (Aspen Tech, Houston, TX)
6. Sameer Mokashi, Contextual optimization for scheduling and planning of logistics systems, 1999 (Technical Director, SCA, Pittsburgh, USA)
7. Alberto Alva Argaez, Integrated design of water systems, 1999 (CANMET, Canada)
8. Lalita Tantimuratha, Automated design of flexible and operable heat exchanger networks, 2000 (Professor at the Thammasat University, Thailand)
9. Alexandros Strouvalis, Customized optimization for the planning and scheduling of utility systems, 2000 (Oracle Hellas, Greece)
10. Zhigang Shang, Analysis and optimization of Total Site Utility Systems, 2000 (Senior Consultant, KBR, London, UK)
11. Patrick Linke, Reaction and separation process integration, 2001 (Professor, University of Texas A&M, Doha, Qatar)
12. Gopi Ramagopalan, Design of gas permeation membrane systems, 2002 (Associate Professor, Indian Institute of Technology, Gujarat, India)
13. Victoria Ashley, On the development of knowledge-driven optimization methods – application to complex reactor network synthesis, 2004 (*Parsons, Australia*)
14. Athanasios Papadopoulos, On the integrated solvent design and process synthesis, 2004 (Senior Researcher, CPERI, Greece)
15. Elaine Gao, Dynamic agent-enabled management of project development and engineering. 2005 (Research Associate, UCL)
16. Alexandros Kourakis, Dynamic maintenance and support of ontology-based knowledge, 2006 (Accenture, UK)
17. Daniel Montoglio, High throughput experimentation for chemical reactor design, 2007 (Jacobs Engineering, UK)
18. Richard Barnes, Optimal design and operation of oil exploration platforms, 2008 (Managing Director, EnergOil Consulting Ltd, UK)
19. Claudia Labrador-Darder, Semantically-enabled optimization for the process synthesis of chemical reactors, 2009 (Jacobs Engineering, UK)
20. Siyu Yang, Cascade optimization algorithms for distributed computing, 2009 (Assistant Professor, South China University of Technology, China)
21. Du Du, Design and control of high-throughput synthesis and optimization experiments using grids and distributed computing architectures, 2009 (Project Manager, China HuanQiu Contracting & Engineering Corp. (HQCEC), China)
22. Marinela Tsakalova, High-throughput screening of biotechnology processes for the synthesis of sustainable biorefineries (2016)
23. Mirela Tsagkari, Methodology of rapid Evaluation of CAPEX and OPEX of techno-logies under development. Integration of a preliminary LCA tool, and of an objective function for most appropriate

site locations identifications (2017)

PhDs under completion:

24. Katerina Mountraki, Multi-scale optimization of hybrid reactor structures (started 2013)
25. Costas Pyrgakis, Conceptual programming for the optimal synthesis of hybrid structures (started 2013)
26. Paraskevi Karka, Model-assisted and group contribution methods for the Life Cycle Analysis of biorenewables and biorefineries (started 2013)
27. George Lignos, Integration of industrial and municipal waste to biorenewables and bioenergy flows (started 2013)
28. Melina Psycha, Design of integrated microalgae biorefinery (started 2014)
29. George Panayiotou, A superstructure approach to enable process integration and novel equipment design of biorefinery processes (started 2014)
30. Foteini Barla, A systems approach to enable high-throughput analysis of integrated waste biorefineries with industrial and municipal feedstocks (started 2014)

Selected MSc graduates and post-docs [name, dissertations title, graduation year (current position)]

1. Eirini Siougkrou, Systems integration of models, integration tools, data repositories and case studies for biorenewables, (post-doc NTUA)
2. Stelios Rigopoulos, Novel designs for simultaneous oxidation and denitrification of wastewaters, 1998 (currently: Senior Lecturer, Imperial College, UK)
3. Jason Karafyllis, On a new measure for the integration of process design and control: the disturbance resiliency index, 1997 (currently: Assistant Professor, NTUA, since 2010)
4. Heckl Istvan, h-TechSight platform on intelligent manufacturing, post-doc: 2008-2011 (currently: Assistant Professor, School of Engineering, University of Pannonia, Hungary)
5. Nikolakopoulos Athanasios, Biorefinery optimization, post-doc: 2009-2014 (School of Chemical Engineering, National Technical University of Athens)
6. Li Ta-Chen, ABC platform on high-throughput biorefinery screening, post-doc: 2008-2011 (currently: Assistant Professor, Department of Chemical and Materials Engineering, Tunghai University, China)

Recent diploma dissertations

1. Hydrophobic adsorption of itaconic and fumaric acid on high silica zeolites. (Kipouros, 2016)
2. Integrated separation systems of a ternary azeotropic mixture from a microalgae biorefinery (Theologou, 2016)
3. Method for the synchronized selection of water treatment processes and targeting of clear water and recycle flows (Faskiotis, 2015)
4. Conceptual design for an early stage process analysis of reaction and separation processes in future biorefineries (Rekkas Ventiris, 2015)
5. Design and Energy Integration of a Lignocellulosic Biorefinery (Niklanovits, 2015)
6. Process modelling, optimization & multiple operation points of post combustion CO₂ capture process, using aqueous monoethanolamine as solvent (Kappatou, 2015)
7. Development and Analysis of Symbiotic Networks using semantic standards based on ontologies and planning: Appliance and assess of the bioenergy potential in the industrial harbors of Europe. (Tsouti, 2015)
8. Life Cycle Analysis Models Development for Optimum Design of Innovative Chemicals. (Baxevanidis, 2014)
9. Processes synthesis modeling in natural language. Development and optimization of Integrated Biorefineries. (Magioglou, 2014)
10. A systematic approach to the conventional refinery integration to a biorefinery. (Andritsou, 2014)
11. Forecasting Biorefinery Product Lifecycle Analysis Models based on their molecular structure. (Tsagaropoulou, 2014)
12. Mathematical modeling and integrated process design for handling liquid and gaseous waste deriving

- from second generation biorefineries. (Panteli, 2014)
13. Mathematical modeling and integrated process design for handling liquid and gaseous unusable currents deriving from second generation biorefineries. (Papoutsis, 2014)
 14. Integrated designs of micro-algae biorefineries using a fixed selection of halophytic algae (Psycha, 2012)

SCIENTIFIC PUBLICATIONS

1. Sioukrou E, F. Lykokanellos, F Barla and A. C. Kokossis, Semantically-enabled repositories in multi-disciplinary domains: The case of biorefineries, *Computer Aided Chemical Engineering (Special Issue in honor of Prof. Floudas)*, (in press), 2018
2. Nikolakopoulos A., and A. C. Kokossis, Targeting and synthesis of single-impurity total water systems using coordinated transshipment models, *Clean Technologies and Environ. Policy*, 20(2), pp. 271-289, 2018
3. Panayiotou, G.P., Kokossis, A.C., Bio-conversion targeting using a model-based systems approach, *Computer Aided Chemical Engineering*, 40, pp. 685-690, 2017
4. Pyrgakis, K., Kokossis, A., Total Site Integration as a Process Synthesis and Scheduling Tool in Multiple-feedstock Biorefineries, *Computer Aided Chemical Engineering*, 40, pp. 1825-1830, 2017
5. Psycha, M., Kokossis, A., Techno-economic Evaluation of an Integrated Microalga Biorefinery Targeting the Co-production of Specialty Chemicals, *Computer Aided Chemical Engineering*, 40, pp. 1981-1986, 2017
6. Barla, F., Nikolakopoulos, A., Kokossis, A., Design of Circular Economy Plants – The Case of the Textile Waste Biorefinery, *Computer Aided Chemical Engineering*, 40, pp. 1933-1938
7. Papadokonstantakis S., Baxevanidis P., Marcoulaki E., Badr S., Kokossis, A.C., Shortcut models based on molecular structure for life cycle impact assessment: The case of the fineChem tool and beyond, *Handbook of Green Chemistry, Volume 10, Tools for Green Chemistry*, Chapter 2, pp. 29-46, 2017
8. Karka P., Papadokonstantakis S., Kokossis A. C., Cradle-to-gate assessment of environmental impacts for a broad set of biomass-to-product process chains, *The International Journal of Life Cycle Assessment*, pp. 1-23, 2017
9. A. D. Mountraki, K. R. Koutsospyros, B. Benjelloun Mlayah, A. C. Kokossis, Selection of Biorefinery Routes: The Case of Xylitol and its Integration with an Organosolv Process, *Waste and Biomass Valorization*, pp 1–18, 2017
10. Nikolakopoulos A., A. C. Kokossis, A problem decomposition approach for developing total water networks in lignocellulosic biorefineries, *Process Safety and Environmental Protection*, **109**, pp.732-752, 2017
11. Pyrgakis K. A., Truus de Vrije, Budde Miriam A.W., Kyriakou K., López-Contreras Ana M. and Kokossis A. C., A process integration approach for the production of biological iso-propanol, butanol and ethanol using gas stripping and adsorption as recovery methods, *Biochemical Engineering Journal*, **116** pp. 176-194, 2016
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13. Pyrgakis K. A. and Kokossis A.C., A New Methodology to Apply Total Site Analysis as a Synthesis Tool to Select and Integrate Processes in Multiple-Product Biorefinery Plants, *Computer Aided Chemical Engineering*, **38**, pp. 2073–2078, 2016
14. Sioukrou E. and Kokossis A.C. Development of semantically-enabled community hubs in biorefineries and biorenewables, *Computer-Aided Chemical Engineering*, **38**, pp. 2013-2018, 2016
15. Psycha M., Kokossis, A.C. Synthesis and Optimization of Microalgae Biorefineries, *Computer Aided Chemical Engineering*, **38** pp. 325-330, 2016
16. Kokossis, A., Labrador-Darder, C., Cecelja, F., Semantically enabled process synthesis and optimisation, *Computers and Chemical Engineering*, **93**, pp 64-86, 2016

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21. Mountraki, A.D., Koutsospyros, K.R., Kokossis, A.C., The Role of Process Integration in Reviewing and Comparing Biorefinery Processing Routes: The Case of Xylitol, *Process Design Strategies for Biomass Conversion Systems*, Chapter 12, pp, 309-329, 2015
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