

Professor Apostolis Koutinas

Diploma (Chemical Engineering), PhD (Biochemical Engineering)

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RESEARCH INTERESTS

- Expertise in biochemical engineering, industrial (white) biotechnology, biorefinery development, bioprocess design, techno-economic evaluation and life cycle assessment
- Development of integrated biorefineries utilising renewable resources including food processing and agro-industrial side streams (e.g. pulp & paper industry, wineries, breweries, confectionery industries and bakeries, whey, organic fraction of municipal solid wastes, sugar beet pulp, spent coffee grounds, sawdust)
- Refining and bioconversion of crude renewable resources is implemented through integration of physical, chemical and biological processing for the production of value-added fractions (e.g. protein isolates, antioxidants, oil), microbial oil, platform chemicals (e.g. succinic acid), biopolymers (e.g. polyhydroxyalkanoates, bacterial cellulose) and food additives (e.g. microbial protein)
- Utilisation of electricity-driven technologies for biorefinery development and post-consumer bioplastic recycling
- Chemical and biological recycling of post-consumer bioplastics and CO₂ bioconversion for the production of non-conventional carbon sources for fermentation development
- Application of computer-aided design, costing and life cycle analysis studies to evaluate and optimise biorefinery concepts and microbial bioprocesses

Career Summary:

2023 – present Professor in the DFSHN at AUA
2019 – 2023 Associate Professor in the DFSHN at AUA
2014 – 2019 Assistant Professor in the DFSHN at AUA
2009 – 2014 Lecturer in the DFSHN at AUA
2002 – 2007 Research Associate at the School of Chemical Engineering and Analytical Science (University of Manchester, formerly UMIST, UK) and UMIST

Qualifications:

1998 – 2002 PhD in Biochemical Engineering, UMIST, UK
1992 - 1997 Diploma in Chemical Engineering, University of Patras, Greece

Teaching Experience at AUA:

2023 – present *Unit Operations in Food Processing* (4th semester, undergraduate course, 3 h/week DFSHN, AUA)
2017 – present *Laboratory of Food Engineering* (6th semester, undergraduate course, 2 h/week DFSHN, AUA)
2015 – present *Principles of Food Engineering* (3rd semester, undergraduate course, 12-15 h, DFSHN, AUA)
2007 – present *Plant Design and Equipment for the Food Industries* (9th semester, undergraduate course, 4 h/week, DFSHN, AUA)
2018 – present Teaching of the following modules in the MSc course entitled “*Food Science and Technology*” (DFSHN, AUA):
1. *Food Engineering* (1st semester, 10 h)
2. *Design of Food Processes, Bioprocesses and Biorefineries* (2nd semester, 4 h/week)
3. *Bioprocess and Biorefinery Engineering* (2nd semester, 4 h/week)
4. *Computer-Aided Bioprocess Optimisation* (2nd semester, 3 h/week)
2012 – 2018 Teaching of the following modules in the MSc course entitled “*Food Science and Technology and Human Nutrition*” (DFSHN, AUA):
1. *Industrial Biotechnology* (1st semester, 3 h)

2. *Valorisation of Renewable Resources* (2nd semester, 12 h)
 3. *Computer-Aided Design of Bioprocesses & Biorefineries* (2nd semester, 30 h)
 4. *Bioprocess and Biorefinery Engineering* (2nd semester, 18 h)
 2009 – 2018 *Design of Industrial Processes – Techno-Economic Evaluation* (MSc course)
 2008 – 2017 *Computer-Aided Modelling and Optimisation of Food Processes* (9th semester)

Supervision & co-supervision of postgraduate students / Collaboration with PDRAs

2025 – present Supervision of 5 PhD students and 2 MSc students at AUA
 2011 – present 11 postdoctoral fellows (DFSHN, AUA, Greece)
 2012 – present 14 graduated PhD students at DFSHN at AUA (supervisor)
 2010 – present 39 graduated MSc Students at DFSHN at AUA (supervisor)
 2009 – present Supervision of 32 undergraduate students in their last year research projects.
 Jan – Sept 2010 Supervision of the PhD student Dr Jimmy Andrés López Jiménez (Department of Chemical Engineering, PLAPIQUI - UNS – CONICET, Bahía Blanca, Buenos Aires – Argentina) during his one year research visit at AUA in the frame of a scholarship that was granted by the State Scholarship Foundation (Greece).

Awards and distinctions

2014 – 2017 **Awarded a Special Visiting Researcher Fellowship** under the Brazilian Scientific Mobility Program "Ciências sem Fronteiras" (Brazil) that took place in UFRJ in collaboration with Professor Denise Maria Guimarães Freire.
 2015 **B.BICE+ travel grant** (€3000) awarded after the evaluation of competitive proposal submission (12 successful proposals among 115 submitted proposals).
 2006 **Awarded the Hanson Medal for 2006** from the *Institution of Chemical Engineers, IChemE* for the article: Campbell G et al. (July 2006) Biofuels – Cereal potential. *The Chemical Engineer*. Issue 781, 26-28.

Editorial Board member and Guest Editor:

2020 – present **co-Editor** in the Biochemical Engineering Journal (Elsevier)
 2017 – 2019 **Deputy Editor** in the Biochemical Engineering Journal (Elsevier)
 2014 – 2016 **Associate Editor** in the Biochemical Engineering Journal (Elsevier)
 2018 **Guest Editor** in the virtual special issue entitled *Sustainability Issues of By-Product and Waste Management Systems to Produce Building Material Commodities* in the Resources, Conservation and Recycling journal (Elsevier)
 2018 **Managing Guest Editor** in the special issue entitled *Food Waste: Challenges and Opportunity for the Emerging Bio-Economy* in the Journal of Cleaner Production (Elsevier)
 2016 **Guest Editor** in the special issue entitled *Advances in Biorefinery Engineering* in the Biochemical Engineering Journal (Elsevier)

Research Funding and Networking Activities (since 2011)

2025 – 2029 **Horizon Europe / CBE JU** Innovative biotech routes for efficient bio-based solvent production promoting a safe and sustainable European industry, Acronym: SOLRESS, Professor Koutinas is scientific coordinator for AUA, Budget (AUA): €516.375
 2023 – 2027 **Horizon Europe** Scalable solutions optimisation & decision tool creation for low-impact SAF production chain from a lipid-rich microalgae strain, Acronym: COCPIT, Professor Koutinas is scientific coordinator for AUA, Budget (AUA): €503.887
 2023 – 2027 **Horizon Europe / CBE JU** Transforming organic waste into biobased succinic acid, Acronym: LUCRA, Professor Koutinas is scientific coordinator for AUA, Budget (AUA): € 508.221
 2022 – 2026 **Horizon Europe** Marginal agricultural land and climate-resilient and biodiversity-friendly industrial crops for innovative bio-based value chains, Acronym: MIDAS, Professor Koutinas participates as AUA scientific team member, Budget (AUA): €110.000
 2021 – 2026 **Horizon 2020 / BBI JU** Demonstrative process for the production and enzymatic recycling of environmentally safe, superior and versatile PHA-based rigid packaging

	solutions by plasma integration in the value chain, Acronym: BIOSUPPACK (BBI2020.SO3.D4), Professor Koutinas was scientific coordinator for AUA, Budget (AUA): €610.000
2022 – 2025	HORIZON-CL6-2021 ZEROPOLLUTION-01 Sustainable bio-based systems through effective certification & labelling, Acronym: STAR4BBS, Professor Koutinas was scientific coordinator for AUA, Budget (AUA): €280.000
2021 – 2023	Research-Create-Innovate , Industrial materials of high performance produced from nanocellulose (Hiperion), Project funded by the General Secretariat of Research and Technology (GSRT, Greece), Professor Koutinas was scientific coordinator for AUA, Budget (AUA): €200.000
2020 – 2021	Industrial funding by JOil (S) Pte. Ltd (Singapore), Proof-of-concept R&D workplan for the production of poly(3-hydroxybutyrate) using <i>Jatropha curcas</i> fruit shells. Budget (AUA): €20.000
2020 – 2021	Industrial funding by American Process International LLC to develop a bioprocess using a genetically engineered yeast cultivated in a crude hydrolysate. Budget (AUA): more than €120.000
2020 – 2024	LIFE19 ENV/IT/000004 , Ecofriendly multipurpose biobased products from municipal biowaste (LIFE EBP), Professor Koutinas was scientific coordinator for AUA, Budget (AUA): €303.495
2020 – 2023	PRIMA , Enhancing diversity in Mediterranean cereal farming systems (CerealMed), Call: Multi-topic 2019, Professor Koutinas was scientific coordinator for AUA, Budget (AUA): €149.920
2020 – 2023	Research-Create-Innovate , Production of sustainable biofuels and value-added products from municipal organic solid wastes of catering services (Brew2Bio, MIS 5071807), Project funded by the General Secretariat of Research and Technology (GSRT, Greece), Dr Koutinas is project coordinator, Budget (AUA): €339.485
2020 – 2023	Research-Create-Innovate , Valorization of sugar-beet cultivation residues and by-products of sugar manufacturing process for the production of bio-based and biocomposite biodegradable packaging materials (Beet2Bioref, MIS 5069983), Project funded by the General Secretariat of Research and Technology (GSRT, Greece), Dr Koutinas is scientific coordinator for AUA, Budget (AUA): €309.960
2020 – 2023	ΕΠΑvEK 2014-2020 , Development of innovative nanocellulose-reinforced composite wood products with advanced hydrophobic and antimicrobial properties (CELL4GLUE, T6YΒΠΙ-00341), Project funded by the General Secretariat of Research and Technology (GSRT, Greece), Dr Koutinas participates as member of the scientific team of AUTH. Προϋπολογισμός (ΓΠΑ): €63.000
2019 – 2022	China – Greece Bilateral R&D Cooperation . Development and demonstration of key technologies for industrializable polyhydroxyalkanoates production from industrial and environmental waste streams (WASTES2PLASTICS, T7ΔΚΙ-00100), Project funded by the General Secretariat of Research and Technology (GSRT, Greece), Dr Koutinas participates as member of the scientific team of FORTH/ICE-HT. Προϋπολογισμός (ΓΠΑ): €70.000
2018 – 2022	COST Action CA17128 , <i>Establishment of a pan-european network on the sustainable valorisation of lignin</i> , Dr Koutinas is Leader of Working Group 5 focusing on Technical and sustainability aspects, LCA, market potential and implementation
2018 – 2021	Operational Programme "Competitiveness, Entrepreneurship and Innovation" (NSRF 2014-2020) , <i>Research Infrastructure on Food Bioprocessing Development and Innovation Exploitation</i> – Acronym: FOOD INNOVATION RI, Dr Koutinas is scientific coordinator for AUA, Budget (AUA): €300.000
2018 – 2021	Research-Create-Innovate , <i>Exploitation of food industry by-products for the production of biogenic biodegradable active food packaging</i> – Acronym: BIOΣΤΡΟΦΗ, Project funded from the General Secretariat of Research and Technology (GSRT, Greece), Dr Koutinas is scientific coordinator for AUA, Budget (AUA): €204.350

2018 – 2021	Research-Create-Innovate , <i>Bioconversion of food industry wastes to biopolymers for packaging applications in a biorefinery concept</i> , – Acronym: Wastes-to-Biopolymers, Project funded from the GSRT (Greece), Dr Koutinas is scientific coordinator for AUA, Budget (AUA): €160.015
2018 – 2021	Research-Create-Innovate , <i>Exploitation of cactus pear fruit and leaves focusing on innovative food applications</i> – Acronym: ExploreOpuntia, Dr Koutinas participates in AUA's research team, Budget (AUA): €456.115
2017 – 2021	Operational Programme "Competitiveness, Entrepreneurship and Innovation" (NSRF 2014-2020), Research Infrastructure for Waste Valorization and Sustainable Management of Resources – Acronym: INVALOR, Dr Koutinas is scientific coordinator for AUA, Budget (AUA): €700.000
2017 – 2020	Horizon 2020 / BBI-JU , Chemical building blocks from versatile MSW biorefinery – Acronym: PERCAL (Topic: BBI-2016-R08), Dr Koutinas is scientific coordinator for AUA, Budget (AUA): €287.820
2017 - 2020	Horizon 2020 , Sustainability transition assessment and research of bio-based products – Acronym: STAR-ProBio (Topic: BB-01-2016), Dr Koutinas participates in AUA's research team, Budget (AUA): €535.440
2017 - 2021	LIFE16 ENV/IT/000179 , Biogas and digestate with controlled ammonia content by a virtuous biowaste cycle with integrated biochemical processes – Acronym: LIFECAB, Dr Koutinas is scientific coordinator for AUA, Budget (AUA): €164.985
2014 – 2017	ENE2013-47769-R . <i>Diseño de biorrefineria mediante la valorizacion de residuos del sector alimentario (Biorefinery design based on the valorisation of food industry waste)</i> Project Coordinator: Professor M. Pilar Dorado-Pérez (University of Cordoba, UoC), Dr Koutinas participate as member of UoC's scientific team. Funding body: Spanish Ministry of Economy and Competitiveness, Spain. Budget (UoC): €131.000 + VAT
2014 - 2017	LIFE13 ENV/GR/000958 . Development of an integrated strategy for reducing the carbon footprint in the food industry sector – Acronym: LIFE FOODPRINT. Dr Koutinas is scientific coordinator for AUA. Budget (AUA): €50.000
2014 - 2015	German – Greek Bilateral R&D Cooperation . New bioprocess for microbial oil from crude glycerol and cellulosic sugars – Acronym: BIO4OIL, Scientific coordinator for AUA: Dr S. Papanikolaou. Funding body: General Secretariat for Research and Technology (Greece). Dr Koutinas participates as member of AUA's scientific team. Budget (AUA): €150.000
2014 – 2017	Special Visiting Researcher Fellowship - PVE (acronym of Pesquisador Visitante Especial in Portuguese) under the Brazilian Scientific Mobility Program "Ciências sem Fronteiras" (Process number: 313772/2013-4, National Council for Scientific and Technological Development of the Ministry of Science, Technology and Innovation (CNPq/MCTI)). Grant holder: Professor Denise Maria Guimarães Freire (UFRJ, Brazil). Total funding to the project: Real\$ 490.824,56. Total funding to the fellowship: Real\$ 126.000
2013 - 2017	Production of hydrolase enzymes and bifunctional monomers (1,3-PDO, 2,3-BDO and fumaric acid) in order to produce petrochemicals (project funded by Petrobras, Brazil). Project coordinator: Professor Denise Maria Guimarães Freire (Universidade Federal do Rio de Janeiro, Brazil), the Agricultural University of Athens is involved as subcontractor of UFRJ – Scientific coordinator for AUA: Dr A. Koutinas. Budget (AUA): €380.000
2013 – 2015	11SYN-2-718 , Novel formulations and nano-structures for enhancing the bioavailability of a bioactive compound. The case of emulsion production – Acronym: Nonastru. Scientific coordinator for AUA: Dr I. Mantala. Funding body: General Secretariat for Research and Technology, (Greece), Dr Koutinas participates as member of AUA's scientific team. Budget (AUA): €405.000
2013 – 2017	COST Action TD1203 , Food waste valorisation for sustainable chemicals, materials & fuels (EUBis), Dr Koutinas was Leader of Working Group 2 focusing on Bioprocessing of food supply chain wastes

2012 – 2016	FP7-KBBE (Project No 311935) , New tailor-made biopolymers produced from lignocellulosic sugars waste for highly demanding fire-resistant applications – Acronym: BRIGIT (KBBE.2012.3.4-02: Biotechnology for novel biopolymers), Dr A. Koutinas is scientific coordinator for AUA, Budget (AUA): €427.740
2011 – 2014	09SYN-81-715 , Biorefinery development for the production of biodegradable polymers and value-added products from by-products of biodiesel production processes – Acronym: Bioref, Dr Koutinas is scientific coordinator for AUA, Funding body: General Secretariat for Research and Technology (Greece), Budget (AUA): €211.200
2011 – 2014	19SMEs2009 , Valorization of cheese dairy and winery wastes for the production of high added-value products, Dr Koutinas is scientific coordinator for AUA, Funding body: General Secretariat for Research and Technology (Greece), Budget (AUA): €115.000
2011 – 2014	09SYN-32-621 , <i>Development of novel bioprocesses for the production of biofuels from food industry waste streams</i> – Acronym: Nutri-Fuel, Dr Koutinas is scientific coordinator for AUA, Funding body: General Secretariat for Research and Technology (Greece), Budget (AUA): €171.600
2011 – 2014	ENE2010-15159 , <i>Producción de biocombustibles de segunda generación a partir de aceite microbiano (Second generation biofuels from microbial oil)</i> . Project Coordinator: Professor M. Pilar Dorado-Pérez (University of Cordoba, UoC), Dr Koutinas participates as member of UoC's scientific team. Funding body: Spanish Ministry of Science and Education (Spain), Budget (UoC): €79.860 + VAT
2010 – 2014	TEP-4994 , <i>Optimización integral del proceso de producción de biodiésel (Global optimization of the process for the production of biodiesel)</i> . Project Coordinator: Professor M. Pilar Dorado-Pérez (University of Cordoba, UoC), Dr Koutinas participates as member of UoC's scientific team. Funding body: Consejería de Innovación, Ciencia y Empresa, Junta de Andalucía, Spain, Budget (UoC): €311.167,68
2009 – 2012	Participation in the preparation of 2 successful scholarship applications from the State Scholarship Foundation (GR).

Selected publications (more than 220 publications in peer-reviewed scientific journals; 19 book chapters; 1 edited book; h-index 63 including self-citations based on Scopus database):

- A1. Bodourian CS, Georgakis ND, Margioulas C, **Koutinas A**, Labrou NE. 2026. Functional characterization and domain shuffling of poly(3-hydroxybutyrate) depolymerases from *Cupriavidus malaysiensis* and *Pseudomonas guguanensis* for sustainable bioplastic degradation. *Bioresource Technology*, 441, 133571.
- A2. Sarafidou M, Mendes AC, ... Tsironi T, **Koutinas A**. 2025. Development of antimicrobial coatings: exploiting electrospinning technology with sugar beet pulp pectin. *Food Hydrocolloids* 168, 111531.
- A3. Romero-Vargas A, Georgiadou E, Cabrera G, ... **Koutinas A**, Sánchez ABD. 2025. Innovative pretreatments for the valorisation of the invasive macroalga *Rugulopteryx okamurae*. *Industrial Crops and Products*, 233, 121415.
- A4. Filippi K, Ladakis D, ... Cullen PJ, **Koutinas A**. 2025. Bioprocess development and life cycle assessment of succinic acid production from grape stalks incorporating electricity-driven technologies. *Journal of Environmental Chemical Engineering* 13(5), 117803.
- A5. Sarafidou M, Forsy A, ... **Koutinas A**, Tsouko E. 2025. Modification of bacterial nanocellulose using nonthermal plasma-assisted enzymatic hydrolysis. *Biomacromolecules* 26(9), 5657–5669.
- A6. Argeiti C, Psaki O, ... **Koutinas A**, Stylianou E. 2024. Biorefinery electrification of brewers' spent grains using plasma bubbles for sustainable production of poly(3-hydroxybutyrate). *Chemical Engineering Journal* 496, 153548.
- A7. Sarafidou M, Vittou O, Psaki O, ... **Koutinas A**, Stylianou E. 2024. Evaluation of alternative sugar beet pulp refining strategies for efficient pectin extraction and poly(3-hydroxybutyrate) production. *Biochemical Engineering Journal*, 208, 109368.
- A8. Ioannidou SM, Stylianou E, Pateraki C, ... **Koutinas A**, Ladakis D. 2023. Techno-economic and environmental sustainability assessment of succinic acid production from municipal biowaste using an electrochemical membrane bioreactor. *Chemical Engineering Journal*, 473, 145070.

A9. Rebollo-Leiva R, Ladakis D, Ioannidou SM, ... Moreira MT, González-García S. 2023. Attributional and consequential life cycle perspectives of second-generation polylactic acid: The benefits of integrating a recycling strategy. *Journal of Cleaner Production*, 420, 138354.

A10. Psaki O, Athanasoulia IGI, Giannoulis A, ... **Koutinas A**, Ladakis D. 2023. Fermentation development using fruit waste derived mixed sugars for poly(3-hydroxybutyrate) production and property evaluation. *Bioresource Technology*, 382, 129077.

A11. Stylianou E, Carvajal-Arroyo JM, Ladakis D, ... **Koutinas A**, Pateraki C. 2023. Development of an electrochemical membrane bioreactor for succinic acid production and in situ separation with engineered *Yarrowia lipolytica* cultivated on municipal biowaste hydrolysate. *Chemical Engineering Journal*, 466, 142877.

A12. Ioannidou SM, López-Gómez JP, Venus J, ... **Koutinas A**, Ladakis D. 2023. Techno-economic evaluation and life cycle assessment for sustainable alternative biorefinery concepts using the organic fraction of municipal solid waste. *Green Chemistry*, 25, 4482-4500.

A13. Efthymiou M-N, Tsouko E, Papagiannopoulos A, ... Tsironi T, **Koutinas A**. 2022. Development of biodegradable films using sunflower protein isolates and bacterial nanocellulose as innovative food packaging materials for fresh fruit preservation. *Scientific Reports* 12(1), 6935.

A14. Ladakis D, Stylianou E, Ioannidou S-M, **Koutinas A**, Pateraki C. 2022. Biorefinery development, techno-economic evaluation and environmental impact analysis for the conversion of the organic fraction of municipal solid waste into succinic acid and value-added fractions. *Bioresource Technology* 354, 127172.

A15. Ioannidou SM, Filippi K, Kookos IK, **Koutinas A**, Ladakis D. 2022. Techno-economic evaluation and life cycle assessment of a biorefinery using winery waste streams for the production of succinic acid and value-added co-products. *Bioresource Technology* 348, 126295.

A16. Bello S, Ladakis D, González-García S, ... **Koutinas A**, Moreira MT. 2022. Renewable carbon opportunities in the production of succinic acid applying attributional and consequential modelling. *Chemical Engineering Journal* 428, 132011.

A17. Amraoui Y, Prabhu AA, Narisetty V, ... **Koutinas A**, Kumar V. 2022. Enhanced 2,3-butanediol production by mutant *Enterobacter ludwigii* using brewers' spent grain hydrolysate: Process optimization for a pragmatic biorefinery loom. *Chemical Engineering Journal* 427, 130851.

A18. Amraoui Y, Narisetty V, Coulon F, ... **Koutinas A**, Kumar V. 2021. Integrated fermentative production and downstream processing of 2,3-butanediol from sugarcane bagasse-derived xylose by mutant strain of *Enterobacter ludwigii*. *ACS Sustainable Chemistry and Engineering* 9(30), 10381-10391.

A19. Maina S, Dheskali E, Papapostolou H, ... Kookos IK, **Koutinas A**. 2021. Bioprocess development for 2,3-butanediol production from crude glycerol and conceptual process design for aqueous conversion into methyl ethyl ketone. *ACS Sustainable Chemistry and Engineering* 9(26), 8692-8705.

A20. Kachrimanidou V, Ioannidou SM, Ladakis D, ... **Koutinas A**, Kookos IK. 2021. Techno-economic evaluation and life-cycle assessment of poly(3-hydroxybutyrate) production within a biorefinery concept using sunflower-based biodiesel industry by-products. *Bioresource Technology* 326, 124711.

A21. Pateraki C, Skliros D, Flemetakis E, **Koutinas A**. 2021. Succinic acid production from pulp and paper industry waste: A transcriptomic approach. *Journal of Biotechnology* 325, 250-260.

A22. Carmona-Cabello M, García IL, Sáez-Bastante J, ... **Koutinas A**, Dorado MP. 2020. Food waste from restaurant sector – Characterization for biorefinery approach. *Bioresource Technology* 301, 122779.

A23. Bonatsos N, Marazioti C, Moutousidi E, ... **Koutinas A**, Kookos IK. 2020. Techno-economic analysis and life cycle assessment of heterotrophic yeast-derived single cell oil production process. *Fuel* 264, 116839.

A24. Dheskali E, **Koutinas AA**, Kookos IK. 2020. A simple and efficient model for calculating fixed capital investment and utilities consumption of large-scale biotransformation processes. *Biochemical Engineering Journal* 154, 107462.

A25. Aguieras ECG, Papadaki A, Mallouchos A, ... Freire DMG, **Koutinas AA**. 2019. Enzymatic synthesis of bio-based wax esters from palm and soybean fatty acids using crude lipases produced on agricultural residues. *Industrial Crops and Products* 139: 111499.

A26. Kookos IK, **Koutinas A**, Vlysidis A. 2019. Life cycle assessment of bioprocessing schemes for poly(3-hydroxybutyrate) production using soybean oil and sucrose as carbon sources. *Resources, Conservation and Recycling* 141: 317-328.

A27. Alexandri M, Vlysidis A, ..., Kookos IK, **Koutinas A**. 2019. Downstream separation and purification of succinic acid from fermentation broths using spent sulphite liquor as feedstock. *Separation and Purification Technology* 209:666-675.

A28. Papadaki A, Fernandes KV, ..., **Koutinas A**, Freire, D.M.G. 2018. Bioprocess development for biolubricant production using microbial oil derived via fermentation from confectionery industry wastes. *Bioresource Technology* 267:311-318.

A29. Ladakis D, Michailidi K, Vlysidis A, **Koutinas A**, Kookos IK. 2018. Valorization of spent sulphite liquor for succinic acid production via continuous fermentation system. *Biochemical Engineering Journal* 137:262-272.

A30. Kantifedaki A, Kachrimanidou V, Mallouchos A, Papanikolaou S, **Koutinas A**. 2018. Orange processing waste valorisation for the production of bio-based pigments using the fungal strains *Monascus purpureus* and *Penicillium purpurogenum*. *Journal of Cleaner Production* 185:882-890.

A31. Papadaki A, Mallouchos A, ..., Papanikolaou S, **Koutinas A**. 2017. Production of wax esters via microbial oil synthesis from food industry waste and by-product streams. *Bioresource Technology* 245: 274-282

A32. Dheskali E, Michailidi K, de Castro AM, **Koutinas AA**, Kookos IK. 2017. Optimal design of upstream processes in biotransformation technologies. *Bioresource Technology* 224: 509-514.

A33. Tsakona S, Skiadaresis AG, ..., Papanikolaou S, Kookos I K, **Koutinas A**. 2016. Valorisation of side streams from wheat milling and confectionery industries for consolidated production and extraction of microbial lipids. *Food Chemistry* 198:85–92.

A34. **Koutinas AA**, Yepez B, Kopsahelis N, Freire DMG, Castro AM, Papanikolaou S, Kookos IK, 2016. Techno-economic evaluation of a complete bioprocess for 2,3-butanediol production from renewable resources. *Bioresource Technology* 204:55–64.

A35. **Koutinas AA**, Vlysidis A, ..., Kookos IK, Papanikolaou S, Kwan TH, Lin CSK. 2014. Valorization of industrial waste and by-product streams via fermentation for the production of chemicals and biopolymers. *Chemical Society Reviews* 43:2587-2627.

A36. **Koutinas AA**, Chatzifragkou A, Kopsahelis N, Papanikolaou S, Kookos IK. 2014. Design and techno-economic evaluation of microbial oil production as a renewable resource for biodiesel and oleochemical production. *Fuel* 116:566-577.

A37. Lin CSK, Pfaltzgraff LA, Herrero-Davila L, Mubofu EB, Abderrahim S, Clark JH, **Koutinas A**, Kopsahelis N, Stamatelatou K, Dickson F, Thankappan S, Mohamed Z, Brocklesby R, Luque R. 2013. Food waste as a valuable resource for the production of chemicals, materials and fuels - Current situation and global perspective. *Energy and Environmental Science* 6:426-464.

Edited book

Κούκος Κ. Ιωάννης (Kookos K. Ioannis), Αποστόλης Α. Κουτίνας (**Apostolis A. Koutinas**). 2013. Βελτιστοποίηση Διεργασιών και Συστημάτων με εφαρμογές στο MATLAB και στο GAMS (Optimisation of processes and systems with applications in MATLAB and GAMS). Εκδόσεις Τζιόλα (Tzilas Publishing). ISBN: 978-960-418-415-6. *The book is written in Greek*

Invited presentations, teaching activities and awards in international events

45 invited presentations in international events: BSDCE-2025 (Bhubaneswar, India), AIMPLAS in 2017, 2022 and 2025 (Valencia, Spain), Unitelma-Sapienza University of Rome in 2017 (Gela, Italy) and 2024 (Rome, Italy), IBA-IFIBIOP 2024 (Hong Kong, China), City University of Hong Kong in 2024 (School of Energy and Environment, Hong Kong), Chemistry and Life 2024 Conference (Brno University of Technology, Czech Republic), BIOSPECTRUM 2023 (Tiruvalla, India), NHBT-2023 (Trivandrum, India), 7th Green and Sustainable Chemistry Conference 2023 (Dresden, Germany), International University of Andalucia 2022 (Baeza, Spain), IBA-IFIBIOP 2022 (Taiwan), BSBB-2022 (Guwahati, India), Valortech summer school 2021 (Estonian University of Life Sciences, Estonia), IBA-IFIBIOP 2021 (Mexico), UFRJ virtual seminar 2020 (Brazil), virtual ESBES 2020, BERSTIC 2020 (Colombia), Universidad Nacional de Colombia sede Manizales in 2019 (Colombia), IBA-

IFIBIOP 2019 (Malaysia), Jiangnan University in 2018 and 2019 (Wuxi, China), University of York in 2018 (Department of Chemistry, UK), ENZITEC 2014 & 2018 (Brazil), University of Jaen in 2017 (Department of Chemical, Environmental and Material Engineering, Spain), Universidade Federal do Rio de Janeiro in 2014, 2015, 2016 and 2017 (Brazil), Bioprocessing India 2016, ICCB-2016 (VIT Vellore, India), ICSEPM-2016 (New Delhi, India), Federal University of Rio de Janeiro in 2013, 2014, 2015 & 2016 (Brazil), Total Food 2014 (UK), Instituto Nacional de Tecnologia - Ministério da Ciência, Tecnologia e Inovação in 2014 (Rio de Janeiro, Brazil), 2nd Iberoamerican Congress on Biorefineries 2013, Planta Piloto de Ingeniería Química in 2011 (PLAPIQUI, Argentina), Universidad Nacional del Sur in 2011 (Bahia Blanca, Argentina), and Petrobras in 2011 (Brazil).

7 best poster/oral presentation awards in students and postdoctoral researchers from my research group in the following conferences: IBA-IFIBIOP 2019, The International Graduate Symposium on Industrial Biotechnology (Wuxi, China) in 2019, 14th International Conference on Renewable Resources and Biorefineries (RRB14) in 2018, 10th World Congress of Chemical Engineering 2017, 4th International Conference on Sustainable Solid Waste Management 2016, WasteEng 2016 and Bioprocessing India 2016

8 Invitations to teach fast track MSc courses in the Universidad Nacional del Sur in 2011 (Argentina), in the University of Cordoba in 2013, 2014 & 2015 (Spain), and the Federal University of Rio de Janeiro in 2014, 2015, 2016 & 2018 (Brazil)
