

CURRICULUM VITAE

STERGIOS VAKALIS

Environmental Engineer, Ph.D.

June 2019

PERSONAL DATA

Date of birth: 21/08/1983

Work address: Department of Environment, University of the Aegean, 81100 Mytilene

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A. STUDIES

Undergraduate Studies (2010)

Diploma in Environmental Engineering

School of Environmental Engineering, Technical University of Crete

Thesis title: Thermal processes of municipal solid waste in Chania region

Postgraduate Studies (2012)

MSc Sustainable Resource Management

Studienfakultät Forstwissenschaft und Ressourcenmanagement, Technische Universität München

Master Thesis title: Assessment of thermochemical conversion technologies of biomass-to-energy

Doctoral degree (2016)

Faculty of Science and Technology, Libera Università di Bolzano

Supervisor: Prof. Marco Baratieri

Ph.D. Thesis title: Small scale biomass gasification for energy production

Postdoctoral studies (2017)

School of Chemical Engineering, National Technical University of Athens

IKY- Siemens postdoctoral fellowship of academic excellence

Supervisor: Prof. Maria Loizidou

Thesis title: "Construction of particleboards from biodegradable waste"

B. WORKING EXPERIENCE

2019 -, Assistant Professor, Department of Environment, University of the Aegean

2018- 2019, Assistant Professor of Research (RTD), Faculty of Science and Technology, Libera Università di Bolzano

2017 - 2018, Academic Staff (external – supervising MSc Thesis of students), Hellenic Open University, School of Science and Technology, MSc Catalysis and Environmental Protection

C. RESEARCH INTERESTS

- Bioenergy and Biofuels
- Energy Modeling
- Waste-to-energy
- Renewable Energy Sources (technologies, policy and management)
- Thermodynamic Analysis of Energy Systems
- Life Cycle Analysis (LCA) and Multicriteria Decision Making (energy systems, resource / waste management)

D. RESEARCH PROJECTS

2018 – 2019, Co- Principal Investigator (Co- PI) in the RTD Call - RTD 2018: “CHAR re-Circulation for improving the Conversion yields in fixed-bed biomass gasification systems”, a project selected and fully funded by the Faculty of Science and Technology, Libera Università di Bolzano

2016 – 2017, Collaborator in two European LIFE + projects

- PAYT - Tool to Reduce Waste in South Europe
- LIVE-WASTE - Sustainable management of livestock waste for the removal/recovery of nutrients

Feb. 2017 – Mar. 2017, Researcher (work package manager), Libera Università di Bolzano, Faculty of Science and Technology, Bolzano - Italy

- Developing a WP 4 work package in the framework of the NEXT GENERATION project, a small-scale biomass gasification facility development outlook, multi-criteria analysis of bio-carbon scenarios, participation in the development and writing of the project proposal , which was submitted for evaluation in November 2015.

Jan. 2013 – Apr. 2016, Scientific researcher at the international project "GaST", Libera Università di Bolzano, Faculty of Science and Technology, Bolzano - Italy

- Contractor: Autonomous Province of South Tyrol, Topics: small scale biomass gasification analysis, CTI 13 application, flow analysis, thermodynamic modeling

Jul 2015 – Dec. 2015, Scientific researcher at the international project “RISAN”, Libera Università di Bolzano, Faculty of Science and Technology

- Contractor: Risan Energy GmbH, Topics: Monitoring and evaluation of a sewage waste pyrolysis plant, Application of the bitumen collecting protocol (CEN / TS 15439), flow analysis and energy works

Aug. 2014 – Mar. 2015, Scientific researcher at the international project “ ENCOAL ”, Libera Università di Bolzano, Faculty of Science and Technology

- Contractor: D-BlueSphere Pte. Ltd., Topics: Coal combustion analysis, state-of-the-art writing for coal coagulation technologies, development of biphasic thermodynamic model for combustion analysis, study of energy efficiency of selected technologies

Nov. 2011 – Apr. 2012, Project Manager – «Sustainability Career Fair at T.U.M. 2012», Technische Universität München, Munich - Germany

- Organization of a conference and an exhibition on sustainability with a view to linking Munich Technical University students to the labor market, promotion and organization of the event, staff management, financial management of the project.
- Website: <http://sustainabilityfair.wix.com/2012>

E. ADDITIONAL TRAINING AND SKILLS

2011 (3 mon.), Technical Auditor (stagiaire), Confederation of European Waste-to Energy Plants, Brussels

2008 – 2009, Military Service at the Hellenic Navy, Office of Administration (Souda Naval Base)

2003 – 2004, Laboratory Analyst, National School of Public Health (Greece)

LANGUAGES: Greek (native), English (fluent/ C2), German (advanced/ C1), Italian (basic/ A2)

F. AWARDS AND ORGANIZATIONAL ROLES

- Research Associate of WtERT Global Council, Earth Engineering Center - Columbia University & City College of New York
- Postdoctoral scholarship: "IKY FELLOWSHIPS OF ACADEMIC EXCELLENCE FOR POSTDOCTORAL RESEARCH IN GREECE - SIEMENS PROGRAM 2015-2016"
- Designated Reviewer and Proposals Evaluator, General Secretariat for Research and Technology - Hellenic Ministry of Education and Research
- Conference Organizing Committee: 1. HERAKLION 2019: 7th International Conference on Sustainable Solid Waste Management, 2. ADAPT2CLIMA: 2nd International Conference ADAPTtoCLIMATE (2019), 3. NAXOS 2018: 6th International Conference on Sustainable Solid Waste Management, 4. ATHENS 2017:

5th International Conference on Sustainable Solid Waste Management, 5. CEWEP/EAA seminar “From ashes to metals - Bottom ash from Waste-to-Energy plants as a material resource”, 5 – 6 September 2011, Copenhagen

- Conference Scientific - Technical Committee: 1. HERAKLION 2019: 7th International Conference on Sustainable Solid Waste Management, 2. 4th International Conference on Low Carbon Asia & Beyond (ICLCA 18)
- Organizer of “Sustainability Career Fair 2012 @ T.U.M.” and the “Sustainable Seminar”, March 5th 2012 Munich, website: <http://sustainabilityfair.wix.com/2012>
- Reviewer in 16 International Journals (10 Elsevier, 2 Taylor & Francis, 2 Springer, 1 SAGE, 1 MDPI).
- Awards for “Outstanding Contribution in Reviewing” from the following Journals: Journal of Cleaner Production (Elsevier), Renewable Energy (Elsevier), Journal of Environmental Management (Elsevier), Energy (Elsevier), Waste Management (Elsevier), Journal of Analytical and Applied Pyrolysis (Elsevier)

G. PUBLICATIONS

I. Peer-reviewed Journals

1. **S. Vakalis**, M. Baratieri (2015). State-of-the-Art of Small Scale Biomass Gasifiers in the Region of South Tyrol. Waste and Biomass Valorization 6; 817 – 829.
2. **S. Vakalis**, F. Patuzzi, M. Baratieri (2016). Thermodynamic modelling of small-scale biomass gasifiers: Development and assessment of the "Multi-Box" approach. Bioresource Technology 206; 173-179.
3. **S. Vakalis**, A. Sotiropoulos, K. Moustakas, D. Malamis, M. Baratieri (2016). Utilization of biomass gasification by-products for onsite energy production. Waste Management & Research 34; 564 – 571.
4. **S. Vakalis**, R. Heimann, A. Talley, N. Heimann, M. Baratieri (2016). Introduction to frictional pyrolysis (FP) – An alternative method for converting biomass to solid carbonaceous products. Fuel 175; 49 – 56.
5. **S. Vakalis**, A. Sotiropoulos, K. Moustakas, D. Malamis, K. Vekkos, M. Baratieri (2016). Characterization of Hotel Bio-waste by Means of Simultaneous Thermal Analysis. Waste and Biomass Valorization 7; 649-657.
6. D. Prando, M. Boschiero, D. Campana, R. Gallo, **S. Vakalis**, M. Baratieri, F. Comiti, F. Mazzetto, S. Zerbe (2016). Assessment of different feedstocks in South Tyrol (Northern Italy): energy potential and suitability for domestic pellet boilers. Biomass & Bioenergy 90; 155 – 162.
7. A. Sotiropoulos, I. Vourka, A. Erotokritou, J. Novakovic, K. Valta, V Panaretou, **S. Vakalis**, T. Thanos, K. Moustakas, D. Malamis (2016). Combination of decentralized waste drying and SSF techniques for household biowaste minimization and ethanol production. Waste Management 52; 353 – 359.
8. F. Patuzzi, D. Prando, **S. Vakalis**, A.M. Rizzo, D. Chiaramonti, W. Tirlir, T. Mimmo, A. Gasparella, M. Baratieri (2016). Small-scale biomass gasification CHP systems: Comparative performance assessment and monitoring experiences in South Tyrol (Italy). Energy 112; 285-293.
9. A. Sotiropoulos, I. Vourka, A. Erotokritou, J. Novakovic, V Panaretou, **S. Vakalis**, D. Mamma, D. Alamanou, A.G. Thanos, K. Moustakas, D. Malamis (2016). Corrigendum to “Combination of decentralized waste drying and SSF

techniques for household biowaste minimization and ethanol production” [Waste Manage. 52(June) (2016) 353–359]. Waste Management 56, 600.

10. A. Sotiropoulos, N. Bava, K. Valta, **S. Vakalis**, V. Panaretou, J. Novakovic and D. Malamis. Household food waste dehydration technique as a pre-treatment method for food waste minimisation. Int. J. Environment and Waste Management 17, Nos. 3/4, 2016.

11. **S. Vakalis**, A. Sotiropoulos, K. Moustakas, D. Malamis, K. Vekkos, M. Baratieri (2017). Thermochemical valorization and characterization of household bio-waste. Journal of Environmental Management 203; 648-654.

12. **S. Vakalis**, F. Patuzzi, M. Baratieri (2017). Introduction of an energy efficiency tool for small-scale biomass gasifiers- a thermodynamic approach. Energy Conversion and Management 131; 1-9.

13. **S. Vakalis**, A. Sotiropoulos, K. Moustakas, D. Malamis, F. Patuzzi, M. Baratieri (2017). Tar analysis and naphthalene quantification in pyrolysis of food waste. Journal of Environmental Management.

14. **S. Vakalis**, M. Boschiero, K. Moustakas, A. Sotiropoulos, D. Malamis, S. Zerbe, M. Baratieri (2017). Assessing the suitability of biomass ashes from combustion in boilers as soil fertilizers - Statistical entropy analysis and introduction of the potassium utilization potential factor. Waste and Biomass Valorization.

15. **S. Vakalis**, F. Patuzzi, M. Baratieri (2017). Reply and closure to comments on “Introduction of an energy efficiency tool for small scale biomass gasifiers – A thermodynamic approach” by M.M. Awad. Energy Conversion and Management 138; 700- 702.

16. **S. Vakalis**, K. Moustakas, U. Sénéchal, R. Schneider, B. Salomo, M. Kurz, D. Malamis, Tobias Zschunke (2017). Assessment of Potassium Concentration in Biochar before and after the After-burner of a Biomass Gasifier. Chemical Engineering Transactions Vol. 56; ISBN 978 – 8-95608-47-1.

17. A. Talley, R. Heimann, **S. Vakalis** (2017). Development and Application of the Compression Frictional Treatment Method (CFT) for Sterilizing and Valorizing Organic Waste. Environmental Technology.

18. **S. Vakalis**, K. Moustakas, S. Malamis, A. Sotiropoulos, D. Malamis (2017). Assessing the removal of heavy metals in wastewater treatment plants by means of chemical exergy. Desalination and Water Treatment.

doi: 10.5004/dwt.2017.20588

19. **S. Vakalis**, D. Malamis, K. Moustakas (2018). Thermodynamic modelling of an onsite methanation reactor for upgrading producer gas from small-scale biomass gasifiers. Journal of Environmental Management 216, 145 – 152.

20. **S. Vakalis**, A. Sotiropoulos, K. Moustakas, D. Malamis, M. Loizidou (2017). Assessing the potential of particleboard production from food waste: analysis of the input materials. Sci Revs Chem Commun. 7(1). ISSN: 2277-2669

21. **S. Vakalis**, K. Moustakas, U. Sénéchal, R. Schneider, B. Salomo, M. Kurz, D. Malamis, Tobias Zschunke (2018). Utilization of thermodynamic modelling for assessing the operation of the after-burner in a Biomass Gasifier. Journal of Cleaner Production 170; 70 – 75.

22. **S. Vakalis**, D. Semitekolos, J. Novakovic, K. Moustakas, L. Zoumpoulakis and M. Loizidou (2018). Introduction to the concept of particleboard production from mixtures of sawdust and dried food waste. Waste and Biomass Valorization. DOI: 10.1007/s12649-018-0214-0.

23. **S. Vakalis**, C. Caligiuri, K. Moustakas, D. Malamis, M. Renzi and M. Baratieri (2017). Modelling the emissions of a dual fuel engine coupled with a biomass gasifier – Supplementing the Wiebe model. *Environmental Science and Pollution Research*. DOI: 10.1007/s11356-018-1647-5
24. **S. Vakalis**, K. Moustakas and M. Loizidou (2018). Assessing the 3T method as a replacement to R1 formula for measuring the efficiency of waste-to-energy plants. *Waste Management & Research* 36, 810 – 817.
25. **S. Vakalis**, J. Ahmad, R. Heimann, F. Patuzzi, M. Baratieri (2018). The Case of Frictional Torrefaction and the Effect of Reflux Condensation on the Operation of the Rotary Compression Unit. *Bioresource Technology* 268, 91 - 96.
26. A. Sotiropoulos, G. Xydis, N. Kontogianni, **S. Vakalis** (2018). Results on the implementation of an innovative dehydrated biological waste to ethanol management scheme. *International Journal of Environmental Science and Technology*. DOI: 10.1007/s13762-018-2135-7.
27. A. Sotiropoulos, M. Yard, G. Xydis, **S. Vakalis** (2019). Domestic biowaste drying method for the sustainable pretreatment of biowaste for their future use for producing biobased chemicals and bioenergy. *International Journal of Environment and Waste Management*. ISSN 1478-9876.
<http://www.inderscience.com/info/ingeneral/forthcoming.php?jcode=ijewm>
28. S. Alatzas, K. Moustakas, D. Malamis, **S. Vakalis** (2019). Biomass potential from agricultural waste for energetic utilization in Greece: a review. *Energies* 2019, 12, 1095.
29. **S. Vakalis** and K. Moustakas (2019). Modelling of Advanced Gasification Systems (MAGSY): Simulation and Validation for the Case of the Rising Co-current Reactor. *Applied Energy* 242, 526 – 533.
30. **S. Vakalis** and K. Moustakas (2019). Applications of the 3T Method and the R1 Formula as Efficiency Assessment Tools for Comparing Waste-to-Energy and Landfilling. *Energies* 2019, 12, 1066.
31. **S. Vakalis**, K. Moustakas, V. Benedetti, E. Cordioli, F. Patuzzi, M. Loizidou, M. Baratieri (2019). Centralized collection scheme and torrefaction of spent coffee grounds - an introduction to the concept of the “COFFEE BIN”. *Environmental Science and Pollution Research*. DOI: 10.1007/s11356-019-04919-3
32. **S. Vakalis**, K. Moustakas and M. Loizidou (2019). Energy Efficiency of Waste-to-Energy Plants with a Focus on the Comparison and the Constraints of the 3T Method and the R1 Formula. *Renewable & Sustainable Energy Reviews* 108, 323 – 329.
33. **S. Vakalis**, K. Moustakas, R. Heimann, M. Loizidou (2019). The Renewable Battery Concept via conversion of agricultural waste into biocoal using frictional pyrolysis. *Journal of Cleaner Production* 229, 1183-1188.
34. V. Panaretou, **S. Vakalis**, A. Ntolka, A. Sotiropoulos, K. Moustakas, D. Malamis, M. Loizidou (2019). Assessing the alteration of physicochemical characteristics in composted organic waste in a prototype decentralised composting facility. *Environ Sci Pollut Res*, <https://doi.org/10.1007/s11356-019-05307-7>
35. A. Balaskonis, **S. Vakalis**, A. Sotiropoulos (2019). Comparison of 3 household food waste dryers in the context of food waste prevention and bioeconomy, *SN Appl. Sci.* (2019) 1: 648. <https://doi.org/10.1007/s42452-019-0667-1>

II. Chapters in Books

1. **S. Vakalis**, D. Prando, F. Patuzzi, M. Baratieri. Monitoring und Analyse von repräsentative kleintechnischen Biomassevergaseren in Südtirol. Tagungsband "Biomass to Power and Heat", Hochschule Zittau / Görlitz (Hrsg) (2015), pp. 42-51. ISBN 978-3-941521-22-3.
2. M. Loizidou, **S. Vakalis**, K. Moustakas, D. Malamis. Chapter 5 - Movement Towards Circular Economy and E.U. Waste Management Regulation (2019) In: Proceedings of 2018 EEC/WTERT Conference, Marco J. Castaldi, Francesco Patuzzi, Simona Ciuta, Swanand Tupsakhare, Demetra Tsiamis, ASME, New York. DOI: 10.1115/1.861950. ISBN: 9780791861950
3. **S. Vakalis**. Chapter 6 - Applications of the 3T Method as an Efficiency Assessment Tool for Waste-to-Energy Facilities and Numerical Comparisons with the R1 Formula (2019) In: Proceedings of 2018 EEC/WTERT Conference, Marco J. Castaldi, Francesco Patuzzi, Simona Ciuta, Swanand Tupsakhare, Demetra Tsiamis, ASME, New York. DOI: 10.1115/1.861950. ISBN: 9780791861950

III. Technical Reports

1. Official Project Report: GaST Project: F. Patuzzi, D. Prando, **S. Vakalis**, A.M. Rizzo, D. Chiamonti, D. Andreasi, S. Dal Savio, K. Mair, W. Tirlir, T. Mimmo, A. Gasparella, M. Baratieri. (2015). "Gasification Experiences in South Tyrol: energy and environmental assessment". Project funded by the Autonomus Province of South Tyrol.
2. Official Project Report: ENCOAL Project: F. Patuzzi, **S. Vakalis**, D. Prando, M. Baratieri, A. Gasparella (2015). Comparative assessment of the environmental impact of different types of coal. Consulting Agreement between Libera Università di Bolzano and D-BlueSphere Pte. Ltd.

IV. Thesis

1. MEng Thesis: Thermal Processes of Municipal Solid Waste in Chania Region (submitted in Greek)
University: Technical University of Crete (Chania, Greece)
Supervisor: Prof. Vasilios Gekas
Year of defense: 2010
2. MSc Thesis: Assessment of selected emerging thermochemical conversion technologies of biomass for energy utilization
University: Technische Universität München (Munich, Germany)
Supervisor: Prof. Doris Schieder
Year of defense: 2012
3. PhD Thesis: Small-scale Biomass Gasification for Energy Production
University: Libera Università di Bolzano (Bozen-Bolzano, Italy)
Supervisor: Prof. Marco Baratieri
Year of defense: 2016

4. Postdoctoral Dissertation: Particleboards production from food waste
University: National Technical University of Athens (Athens, Greece)
Supervisor: Prof. Maria Loizidou
Year of completion: 2017

V. Conferences

1. **S. Vakalis**, D. Prando, F. Patuzzi, T. Mimmo, A. Gasparella, W. Tirlir, S. Dal Savio, D. Chiaramonti, M. Prussi, Marco Baratieri. Experience in biomass gasification in South Tyrol: The “GAST” project. 21st European Biomass Conference and Exhibition. 3rd – 7th June 2013, Copenhagen.
2. **S. Vakalis**, D. Prando, F. Patuzzi and M. Baratieri. Measuring the performance of biomass small scale gasification plants by implementing mass and energy balances. 4th Central European Biomass Conference, 15th – 18th January 2014, Graz, Austria.
3. **S. Vakalis**, D. Prando, F. Patuzzi, M. Baratieri. Implementing the ‘GAST’ project: opportunities and development of small-scale biomass gasification in South Tyrol. International Biomass Conference and Expo 2014, Orange County (FL), March 24th –26th.
4. **S. Vakalis** and M. Baratieri. Measuring biomass gasification plants by means of integrated balances – A comprehensive assessment tool. International Biomass Conference and Expo 2014, Orange County (FL), March 24th –26th.
5. **S. Vakalis**, F. Patuzzi and M. Baratieri. Development of the “Multi-Box”: Thermodynamic modelling of downdraft gasifiers. International Biomass Conference and Expo 2014, Orange County (FL), March 24th –26th.
6. **S. Vakalis**, D. Prando, F. Patuzzi and M. Baratieri. Thermodynamic modelling of biomass downdraft gasifiers: Introduction to the “Multi-Box” concept. 22nd European Biomass Conference and Exhibition. 23rd - 26th June 2014, Hamburg.
7. **S. Vakalis**, D. Prando, F. Patuzzi, T. Mimmo, A. Gasparella, W. Tirlir, K. Mair, G. Voto, D. Chiaramonti, A. Rizzo, M. Pettoralì, M. Prussi, S. Dal Savio, D. Andreasi, M. Baratieri. Assessment of a test methodology suitable for small scale biomass gasifiers. 22nd European Biomass Conference and Exhibition. 23rd - 26th June 2014, Hamburg.
8. **S. Vakalis**, M. Baratieri, Technological advancements in small-scale biomass gasification: case study of South Tyrol. 2nd International Conference on Sustainable Solid Waste Management, 12th –14th June 2014, Athens.
9. **S. Vakalis**, M. Baratieri, Calculating the overall efficiency of polygeneration plants – introducing an integrated thermodynamic decision tool for biomass gasification. SYMBIOSIS International Conference 2014. 19-21 June 2014, Athens, Greece.
10. D. Prando, A.M. Rizzo, **S. Vakalis**, F. Patuzzi, A. Gasparella, D. Chiaramonti, M. Baratieri. Monitoring of two CHP systems based on biomass in northern Italy: boiler-ORC and gasifier-ICE. 4th International Conference on Engineering for Waste and Biomass Valorisation, August 25th – 28th, 2014 Rio de Janeiro (Brazil).
11. **S. Vakalis**, A. Sotiropoulos, M. Baratieri. Thermochemical valorization and characterization of biomass waste streams. International Biomass Conference and Expo 2015, Minneapolis (MN), April 20th –22nd.

12. **S. Vakalis**, D. Prando, F. Patuzzi, M. Baratieri. Monitoring of representative small scale biomass gasifiers in South Tyrol. Biomass to Power and Heat 2015, 6-7 May 2015. Zittau (Germany).
13. **S. Vakalis**, D. Prando, F. Patuzzi, T. Mimmo, A. Gasparella, W. Tirler, K. Mair, G. Voto, D. Chiaramonti, A.M. Rizzo, M. Pettorali, M. Prussi, S. Dal Savio, D. Andreasi, M. Baratieri. Measuring the Performance of Different Small Scale Biomass Gasifiers – Results from the GaST Project. 23rd European Biomass Conference and Exhibition. 1st- 4th June 2015, Vienna.
14. **S. Vakalis**, A. Sotiropoulos, K. Moustakas, D. Malamis and M. Baratieri. Utilization of char from biomass gasification for onsite energy production – Introduction and modelling of a secondary reactor. 3rd International Conference on Sustainable Solid Waste Management, 2nd–4th July 2015, Tinos, Greece.
15. J. Ahmad, F. Patuzzi, D. Prando, **S. Vakalis**, L. Fiori, D. Chiaramonti, A. M. Rizzo, M. Baratieri. Characterization of biomass char from real scale gasifiers and assessment of possible utilization pathways. tcbiomass2015 - The International Conference on Thermochemical Conversion Science. November 2nd – 5th 2015, Chicago USA.
16. F. Patuzzi, D. Prando, **S. Vakalis**, W. Tirler, A. M. Rizzo, D. Chiaramonti, T. Mimmo, A. Gasparella and M. Baratieri. Measuring the performance of biomass small-scale gasification plants by implementing mass and energy balances. 5th Central European Biomass Conference, 2016, Graz, Austria.
17. **S. Vakalis**, R. Heimann, A. Talley, N. Heimann, M. Baratieri (2016). Valorization of organic waste by means of Compression Frictional Treatment. WasteEng - 6th International Conference on Engineering for Waste and Biomass Valorisation, May 23rd – 26th 2016, Albi (France).
18. F. Patuzzi, D. Prando, **S. Vakalis**, T. Mimmo, A. Gasparella, K. Mair, D. Chiaramonti, A.M. Rizzo, S. Dal Savio, M. Baratieri. Experiences in biomass gasification in South Tyrol: Energy and environmental assessment. WasteEng - 6th International Conference on Engineering for Waste and Biomass Valorisation, May 23rd – 26th 2016, Albi (France).
19. **S. Vakalis**, A. Sotiropoulos, K. Moustakas, D. Malamis, F. Patuzzi, M. Baratieri (2016). Measurement and analysis of tar compounds from thermal valorization of food waste. 4th International Conference on Sustainable Solid Waste Management, 23–25th June 2016, Limassol.
20. **S. Vakalis**, U. Sénéchal, R. Schneider, B. Salomo, M. Kurz, K. Moustakas, A. Sotiropoulos, D. Malamis, M. Baratieri, T. Zschunke. Thermodynamic modelling of potassium in the after-burner of a biomass gasifier. 4th International Conference on Sustainable Solid Waste Management, 23–25th June 2016, Limassol.
21. **S. Vakalis**, M. Boschiero, K. Moustakas, A. Sotiropoulos, D. Malamis, S. Zerbe and M. Baratieri. Statistical entropy analysis of heavy metals from combustion of agricultural waste in a commercial boiler. 4th International Conference on Sustainable Solid Waste Management, 23–25th June 2016, Limassol.
22. D. Basso, **S. Vakalis**, F. Patuzzi, A. Gasparella, W. Tirler, S. Dal Savio, A. Rizzo, D. Chiaramonti, M. Baratieri. The “NEXT GENERATION” project: valorization alternatives for char from small scale gasification systems in South-Tyrol. 5th International Conference on Sustainable Solid Waste Management, 21st–24^h June 2017, Athens.
23. **S. Vakalis**, K. Moustakas, U. Sénéchal, R. Schneider, B. Salomo, M. Kurz, D. Malamis, Tobias Zschunke. Assessment of Potassium Concentration in Biochar before and after the After-burner of a Biomass Gasifier. International Conference of Low Carbon Asia (ICLCA) 2016. 23rd– 25th November 2016. Malaysia.

24. **S. Vakalis**, K. Moustakas, S. Malamis, A. Sotiropoulos, D. Malamis. Assessing the removal of heavy metals in wastewater treatment plants by means of chemical exergy. 13th IWA Specialized Conference on Small Water and Wastewater Systems & 5th IWA Specialized Conference on Resources-Oriented Sanitation. 14th – 16th September 2016, Athens, Greece.
25. A. Sotiropoulos, N. Kalogiannis, K. Moustakas, **S. Vakalis**, D. Malamis. Qualitative and quantitative characteristics of the wastewater and ethanol produced from dehydrated household bio-waste using the drum-drying method and the SSF process respectively. 13th IWA Specialized Conference on Small Water and Wastewater Systems & 5th IWA Specialized Conference on Resources-Oriented Sanitation. 14th – 16th September 2016, Athens, Greece.
26. **S. Vakalis**, K. Moustakas, D. Malamis, M. Loizidou. Assessment and extraction of starch from food waste – a review. 5th International Conference on Sustainable Solid Waste Management, 21st –24^h June 2017, Athens.
27. **S. Vakalis**, C. Caligiuri, K. Moustakas, D. Malamis, M. Renzi, M. Baratieri. Modelling the emissions of a dual fuel engine coupled with a biomass gasifier – Supplementing the Wiebe model. 5th International Conference on Sustainable Solid Waste Management, 21st –24^h June 2017, Athens.
28. **S. Vakalis**, K. Moustakas, D. Malamis, M. Loizidou. Introduction to the concept of particleboard production from mixtures of sawdust and dried food waste. 5th International Conference on Sustainable Solid Waste Management, 21st –24^h June 2017, Athens.
29. **S. Vakalis**, F. Patuzzi, D. Prando, K. Moustakas, M. Baratieri. Simulation and exergy analysis of a novel small-scale biomass gasifier: A "Multi-Box" application. 5th International Conference on Sustainable Solid Waste Management, 21st –24^h June 2017, Athens.
30. **S. Vakalis**, K. Moustakas, M. Loizidou. Assessing the 3T method as a replacement to R1 formula for measuring the efficiency of waste-to-energy plants. 5th International Conference on Sustainable Solid Waste Management, 21st –24^h June 2017, Athens.
31. V. Panaretou, **S. Vakalis**, A. Ntolka, A. Sotiropoulos, K. Moustakas, D. Malamis, M. Loizidou. Study of carbon balances from organic waste in a decentralised composting facility in Tinos Island. 5th International Conference on Sustainable Solid Waste Management, 21st –24^h June 2017, Athens.
32. S. Alatzas, **S. Vakalis**, K. Moustakas, D. Malamis. Biomass potential from agricultural waste for energetic utilization in Greece: a review. 5th International Conference on Sustainable Solid Waste Management, 21st –24^h June 2017, Athens.
33. **S. Vakalis**, K. Moustakas, D. Malamis, M. Loizidou. Gasification as a potential pathway for the decentralized production of heat and power 6th International Conference on Sustainable Solid Waste Management, 13 –16 June 2018, Naxos.
34. **S. Vakalis**, K. Moustakas, M. Loizidou. Applications of the 3T Method as an efficiency tool for Waste -to-Energy facilities and numerical comparisons with the R1 Formula. 6th International Conference on Sustainable Solid Waste Management, 13 –16 June 2018, Naxos.
35. **S. Vakalis**, K. Moustakas, M. Loizidou. The 3T method as an assessment tool for comparing different waste management strategies. WasteEng - 6th International Conference on Engineering for Waste and Biomass Valorisation, 2 -5 July 2018, Prague.

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