

# **CURRICULUM VITAE**

**of**  
**Eleni Kastanaki**  
**Chemical Engineer MSc,Phd**

**TABLE OF CONTENTS**

<b>A. CURRICULUM VITAE.....</b>	<b>1</b>
<b>A.1. PERSONAL INFORMATION .....</b>	<b>3</b>
<b>A.2. EDUCATION .....</b>	<b>3</b>
<b>A.3. SCHOLARSHIPS .....</b>	<b>4</b>
<b>B. WORK EXPERIENCE</b>	
<b>B.1 EDUCATIONAL ACTIVITIES.....</b>	<b>5</b>
<b>B.2. TECHNICAL-ADMINISTRATIVE ACTIVITIES.....</b>	<b>6</b>
<b>B.3. RESEARCH ACTIVITIES .....</b>	<b>7</b>
<b>C. DETAILED LIST OF PUBLICATIONS.....</b>	<b>8</b>
<b>Γ.1. PUBLICATIONS IN SCIENTIFIC JOURNALS (PEER REVIEWED) .....</b>	<b>8</b>
<b>Γ.2 PUBLICATIONS IN CONFERENCE PROCEEDINGS (AFTER REVIEW) .....</b>	<b>8</b>
<b>D.SEMINARS.....</b>	<b>11</b>
<b>E. COMPUTER KNOWLEDGE.....</b>	<b>11</b>
<b>F. FOREIGN LANGUAGES.....</b>	<b>11</b>
<b>G. PARTICIPATION IN PROFESSIONAL ORGANIZATIONS.....</b>	<b>11</b>
<b>H. OTHER EDUCATIONAL ACTIVITIES .....</b>	<b>11</b>

## A. ΒΙΟΓΡΑΦΙΚΟ ΣΗΜΕΙΩΜΑ

### A.1. PERSONAL INFORMATION

#### FULL NAME

---

ELENI KASTANAKI

#### ΠΡΟΣΩΠΙΚΕΣ ΠΛΗΡΟΦΟΡΙΕΣ

---

- Work address: Laboratory of Toxic and Hazardous Waste Management, School of Chemical and Environmental Engineering, Technical University of Crete, University Campus, Chania, 73100.
- Telephone: 28210-37790
- e-mail: [ekastanaki@tuc.gr](mailto:ekastanaki@tuc.gr)

### A.2. ΣΠΟΥΔΕΣ

---

- |            |  |
|------------|--|
| 2019-2023  | Phd. School of Chemical and Environmental Engineering, Environmental Management, "Recovery of valuable materials from electronic waste"  |
| 1999-2002  | Postgraduate Program "Quality Control and Environmental Management", Technical University of Crete (grade: 9.31, Excellent)<br>Postgraduate Thesis: "Kinetic studies of biomass and lignite mixtures pyrolysis". |
| 1993- 1999 | Department of Chemical Engineering, National Technical University of Athens (grade: 7.43 Very Good)<br>Diploma Thesis: "Bleaching of Pulp with Biological Means".  |

### A.3. SCHOLARSHIPS

---

- |                      |  |
|----------------------|--|
| 1996, Ιούλιος        | Scholarship for internship (I.A.E.S.T.E. Program) at the INSTYTUT PREMYSLU I FARB Institute of Paints and Plastics in Poland on "Methods of Quality Control of Paints and Plastics".                       |
| 1997<br>(1/10-30/11) | DAAD Scholarship for the preparation of an internship (I.A.E.S.T.E. Program) in the laboratory of the UNIVERSITAT HALLE-WITENBERG in Germany on "Testing the properties of thermally unstable substances". |
| 1999-2000            | EPEAEK program Scholarship during the attendance of the postgraduate program at the Department of Environmental Engineering, Technical University of Crete.  |
| 2004<br>(1/9-1/12)   | Marie Curie Fellow Scholarship at ENEL Training Site, Pisa, Italy, ("Marie Curie" Actions of the European Sixth Framework Program, EU contract ENK6-CT-2000-57117).  |
| 2007<br>(23 – 27/4)  | Marie Curie Training Course, «STaR City of the Future», "Hydrogen Society" at Lago Maggiore Italy.   |

## B. WORK EXPERIENCE

---

### B.1. EDUCATIONAL ACTIVITIES

2019-σήμερα	Lab Teaching Staff, Laboratory of Toxic and Hazardous Waste Management, School of Chemical and Environmental Engineering, Technical University of Crete.
2014-2019	<p>Lab Technical teaching staff, Laboratory of Toxic and Hazardous Waste Management, Department of Environmental Engineering, Technical University of Crete.</p> <p><u>Καθήκοντα:</u></p> <p>-Duties:</p> <p>-Provision of laboratory and educational work in the following courses of the Undergraduate Program for the students of the school and for erasmus students:</p> <ul style="list-style-type: none"><li>• "Municipal Solid Waste: Management and Systems Design" [MP 338]</li><li>• "Treatment and Management of Toxic and Hazardous Waste" [MP 438]</li></ul> <p>-Provision of laboratory and educational work in the following courses of the Postgraduate Program for the postgraduate students of the school:</p> <ul style="list-style-type: none"><li>• "Solid and Toxic Waste Management" [ENAP 201]</li><li>• "Environmental Toxicology" [PMP 871]</li></ul> <p>-Training of students in the instruments and devices of the Laboratory for the elaboration of diploma and postgraduate theses prepared in the Laboratory of Toxic and Hazardous Waste Management, conducting laboratory exercises, development of new laboratory exercises / notes and general support.</p>
2011-2014	<p>Research Associate at the Laboratory of Toxic and Hazardous Waste Management, Department of Environmental Engineering, Technical University of Crete.</p> <p>Duties:</p> <p>-Provision of laboratory and educational work in the following courses of the Undergraduate Program:</p> <ul style="list-style-type: none"><li>• "Municipal Solid Waste: Management and Systems Design" [MP 338]</li><li>• "Treatment and Management of Toxic and Hazardous Waste" [MP 438]</li></ul> <p>-Training of students in the instruments and devices of the Laboratory for the elaboration of diploma and postgraduate theses prepared in the Laboratory of Toxic and Hazardous Waste Management, conducting laboratory exercises, development of new laboratory exercises / notes and general support.</p>
2000-2006 (winter semesters)	<p>Scientific collaborator with a fixed-term private law employment contract with the PD. 407/80, at the Laboratory of Refining and Solid Fuel Technology, Department of Mineral Resources Engineering, Technical University of Crete within the course "New Technologies for the Utilization of Coal for Energy Production" [MOP 512]</p> <p>Tasks: Organization and execution of educational / laboratory exercises for undergraduate students and guidance, supervision of diploma theses and general laboratory support.</p>
2000-2006 (spring semesters)	<p>Scientific collaborator with a fixed-term private law employment contract with the PD. 407/80, at the Laboratory of Solid Fuel Refining and Technology, Department of Mineral Resources Engineering, Technical University of Crete in the context of the course "Refining of Coal" [MOP 412].</p> <p>Tasks: Organization and execution of educational / laboratory exercises for undergraduate students, guidance and supervision of diploma theses and general</p>

laboratory support.

2001-2004 Laboratory Associate at TEI of Crete, Department of Natural Resources and Environment. Teaching Laboratory exercises on Thermodynamics.  
Tasks: Organization of a laboratory (installation and operation of equipment), organization and conduct of educational exercises for undergraduate students.

## **B.2. TECHNICAL-ADMINISTRATIVE ACTIVITIES**

2011-σήμερα Toxic and Hazardous Waste Management Laboratory, School of Chemical and Environmental Engineering, Technical University of Crete. Organizational and supportive work in the laboratory such as: orders for consumables and equipment, operation supervision and maintenance of instruments, monitoring of financial data of the laboratory and participation in evaluation commissions-supply of laboratory instruments / devices of the Univesrity.

2008-2011 Technical University of Crete, Administrative support at the Secretariat of the School of Architectural Engineering. Tasks: Supervision of electronic registration of books offered to undergraduate students in the software / electronic platform "EYDOXOS", general secretarial support.

2004-2005 Scientific collaborator in the framework of the EPEAEK II program-Reform of the undergraduate study program (EPEAEK, Ministry of Education, 2003-2005).  
Activities: Editing notes of the courses "New Coal Utilization Technologies for Energy Production" and "Coal Refining". Development of presentations for the delivery of courses in electronic form (Power Point lectures).

2000-2006 Laboratory "Refining and Solid Fuel Technology", Department of Mineral Resources Engineering, Technical University of Crete Technical University of Crete, Organizational and support work in the laboratory such as: orders for consumables and equipment, operation supervision and maintenance of instruments, monitoring of financial data.

### **B.3. PARTICIPATION IN RESEARCH PROGRAMMES**

---

- 2014 Supervision of Calorific Value and Elemental Analysis Measurements of Solid Samples. (ELGO - DIMITRA Program (Institute of Subtropical Plants & Olives), determination of calorific value of olive kernel and wood samples, 2014).
- 3/2007-12/2007 Scientific collaborator within the European program: Envifriendly, LIFE, Environment 2005, "Non-point source pollution, monitoring & development of reduction strategies". Activities: Analysis of river water samples with SPME fiber and GC-MS analysis. Laboratory of Aquatic Chemistry, Department of Environmental Engineering
- 2006-2007 Scientific collaborator in the framework of the EPEAEK II-Pythagoras II program, Ministry of Education 2005-2006, "Use of Novel Techniques for Measuring Alkyl Phenols that Cause Endocrine Disruptions". Activities: Development of a liquid phase microextraction method using a tubular membrane for the detection and measurement of organochlorine compounds by GC-ECD analysis. Laboratory of Aquatic Chemistry, Department of Environmental Engineering
- 2006-2007 Scientific collaborator in the framework of the "BASIC RESEARCH" program at the Technical University of Crete, with tasks: Development of a liquid phase microextraction method using a tubular membrane for the detection and measurement of organochlorine compounds with GC-ECD. Laboratory of Aquatic Chemistry, Department of Environmental Engineering
- 9/2004-12/2004 Researcher at Marie Curie Training Site, ENEL, Italy on: Experimental and Numerical studies on Fluidized Bed Combustion, "Marie Curie" Actions of the European Sixth Framework Program, EU contract ENK6-CT-2000-57117).
- 2002-2003 Scientific collaborator in the framework of the program "BIOFLAM" NTUA 63/1157). Activities: development of a kinetic analysis model for the modeling of cracking and combustion processes.
- 2001-2003 Scientific collaborator within the program "Evaluation of the Combustion and Emissions Performance of Biomass Residual Fuels". (ENERGY Program, Funding: E.K., 2000-2003). Activities: [a] characterization of lignite, coal, biomass and lignite samples with biomass, [b] cracking and burning processes of coal, biomass and mixtures in thermogravimetric balance (Thermogravimetric Analysis System TGA). [c] development of a kinetic analysis model for the modeling of cracking and combustion processes

## C. DETAILED LIST OF PUBLICATIONS

---

### C.1. PUBLICATIONS IN SCIENTIFIC JOURNALS (PEER REVIEWED)

---

1. E. Kastanaki, D. Vamvuka, P. Grammelis, E. Kakaras, "Thermogravimetric Studies of the Behavior of Lignite- Biomass blends during devolatilization", Fuel Processing Technology 77-78 (2002) 159-166. **[128 ετεροαναφορές]**
2. D. Vamvuka, N. Pasadakis, E. Kastanaki, P. Grammelis and E. Kakaras, "Kinetic modeling of coal/agricultural by-product blends", Energy and Fuels, 17 (2003) 549-558. **[63 ετεροαναφορές]**
3. D. Vamvuka, E. Kakaras, E. Kastanaki and P. Grammelis, "Pyrolysis characteristics and kinetics of biomass residuals mixtures with poor coal", Fuel, 82 (2003) 1949-1960. **[283 ετεροαναφορές]**
4. D. Vamvuka, E. Kastanaki and M. Lasithiotakis, "Devolatilization and combustion kinetics of low-rank coal blends from dynamic measurements", Industrial and Engineering Chemistry Research, 42 (2003) 4732-4740. **[28 ετεροαναφορές]**
5. D. Vamvuka, E. Kastanaki M. Lasithiotakis and C. Papanicolaou, "Combustion behavior of xylite/ lignite mixtures", Carbon, 42 (2004) 351-359. **[7 ετεροαναφορές]**
6. E. Kastanaki, D. Vamvuka, "A comparative reactivity and kinetic study on the combustion of coal-biomass char blends", Fuel 85 (2006) 1186-1193. **[121 ετεροαναφορές]**
7. D. Vamvuka, S.Troulinos, E. Kastanaki, "The effect of mineral matter on the physical and chemical activation of low rank coal and biomass materials", Fuel 85 (2006) 1763-1771. **[92 ετεροαναφορές]**
8. Vamvuka D, Salpigidou N, Kastanaki E, Sfakiotakis S, "Possibility of using paper sludge in co-firing applications", Fuel (2009) 88(4) 637-643
9. V. Savvilotidou, A. Kousaiti, B. Batinic, M. Vaccari, E. Kastanaki, K. Karagianni, E. Gidakos, ." Evaluation and comparison of pre-treatment techniques for recovering indium from discarded liquid crystal displays", Waste Management 87 (2019) 51-61.
10. A. Zeneli, E. Kastanaki F. Simantiraki, E. Gidakos, "Monitoring the biodegradation of TPH and PAHs in refinery solid waste by biostimulation and bioaugmentation", Journal of Environmental Chemical Engineering, 2019 (7) 3.
11. A. Kolosionis, E. Kastanaki, A. Veksha, H. Wang, C. He, G. Lisak, A. Giannis, The Effects of Washing Techniques on Thermal Combustion Properties of Sewage Sludge Chars, International Journal of Environmental Research, 15 (2021) 285–297.

12. C. Leontari, E. Kastanaki, I. Moukazis, E. Gidarakos. Valorisation of Soil Contaminated by Petroleum Hydrocarbons and Heavy Metals in Geopolymer Mortar Formation, *Journal of Environmental Management*, 278, 15 January 2021, 111410
13. E. Kastanaki, A. Giannis, Dynamic estimation of future obsolete laptop flows and embedded critical raw materials: The case study of Greece, *Waste Management*, 2021 (132) 74-85.
14. E. Kastanaki, A. Giannis, Estimating critical raw materials in obsolete feature and smart phones in Greece: a necessary step towards a circular economy, *Journal of Environmental Management*, 2022 (307)114566.
15. E. Kastanaki, A. Giannis, Energy decarbonization in the European Union: Assessment of photovoltaic waste recycling potential, *Renewable Energy*, 2022 (192) 1-13.
16. Kastanaki E., Rovithi A., Iatrou E., Stratakis A., Giannis A., Investigation of lignite fly ash conversion into synthetic zeolite by combination of fusion-hydrothermal-sonochemical activation steps, submitted to *Chemosphere*
17. E. Kastanaki, A. Giannis, Dynamic estimation of end-of-life electric vehicle batteries in the EU-27 considering reuse, remanufacturing and recycling options, *Journal of Cleaner Production*, 2023.
18. Eleni Kastanaki, Emmanuel Lagoudakis, Giorgos. Kalogerakis and Apostolos Giannis, Hydrothermal silver and aluminum leaching from mono- and poly-crystalline photovoltaic waste panels, *Appl. Sci.* 2023, 13, 3602.

## **C.2. PUBLICATIONS IN INTERNATIONAL CONFERENCES**

---

1. E. Kastanaki, D. Vamvuka, P. Grammelis and E. Kakaras, "Thermogravimetric studies of the behavior of lignite/biomass blends during devolatilization", *Proceedings of the 4th International Symposium on Coal Structure 2002, Structure and Reactivity of Carbonaceous Materials, Gliwice, Poland, 7-10 July* *Proceedings of the 4th International Symposium on Coal Structure 2002, Structure and Reactivity of Carbonaceous Materials, Gliwice, Poland, 7-10 July, Fuel Processing Technology*, Vol.77-78, p.159-166.
2. D. Vamvuka, E. Kastanaki, P. Grammelis and E. Kakaras, "Pyrolysis characteristics and kinetics of biomass residuals by thermogravimetry", *Proceedings of the 4th U.K. Conference on Coal Research and its Applications, Imperial College, London, 16-18 September 2002*.
3. E. Kastanaki, P. Grammelis, D. Vamvuka and E. Kakaras, "A comparison of the combustion reactivity of biomass, hard coal and lignite chars", *Proceedings of the European Combustion Meeting under the auspices of the Federation of the European Sections, Orleans, France, 25-28 October 2003*.
4. D. Vamvuka, E. Kastanaki, E. Kakaras and P. Grammelis, "Combustion reactivity and ash related properties of coal-wood mixtures", *3rd Meeting of the Greek Section of the*

Combustion Institute, University of Patras, 7-8 November 2003.

5. E. Kastanaki, P. Salatino, O. Senneca, D. Vamvuka, "Thermogravimetric Study of Thermal and Oxidative Processes of a Low Rank Greek Coal", Joint meeting of the Greek and Italian Sections of The Combustion Institute, Corfu Greece, 17-19 June 2004.
6. E. Kastanaki, N.P. Nikolaidis and E. Psillakis, "Hollow Fibre Liquid Phase Microextraction of Selected Organochlorine Pesticides" 10th International Conference on Environmental Science and Technology, 5-7 September 2007, Kos Island, Greece.
7. E. Kastanaki, E. Gidakos, Determination of 16 EPA-Priority Polycyclic Aromatic Hydrocarbons in seawater by solid-phase Microextraction coupled to GC/MS, 4th International Conference "Industrial and Hazardous Waste Management", 2-5 September 2014, Chania, Greece.
8. V. Savvilitidou, A. Kousaiti, B. Batinic, M. Vaccari, E. Kastanaki, K. Karagianni, E. Gidakos Towards a circular economy of indium in liquid crystal displays: a focus on pre-treatment, oral presentation during CRETE 2018.
9. E. Samothraki, I. Moukazis, E. Kastanaki, E. Gidakos Microwave heating remediation of hydrocarbons contaminated soils, oral presentation during CRETE 2018.
10. C. Leontari, F. Simantiraki, I. Moukazis, E. Kastanaki and E. Gidakos, "Production of geopolymers from petroleum polluted soil after thermal desorption remediation", Industrial and Hazardous Waste Management, CRETE 2018.
11. Moukazis, E. Gianniki, E. Kastanaki and E. Gidakos, "Characterization of Bituminous waste from oil refinery", Industrial and Hazardous Waste Management, CRETE 2018.
12. A. Kolosionis, E. Kastanaki, E. Gidakos, A. Giannis, Conversion of sewage sludge to clean solid fuel using pyrolysis and washing, 17<sup>th</sup> International Waste management and Landfill Symposium, Sardinia 2019, Italy.
13. E. Kastanaki, A. Giannis, Energy decarbonization in the European Union: Assessment of photovoltaic waste recycling potential, 2021 International Conference on Resource Sustainability, July 19-23, 2021, University College Dublin, Ireland
14. P. Papazoglou, A.I. Vavouraki, E. Kastanaki, E. Psillakis, A. Giannis, Functionalization of Discarded Cigarette Butts into Biochars for Copper Adsorption, 7th International Conference on Industrial & Hazardous Waste Management, CRETE 2021.
15. A. Rovithi, E. Iatrou, E. Kastanaki, A. Stratakis, A. Giannis, Hydrothermal Conversion Of Lignite Fly Ash Into Synthetic Zeolite, 7th International Conference on Industrial & Hazardous Waste Management, CRETE 2021.
16. G. Fragkou, I. Moukazis, E. Kastanaki, E. Gidakos, Microwave Assisted Co-Pyrolysis of Agricultural and Plastic Waste for the Production of Oil and Char, 7th International Conference on Industrial & Hazardous Waste Management, CRETE 2021.

- 17 I. Moukazis , K. Koutsourou , E. Kastanaki , P. Merkos , E. Gidaracos, Microwave Thermal Remediation of Hexadecane Contaminated Soil, 7th International Conference on Industrial & Hazardous Waste Management, CRETE 2021.
- 18 A. Zografos, E. Kastanaki, A. Giannis, Copper Adsorption on Activated Biochars Delivered from Orange Peels and Coffee Residues in Fixed Bed Column, 7th International Conference on Industrial & Hazardous Waste Management, CRETE 2021.
- 19 E. Kastanaki, E. Lagoudakis, G. Kalogerakis and A. Giannis, Hydrothermal Process for Silver Leaching from Mono- and Poly-crystalline Photovoltaic Waste Panels, 1st International Conference on Sustainable Chemical and Environmental Engineering 31 Aug – 04 Sep 2022, Rethymno, Crete, Greece (ISBN Number 978-618-86417-0-9).

#### **D. SEMINARS**

---

- 2005 Student Training Seminar: "From Theory to Practice", in the framework of the Idea Nursery Energy, UNISTEP, Crete Region Program, 'CRINNO', Crete, Innovative Region, lasting 80 hours.  
Purpose of training: the creation of a favorable environment for the development of new ventures, the encouragement and information on the steps for starting a new company.

#### **E. COMPUTER SKILLS**

---

Programs: WINDOWS MICROSOFT, OFFICE, ASPEN, UNIX, PYRIS (PERKIN ELMER, THERMAL ANALYSIS), QUADSTAR 422 (BALZERS MASS SPECTROMETER), Calidus (Elemental Analysis), Real Time Analysis (GC-MS)  
Programming Languages: FORTRAN

#### **F. FOREIGN LANGUAGES**

---

Excellent knowledge of English (CERTIFICATE OF PROFICIENCY IN ENGLISH OF CAMBRIDGE, GRADE B)  
Little knowledge of Italian, Spanish and German.

#### **G. PARTICIPATION IN PROFESSIONAL ORGANIZATIONS**

---

Member of the Technical Chamber of Greece  
Member of the Hellenic Association of Chemical Engineers

#### **H. OTHER EDUCATIONAL ACTIVITIES**

---

- 2017 Participation in the "Science & Technology Day for Primary School Children", Saturday 04 November 2017, kiosk organization and demonstration for the Toxic and Hazardous Waste Management Laboratory on "Paper Recycling"
- 2015-17 Participation in the "Open Dating Day" for high school students
- 2018 Participation in the "Science Day" of the School of Environmental Engineering, Technical University of Crete. Organizing a kiosk and a demonstration for the Laboratory of Toxic and Hazardous Waste Management with the theme "Robotic cardboard constructions"

2019 Participation in Erasmus + staff mobility program for training at Kaunas University of Technology, Lithuania, 2019.