

**ΒΙΟΓΡΑΦΙΚΟ ΣΗΜΕΙΩΜΑ**  
**ΚΑΘΗΓΗΤΡΙΑ ΣΗΜΙΡΑ ΠΑΠΑΔΟΠΟΥΛΟΥ**

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**Σπουδές:**

**1982-1988:** PhD (**Dr. -Ing**), Institute for Systems Dynamics and Control, University of Stuttgart, Germany, by Prof. em. Dr. -Ing Dr. h. c. mult. E.D.Gilles

**10/1977-7/82:** Δίπλωμα Χημικού Μηχανικού, Τμήμα Χημικών Μηχανικών ΑΠΘ

**Υποτροφίες-διακρίσεις κατά τις σπουδές:**

**1983-1988:** Υποτροφία για διδακτορικές σπουδές από Deutscher Akademischer Austausch Dienst- (DAAD), (Council of Europe Higher Education) στο Inst. Systemdynamik und Regelungstechnik, Universitaet Stuttgart.

**1977:** Υποτροφία του ΙΚΥ για την 3<sup>η</sup> θέση στο Τμήμα Χημικών Μηχανικών ΑΠΘ

**1977:** Anatolia College Award for Excellent Performance (ranking 3<sup>rd</sup>).

**Επαγγελματική εμπειρία-Ακαδημαϊκές θέσεις:**

**2019-σήμερα:** Καθηγήτρια στο Τμήμα Μηχανικών Παραγωγής και Διοίκησης ΔΠΠΑΕ με γνωστικό αντικείμενο τον Έλεγχο Παραγωγικών Διεργασιών με έμφαση στις χημικές διεργασίες.

**1997-2019:** Καθηγήτρια στο Τμήμα Μηχανικών Αυτοματισμού του Αλεξάνδρειου ΤΕΙ-Θεσσαλονίκης με γνωστικό αντικείμενο τον Έλεγχο Παραγωγικών Διεργασιών με έμφαση στις χημικές διεργασίες. Υπεύθυνη του Εργαστηρίου Ελέγχου Παραγωγικών Διεργασιών/SCADA.

**2015-2017:** Πρόεδρος του τμήματος Μηχανικών Αυτοματισμού, ΑΤΕΙ Θ.

**2002 – 2003:** Υπεύθυνη του τομέα ηλεκτρονικής τμήματος Μηχανικών Αυτοματισμού.

**1994-1997:** Επίκουρος Καθηγήτρια στο Τμήμα Αυτοματισμού του ΑΤΕΙ Θ με γνωστικό Αντικείμενο τον Έλεγχο Παραγωγικών Διεργασιών με έμφαση στις χημικές διεργασίες.

**1992-1994:** Έκτακτη καθηγήτρια στο Τμήμα Αυτοματισμού του ΑΤΕΙ-Θ.

**1989-1994:** Μηχανικός στο Διυλιστήριο της ΕΚΟ ΑΒΕΕ (Ελληνικά Πετρέλαια) στον τομέα σχεδιασμού και ανάλυσης συστημάτων και στην προμήθεια υλικών και εξοπλισμού.

**1988-1990:** Ειδική Επιστήμων στο Τμήμα Χημικών Μηχανικών ΑΠΘ, στον τομέα Ανάλυσης Σχεδιασμού και Ρύθμισης των Χημικών Διεργασιών και Εγκαταστάσεων με αντικείμενο την Δυναμική και Ρύθμιση των διεργασιών.

**1988–1989:** Μεταδιδακτορική Ερευνήτρια στο Ερευνητικό Ινστιτούτο Τεχνικής Χημικών Διεργασιών (ΕΙΤΧΗΔ) Θεσσαλονίκη, ερευνητικό πρόγραμμα «Μοντελοποίηση και ρύθμιση της μορφολογίας των σωματιδίων σε αντιδραστήρες PVC με πολυμερισμό αιώρησης», πρόγραμμα BRITE.

**1982-1988:** Επιστημονική βοηθός στο Ινστιτούτο για Δυναμική και Ρύθμιση Συστημάτων του Πανεπιστημίου της Στουτγάρδης, Prof. Dr.Ing Dr. h. c. mult. E.D.Gilles

**Διδακτική Εμπειρία :**

**Τμήμα Μηχανικών Παραγωγής και Διοίκησης ΔΠΠΑΕ:**

Έλεγχος Διεργασιών

Συστήματα Αυτομάτου Ελέγχου I και II

Φυσικές και Χημικές Διεργασίες

**Τμήμα Μηχανικών Αυτοματισμού ΑΤΕΙ –Θ (1992-2019):**

Έλεγχος Διεργασιών

Εποπτικός Έλεγχος / SCADA

Συστήματα Αυτομάτου Ελέγχου I και II

Ειδικά Κεφάλαια Συστημάτων Αυτομάτου Ελέγχου

Σχεδίαση και Κατασκευή Συστημάτων Αυτομάτου Ελέγχου

Φυσικές και Χημικές Διεργασίες

**Τμήμα Χημικών Μηχανικών ΑΠΘ (1988-90):**

Δυναμική και Ρύθμιση Διεργασιών.

### **Επιστημονικές Αδειες στο ΕΚΕΤΑ:**

**3/2019-12/2019:** Εποπτικός Έλεγχος και Διαχείριση Ενεργειακών Συστημάτων και Έξυπνων Μικροδικτύων, Μαθηματική Μοντελοποίηση Χημικών Αντιδραστήρων.

**2009-2010:** Μαθηματική Μοντελοποίηση-Συστήματα Προηγμένου Ελέγχου, Έλεγχος Ολοκληρωμένων Συστημάτων Παραγωγής Ενέργειας από Ανανεώσιμες Πηγές, Μοντελοποίηση και Έλεγχος Κυψελών Καυσίμου.

**2004-2005:** Καταλυτική Πυρόλυση και Επεξεργασία Καταλυτών.

### **Επίβλεψη διδακτορικών Διατριβών:**

Εν εξελίξει:

**2020-σήμερα:** «Βέλτιστες στρατηγικές ενεργειακής διαχείρισης αυτόνομων και διασυνδεδεμένων μικροδικτύων με παραγωγή και αποθήκευση ανανεώσιμης ενέργειας», Δημήτριος Τρίγκας, Τμήμα Μηχανικών Παραγωγής και Διοίκησης, ΔΠΘ

### **Συνεπίβλεψη διδακτορικών Διατριβών:**

Ολοκληρωμένες:

**2013:** «Μοντελοποίηση, Βελτιστοποίηση και Έλεγχος ενός Ολοκληρωμένου Συστήματος Κυψελών Καυσίμου», Χρ. Ζιώγου, Τμήμα Μηχανικών Πληροφορικής και Τηλεπικοινωνιών, Πανεπιστήμιο Δυτικής Μακεδονίας.

**2018:** «Ολιστικός Βέλτιστος Σχεδιασμός και Έλεγχος Εντατικοποιημένων Συστημάτων Παραγωγής Υδρογόνου», Αλέξιος Κυριακίδης, Τμήμα Μηχανολόγων Μηχανικών, ΑΠΘ.

**2020:** Adaptive Power Pinch Analysis for Energy Management of Hybrid Energy Storage Systems, Bassey Etim Nyong-Bassey, Newcastle University.

Εν εξελίξει:

**2018-σήμερα:** «Προηγμένες Τεχνικές Ελέγχου σε Συστήματα Αποθήκευσης Ενέργειας», Αλέξανδρος Καφετζής, τμήμα Μηχανολόγων Μηχανικών, ΑΠΘ.

**2020-σήμερα:** «Ανίχνευση σφαλμάτων σε βιομηχανικές/παραγωγικές διεργασίες με μεθόδους βαθιάς μάθησης», Γεώργιος Γραβάνης, Τμήμα Μηχανικών Πληροφορικής και Ηλεκτρονικών Συστημάτων, ΔΠΘ

### **Μέλος εξεταστικών επιτροπών διδακτορικών διατριβών**

Δημήτριος Ιψάκης, Τμήμα Χημικών Μηχανικών ΑΠΘ (2011).

Χρυσοβαλάντου Ζιώγου, Τμήμα Μηχανικών Πληροφορικής και Τηλεπικοινωνιών, Πανεπιστήμιο Δυτικής Μακεδονίας (2013).

Αλέξιος Κυριακίδης, Τμήμα Μηχανολόγων Μηχανικών, ΑΠΘ (2018).

Yara Jamil Saleem Khawajai, Newcastle University (10/7/2019).

### **Εξωτερική Αξιολογήτρια θέσης Τακτικού Καθηγητή:**

Assessment for the position of Professor of Energy Systems and Networks, Discipline of electrical and electronic engineering, School of Engineering, Newcastle University (29-04-2022)

### **Ερευνητικά Ενδιαφέροντα:**

#### **Προηγμένος Αυτόματος Έλεγχος**

Μέθοδοι και τεχνικές Αυτόματου ελέγχου σε χημικές διεργασίες και ενεργειακά συστήματα.

Μέθοδοι βέλτιστου προβλεπτικού ελέγχου, μαθηματική μοντελοποίηση διεργασιών και συστημάτων.

Ανάπτυξη ολοκληρωμένων και εποπτικών συστημάτων ελέγχου για αυτόνομα και σε δίκτυα συστήματα παραγωγής ενέργειας και χημικών.

#### **Μαθηματική Μοντελοποίηση Σύνθετων Διεργασιών**

Μαθηματική μοντελοποίηση σύνθετων διεργασιών για την προσομοίωση της δυναμικής και στατικής συμπεριφοράς τους με σκοπό την επίτευξη επιθυμητών προδιαγραφών. Εφαρμογές τεχνικών βελτιστοποίησης σε διεργασίες παραγωγής, μετατροπής και αποθήκευσης ενέργειας.

#### **Στρατηγικές Διαχείρισης Ενέργειας**

Εφαρμογή στρατηγικών διαχείρισης ενέργειας κατά το σχεδιασμό και τη λειτουργία ολοκληρωμένων συστημάτων παραγωγής ενέργειας από ανανεώσιμες και εναλλακτικές πηγές με αποθήκευση ενέργειας (ηλεκτρικής, χημικής).

## Ερευνητική Εμπειρία - προγράμματα:

### Ως επιστημονικά Υπεύθυνη:

**2021-2023: FLAWLESS** «Τεχνολογίες και στρατηγικές μηδενικών σφαλμάτων για την αποτελεσματική εφαρμογή διαδικασιών αυτόνομου ποιοτικού ελέγχου, στην παραγωγή γαλακτοκομικών προϊόντων», Τ2ΕΔΚ-01658, εΑΝΟΣΥΣ/ΙΔΕΠ/ΕΚΕΤΑ, ΕΡΕΥΝΩ-ΔΗΜΙΟΥΡΓΩ-ΚΑΙΝΟΤΟΜΩ», ΕΠΑνΕΚ, 2014-2020, ΕΣΠΑ2014-2020

**2012-2015: OPT-VIPS** “Design Optimization & Control of an Integrated Fuel Cell System with Application on Vehicular Power Systems”, ARCIMEDES III, Τμήμα Μηχ. Αυτοματισμού, ΑΤΕΙ.Θ.

**2004-2007:** «Έλεγχος Μονάδας Καταλυτικής Πυρόλυσης με Προηγμένους Αλγορίθμους Ελέγχου» Πρόγραμμα Αρχιμήδης Ι και ΙΙ, Τμήμα Μηχ. Αυτοματισμού, ΑΤΕΙ.Θ.

### Ως συνεργαζόμενο μέλος ΔΕΠ στο ΕΚΕΤΑ:

**2020-present: LEILAC2** “Low Emissions Intensity Lime and Cement 2: Demonstration Scale”, GA Nr. 884170, H2020.

**2018-2021: Socratces:** “Solar Calcium-looping integration for Thermo-Chemical Energy Storage”, H2020\_LCE\_2016-2017.

**2017-2021: inteGRIDy:** “Integrated Smart grid Cross-Functional Solutions for Optimized Synergetic Energy Distribution, Utilization and Storage Technologies”, H2020\_LCE\_2016-2017.

**2017-2021: REMOTE:** “Remote area Energy supply with Multiple Options for integrated hydrogen-based Technologies” H2020 Pr Nr 779541.

**2012-2014: H2S-PROTON:** “Hydrogen production from H2S decomposition in micro-structured proton-conducting solid oxide membrane reactors”, BS-ERA.NET Pilot Joint Call 2010/2011.

**2011-2014: CoMETHy:** Compact Multifuel-Energy To Hydrogen converter” Grant Agreement N° 279075, Collaborative Project, 7th Framework Programme, FCH JU.

**2011-2013: SUPERMICRO:** “Optimal Energy Management of Hybrid Autonomous Systems”, Synergasia, funded by Greek Ministry of Education (General Secretariat for Research and Technology) and EU-NSRF.

**2011-2013: POWERMOTION:** “Design and Development of a Hybrid Power Supply System for Vehicles”, Synergasia, funded by Greek Ministry of Education (General Secretariat for Research and Technology) and EUNSRF.

**2006-2008:** «Μελέτη Ολοκληρωμένου Αυτοματοποιημένου συστήματος Ηλεκτρικής Ενέργειας με Ανανεώσιμες Πηγές Ενέργειας (ΑΠΕ) μέσω Παραγωγής και Αποθήκευσης Υδρογόνου και Χρήσης σε Κυψελίδες Καυσίμου».

### Συμμετογή σε ερευνητικά προγράμματα:

**2004-2007:** «Ανάπτυξη καταναμημένου ευφούς συστήματος παρακολούθησης και επεξεργασίας περιβαλλοντικών μετρήσεων» Πρόγραμμα Αρχιμήδης Ι, ΑΤΕΙ-Θ.

**1988-1989:** «Control of Suspension Polymerization Reactions». Production of Porous Microparticles with Desirable Properties. Πρόγραμμα BRITE, ΕΙΤΧΗΔ.

**1983-1988:** Πρόγραμμα της DFG (Deutsche Forschungs Gemeinschaft) στον έλεγχο Αντιδραστών Πολυμερισμού, Institut fuer Systemdynamik und Regelungstechnik Uni. Stuttgart.

### Προγράμματα ΕΠΕΑΕΚ –ΕΣΠΑ:

**1997-2015:** Επιστημονικά Υπεύθυνη των Προγραμμάτων ΕΠΕΑΕΚ Ι-ΙΙ και ΕΣΠΑ Πρακτικής Άσκησης του Τμήματος Μηχανικών Αυτοματισμού.

**1997:** Πρόγραμμα αναμόρφωσης Προγράμματος Σπουδών τμήματος Αυτοματισμού, ΕΠΕΑΕΚ Ι-ΙΙ

### Επιστημονική Δραστηριότητα –Συμμετογή σε επιτροπές:

Μέλος της Γενικής Συνέλευσης του ΕΛΙΔΕΚ ως εκπρόσωπος του ΑΤΕΙ Θ (2018-19)

Συνεργαζόμενο μέλος ΔΕΠ Εργαστήριο Ανάπτυξης Ολοκληρωμένων Συστημάτων ΙΔΕΠ/ΕΚΕΤΑ.

Μέλος της επιτροπής Ερευνών του ΑΤΕΙΘ (2012-2014).

Πρόεδρος της επιτροπής Πρακτικής Άσκησης του Τμήματος Μηχανικών Αυτοματισμού (2013-15).

Μέλος εισηγητικών επιτροπών και εκλεκτορικών σωμάτων εκλογής και εξέλιξης μελών ΔΕΠ.

Αξιολογήτρια δημοσιεύσεων σε διεθνή περιοδικά και συνέδρια.

Μέλος της επιστημονικής επιτροπής του 5<sup>th</sup> International Conference on Technology and Automation ICTA'05», 2005.

Μέλος της τοπικής οργανωτικής επιτροπής του 22<sup>nd</sup> Conference on Process Integration. Modelling, and Optimization for Energy Saving and Pollution Reduction, PRES'19, Κρήτη, 2019.

Μέλος της Ενώσεως Ελλήνων Υποτρόφων της Γερμανικής Υπηρεσίας Ακαδημαϊκών Ανταλλαγών (DAAD).

Υπήρξε μέλος του ΤΕΕ και επιτροπών του, του συλλόγου Χημικών Μηχανικών και του τοπικού Συμβουλίου, του συλλόγου επιστημόνων Αυτοματισμού.

**Editor: special issue of *Energies* (ISSN 1996-1073) : *Energy Management Strategies (EMSs) Based on Energy Storage Systems (ESSs)***

**Αριθμός δημοσιεύσεων: Scopus 124, google scholar: 143**

**Scopus hindex 20**

**Αναφορές Scopus: 1113, ετεροαναφορές scopus: 929, google scholar: 1507**

#### **Μονογραφία:**

Papadopoulou Simira: Schätzung der Kettenlaengenverteilung in Polymerisationsreaktoren (1988)

Fortschritt-Berichte VDI, VDI Verlag, Reihe 8 Mess-, Steuerung- und Regelungstechnik,

Duesseldorf, Nr. 158, ISSN 0178-9546, ISBN 3-18-145808-2

#### **Βιβλία :**

Νταουτίδης Π., Μαστρογεωργόπουλος Σ., Παπαδοπούλου Σ.: Έλεγχος Διεργασιών, (2012), Tziolas Pub., ISBN: 978-960-418-390-6

Voutetakis S., Seferlis P., Stergiopoulos F., Papadopoulou S., Papadopoulos A., Ipsakis D., Ziogou C., Elmasides C., *Design, Optimization and Control of Power Systems based on Renewable Energy Sources and Hydrogen Production Storage and Utilization*, 2011, Nova Science Publishers, NY, ISBN 978-1-61122-979-0.

#### **Κεφάλαια σε Βιβλία:**

Chrysovalantou Ziogou, Simira Papadopoulou, Efstratios Pistikopoulos, Michael Georgiadis, Spyros Voutetakis, **Model-Based Predictive Control of Integrated Fuel Cell Systems-From Design to Implementation**, 2016, pp 387-430 in Advances in Energy Systems Engineering.

Voutetakis S., Stergiopoulos F., Seferlis P., Papadopoulou S., Ipsakis D., Papadopoulos A., Ziogou C., Elmasides C., *Design of a Stand-Alone Power System using Renewable Energy Sources and Long-Term Hydrogen Storage*, in **Handbook of Sustainable Energy**, 2010, Editors: W. H. Lee and V. G. Cho, Nova Science Pub Inc, p. 1-88, ISBN: 978-1-60876-263-7.

Papadopoulou S., Gilles E.D., *Continuous Estimation of the Chain Length Distribution in a Polymerization Reactor Considering Time Discrete GPC Measurements*, 1986, Polymer Reaction Engineering, Editors K.H. Reichert, W. Geiseler, Huethig & Wepf Verlag, N.York., p.243, ISBN 3-85739-117-0.

#### **Επιστημονικές Δημοσιεύσεις:**

##### **Δημοσιεύσεις σε επιστημονικά περιοδικά**

1. Nikkhah, S.; Allahham, A.; Bialek, J.W.; Walker, S.L.; Giaouris, D.; Papadopoulou, S. Active Participation of Buildings in the Energy Networks: Dynamic/Operational Models and Control Challenges. *Energies* 2021, 14, 7220. <https://doi.org/10.3390/en14217220>
2. Carro, A.; Chacartegui, R.; Tejada, C.; Gravanis, G.; Eusha, M.; Voutetakis S.; Papadopoulou S.; Ortiz, C. FMEA and Risks Assessment for Thermochemical Energy Storage Systems Based on Carbonates. *Energies* 2021, 14, 6013, <https://doi.org/10.3390/en14196013>
3. Kafetzis A., Ziogou C., Papadopoulou S., Voutetakis S., Seferlis P., Nonlinear Model Predictive Control of an Autonomous Power System Based on Hydrocarbon Reforming and High Temperature Fuel Cell, *Energies*, 2021, 14 (5), 1371, [doi.org/10.3390/en14051371](https://doi.org/10.3390/en14051371)
4. Trigkas D, Ziogou C, Voutetakis S, Papadopoulou S, Virtual Energy Storage in RES-Powered Smart Grids with Nonlinear Model Predictive Control, *Energies*, 2021, 14 (4), 1082, [doi.org/10.3390/en14041082](https://doi.org/10.3390/en14041082)

5. Karasavvas E., Scaltsoyiannes A., Antzaras A., Fotiadis K., Panopoulos K., Lemonidou A., Voutetakis S., Papadopoulou S., One-Dimensional Heterogeneous Reaction Model of a Drop-Tube Carbonator Reactor for Thermochemical Energy Storage Applications, *Energies*, 2020, 13(22), 5905, [doi.org/10.3390/en13225905](https://doi.org/10.3390/en13225905).
6. Ipsakis D., Damartzis T., Papadopoulou S. Voutetakis S., Dynamic Modeling and Control of a Coupled Reforming/Combustor System for the Production of H<sub>2</sub> via Hydrocarbon-Based Fuels, *Processes* **2020**, 8, 1243; doi:10.3390/pr8101243.
7. Yfoulis C., Papadopoulou S., Voutetakis S., Robust Linear Control of Boost and Buck-Boost DC-DC Converters in Micro-Grids with Constant Power Loads, *Energies* **2020**, 13(18), 4829; <https://doi.org/10.3390/en13184829>
8. Kafetzis A, Ziogou C, Panopoulos KD, Papadopoulou S, Seferlis P, Voutetakis S, Energy management strategies based on hybrid automata for islanded microgrids with renewable sources, batteries and hydrogen, **2020**, *Renewable and Sustainable Energy Reviews* 134, 110118
9. Galatsopoulos C., Papadopoulou S., Ziogou C., Trigkas D., Voutetakis S., Optimal Operation of a Residential Battery Energy Storage System in a Time-of-Use Pricing Environment, **2020**, *Appl. Sci.* 2020, 10, 5997; doi:10.3390/app10175997
10. Karasavvas E., Panopoulos K., Papadopoulou S., Voutetakis S., Energy and exergy analysis of the integration of concentrated solar power with calcium looping for power production and thermochemical energy storage, **2020**, *Renewable Energy*, 154, pp. 743-753.
11. Etim N.B.B., Giaouris D., Patsios C., Papadopoulou S., Papadopoulos A.I., ..., Reinforcement learning based adaptive power pinch analysis for energy management of stand-alone hybrid energy storage systems considering uncertainty, **2020**, *Energy*, 193, pp. 116622
12. Karasavvas E., Panopoulos K.D., Papadopoulou S., Voutetakis S., 2019, Study of a Drop-Tube Carbonator Reactor for CSP-Calcium Looping Based on a Heterogeneous Reaction Model, *Chemical Engineering Transactions*, pp. 76, 877-882, DOI:10.3303/CET19761
13. Ziogou C., Papadopoulou S., Voutetakis S., 2019, Incentive-based Energy Management Strategies for Smart-grids based on an Internet of Things (IoT) Connectivity Framework, *Chemical Engineering Transactions*, 76, 913-918 DOI:10.3303/CET1976153
14. Kafetzis A., Ziogou C., Panopoulos K.D., Papadopoulou S., Seferlis P., Voutetakis S., 2019, Flexible and Scalable Energy Management of Islanded Renewable Energy Sources Storage Systems, *Chemical Engineering Transactions*, 76, 613-618 DOI:10.3303/CET1976103
15. Galatsopoulos C., Papadopoulou S., Ziogou C., Trigkas D., Voutetakis S., 2019, Optimal Planning for Introducing Hydrogen Systems in a Multi-node Smart Grid, *Chemical Engineering Transactions*, 76, 1081-1086 DOI:10.3303/CET1976181.
16. Trigkas D., Ziogou C., Parcharidis S., Voutetakis S., Papadopoulou S., 2019, Energy Management in an Islanded Multi-Node Microgrid Based on Nonlinear Model Predictive Control (NMPC), *Chemical Engineering Transactions*, 76, 901-906 DOI:10.3303/CET1976151
17. Etim N.B.B., Giaouris D., Patsios H., Gadoue S., Papadopoulos A., Seferlis P., Voutetakis S., Papadopoulou S.; Probabilistic adaptive model predictive power pinch analysis (PoPA) energy management approach to uncertainty, (2019), *The Journal of Engineering*, IET Digital Library
18. Kyriakides, A.-S., Voutetakis, S., Papadopoulou, S., Seferlis, P.; Integrated design and control of various hydrogen production flowsheet configurations via membrane-based methane steam reforming, (2019) *Membranes*, 9 (1), 14
19. Murmura MA, Cerbelli S, Kyriakides AS, Voutetakis S, Seferlis P, Papadopoulou S. Annesini M.C., 2019; Preliminary Analysis of Mass Dispersion in Solid Foams: Separation of Nitrogen/hydrogen Mixtures in a Packed Membrane Module as a Case Study *Chemical Engineering Transactions* 74, 961-966
20. Giaouris, D., Papadopoulos, A.I., Patsios, C., (...), Papadopoulou, S., Seferlis, P.; A systems approach for management of microgrids considering multiple energy carriers, stochastic loads, forecasting and demand side response, (2018) *Applied Energy* 226, pp. 546-559
21. Karasavvas, E., Panopoulos, K.D., Papadopoulou, S., Voutetakis, S.; Design of an integrated CSP-calcium looping for uninterrupted power production through energy storage (2018) *Chemical Engineering Transactions* 70, pp. 2131-2136
22. Gkizas, G., Yfoulis, C., Amanatidis, C., Stergiopoulos, F., Giaouris, D., Ziogou, C., Voutetakis, S., Papadopoulou, S.; Digital state-feedback control of an interleaved DC-DC boost converter with bifurcation analysis (2018) *Control Engineering Practice*, 73, pp. 100-111
23. Ziogou, C., Voutetakis, S., Georgiadis, M.C., Papadopoulou, S.; Model predictive control (MPC) strategies for PEM fuel cell systems – A comparative experimental demonstration (2018) *Chemical Engineering Research and Design*, 131, pp. 656-670

24. Ipsakis, D., Ouzounidou, M., Papadopoulou, S., Seferlis, P., Voutetakis, S.; Dynamic modeling and control analysis of a methanol autothermal reforming and PEM fuel cell power system (2017) *Applied Energy*, 208, pp. 703-718
25. Ziogou, C., Voutetakis, S., Papadopoulou, S.; Energy Management Strategies for RES-enabled Smart-grids empowered by an Internet of Things (IoT) Architecture (2017) *Computer Aided Chemical Engineering*, 40, pp. 2473-2478
26. Yfoulis, C., Giaouris, D., Ziogou, C., Stergiopoulos, F., Voutetakis, S., Papadopoulou, S.; Optimal switching Lyapunov-based control of power electronic converters (2017) *International Journal of Circuit Theory and Applications*, 45 (3), pp. 354-375
27. Kyriakides, A.-S., Seferlis, P., Voutetakis, S., Papadopoulou, S.; Investigating the simultaneous process design and control of a membrane reactor for hydrogen production via methane steam reforming (2017) *Chemical Engineering Transactions*, 61, pp. 1375-1380
28. Kyriakides, A.-S., Voutetakis, S., Papadopoulou, S., Seferlis, P.; Optimization of an experimental membrane reactor for low-temperature methane steam reforming (2016) *Clean Technologies and Environmental Policy*, 18 (7), pp. 2065-2075
29. Giaouris, D., Papadopoulos, A.I., Seferlis, P., Voutetakis, S., Papadopoulou, S.; Power grand composite curves shaping for adaptive energy management of hybrid microgrids (2016) *Renewable Energy*, 95, pp. 433-448
30. Chatziagorakis, P., Ziogou, C., Elmasides, C., Sirakoulis, G.C., Karafyllidis, I., Andreadis, I., Georgoulas, N., Giaouris, D., Papadopoulos, A.I., Ipsakis, D., Papadopoulou, S., Seferlis, P., Stergiopoulos, F., Voutetakis, S.; Enhancement of hybrid renewable energy systems control with neural networks applied to weather forecasting: the case of Olvio (2016) *Neural Computing and Applications*, 27 (5), pp. 1093-1118
31. Ziogou, C., Krinidis, S., Ioannidis, D., Tzouvaras, D., Papadopoulou, S., Voutetakis, S.; Design of a knowledge-enabled supervisory framework for the detection of abnormal conditions at process pilot plants (2016) *Chemical Engineering Transactions*, 52, pp. 1015-1020
32. Ziogou, C., Krinidis, S., Ioannidis, D., Papadopoulou, S., Tzouvaras, D., Voutetakis, S.; An intelligent decision making and notification system based on a knowledge-enabled supervisory monitoring platform (2016) *Computer Aided Chemical Engineering*, 38, pp. 1353-1358
33. Ziogou, C., Giaouris, D., Papadopoulou, S., Voutetakis, S.; Supervisory control and monitoring of a hybrid high temperature PEM fuel cell system with li-ion batteries and an LPG reformer (2016) *Chemical Engineering Transactions*, 52, pp. 1021-1026
34. Ziogou, C., Giaouris, D., Papadopoulou, S., Voutetakis, S.; Integrated design and operation assessment of an embedded supervisory automation framework for a hybrid hydrogen-enabled power generation system (2016) *Computer Aided Chemical Engineering*, 38, pp. 1359-1364
35. Kyriakides, A.-S., Seferlis, P., Voutetakis, S., Papadopoulou, S.; Model predictive control for hydrogen production in a membrane methane steam reforming reactor (2016) *Chemical Engineering Transactions*, 52, pp. 991-996
36. Kyriakides, A.-S., Voutetakis, S., Papadopoulou, S., Seferlis, P.; Optimization of a membrane reactor for low temperature methane steam reforming (2015) *Chemical Engineering Transactions*, 45, pp. 703-708
37. Panagakos, G., Kyriakides, A.-S., Papadopoulou, S., Voutetakis, S.; A computational investigation of hydrogen production from methane steam reactor (2015) *Chemical Engineering Transactions*, 45, pp. 1033-1038
38. Giaouris, D., Papadopoulos, A.I., Voutetakis, S., Papadopoulou, S., Seferlis, P.; A power grand composite curves approach for analysis and adaptive operation of renewable energy smart grids (2015) *Clean Technologies and Environmental Policy*, 17 (5), pp. 1171-1193
39. Yfoulis, C., Giaouris, D., Stergiopoulos, F., Ziogou, C., Voutetakis, S., Papadopoulou, S.; Robust constrained stabilization of boost DC-DC converters through bifurcation analysis (2015) *Control Engineering Practice*, 35, pp. 67-82
40. Ziogou, C., Giaouris, D., Yfoulis, C., Stergiopoulos, F., Voutetakis, S., Papadopoulou, S.; Behaviour Assessment of a Fuel Cell - Battery System Using a Supervisory Control Methodology Empowered by a Hybrid Timed Automaton (HTA) (2015) *Computer Aided Chemical Engineering*, 37, pp. 2327-2332
41. Giaouris, D., Papadopoulos, A.I., Seferlis, P., Papadopoulou, S., Voutetakis, S.; Adaptive Management of Renewable Energy Smart Grids Using a Power Grand Composite Curves Approach (2015) *Computer Aided Chemical Engineering*, 37, pp. 2411-2416
42. Kyriakides, A.-S., Rodríguez-García, L., Voutetakis, S., Ipsakis, D., Seferlis, P., Papadopoulou, S.; Enhancement of pure hydrogen production through the use of a membrane reactor (2014) *International Journal of Hydrogen Energy*, 39 (9), pp. 4749-4760

43. Chatziagorakis, P., Elmasides, C., Sirakoulis, G.C., Karafyllidis, I., Andreadis, I., Georgoulas, N., Giaouris, D., Papadopoulos, A.I., Ziogou, C., Ipsakis, D., Papadopoulou, S., Seferlis, P., Stergiopoulos, F., Voutetakis, S.; Application of Neural Networks Solar Radiation Prediction for Hybrid Renewable Energy Systems (2014) *Communications in Computer and Information Science*, 459 CCIS, pp. 133-144
44. Chatziagorakis, P., Elmasides, C., Sirakoulis, G.C., Karafyllidis, I., Andreadis, I., Georgoulas, N., Giaouris, D., Papadopoulos, A.I., Ziogou, C., Ipsakis, D., Papadopoulou, S., Seferlis, P., Stergiopoulos, F., Voutetakis, P.; Cellular automata model with game theory for power management of hybrid renewable energy smart grids, (2014) *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)* 8751, pp. 248-257
45. Giaouris, D., Banerjee, S., Stergiopoulos, F., Papadopoulou, S., Voutetakis, S., Zahawi, B., Pickert, V., Abusorrah, A., Al Hindawi, M., Al-Turki, Y.; Foldings and grazings of tori in current controlled interleaved boost converters (2014) *International Journal of Circuit Theory and Applications*, 42 (10), pp. 1080-1091
46. Giaouris, D., Papadopoulos, A.I., Seferlis, P., Papadopoulou, S., Voutetakis, S., Stergiopoulos, F., Elmasides, C.; Optimum energy management in smart grids based on power pinch analysis (2014) *Chemical Engineering Transactions*, 39 (Special Issue), pp. 55-60
47. Abusorrah, A., Al-Hindawi, M.M., Al-Turki, Y., Mandal, K., Giaouris, D., Banerjee, S., Voutetakis, S., Papadopoulou, S.; Stability of a boost converter fed from photovoltaic source (2013) *Solar Energy*, 98 (PC), pp. 458-471
48. Giaouris, D., Papadopoulos, A.I., Ziogou, C., Ipsakis, D., Voutetakis, S., Papadopoulou, S., Seferlis, P., Stergiopoulos, F., Elmasides, C.; Performance investigation of a hybrid renewable power generation and storage system using systemic power management models (2013) *Energy*, 61, pp. 621-635
49. Ziogou, C., Ipsakis, D., Seferlis, P., Bezergianni, S., Papadopoulou, S., Voutetakis, S.; Optimal production of renewable hydrogen based on an efficient energy management strategy (2013) *Energy*, 55, pp. 58-67
50. Ziogou, C., Pistikopoulos, E.N., Georgiadis, M.C., Voutetakis, S., Papadopoulou, S.; Empowering the performance of advanced NMPC by multiparametric programming - An application to a PEM fuel cell system (2013) *Industrial and Engineering Chemistry Research*, 52 (13), pp. 4863-4873
51. Ziogou, C., Papadopoulou, S., Georgiadis, M.C., Voutetakis, S.; On-line nonlinear model predictive control of a PEM fuel cell system (2013) *Journal of Process Control*, 23 (4), pp. 483-492
52. Giaouris, D., Papadopoulos, A.I., Ziogou, C., Ipsakis, D., Seferlis, P., Papadopoulou, S., Voutetakis, S., Elmasides, C.; Optimization of hybrid renewable power generation flowsheets using generic structural and temporal models (2013) *Chemical Engineering Transactions*, 35, pp. 115-120
53. Ziogou, C., Ipsakis, D., Seferlis, P., Bezergianni, S., Papadopoulou, S., Voutetakis, S.; Performance assessment and efficiency of a renewable hydrogen production station based on a supervisory control methodology (2013) *Chemical Engineering Transactions*, 35, pp. 163-168
54. Ziogou, C., Georgiadis, M.C., Pistikopoulos, E.N., Papadopoulou, S., Voutetakis, S.; Combining multi-parametric programming and NMPC for the efficient operation of a PEM fuel cell (2013) *Chemical Engineering Transactions*, 35, pp. 913-918
55. Kyriakides, A.-S., Ipsakis, D., Voutetakis, S., Papadopoulou, S., Seferlis, P.; Modelling and simulation of a membrane reactor for the low temperature methane steam reforming (2013) *Chemical Engineering Transactions*, 35, pp. 109-114
56. Ziogou, C., Elmasides, C., Papadopoulou, S., Voutetakis, S.; Supervisory control and unattended operation of an off-grid hybrid power generation station with hydrogen storage (2013) *Chemical Engineering Transactions*, 35, pp. 529-534
57. Ipsakis, D., Papadopoulou, S., Voutetakis, S., Seferlis, P.; Analysis and implementation of a plant-wide control system for an LPG reforming-fuel cell power system (2013) *Chemical Engineering Transactions*, 35, pp. 955-960
58. Giaouris, D., Stergiopoulos, F., Ziogou, C., Ipsakis, D., Banerjee, S., Zahawi, B., Pickert, V., Voutetakis, S., Papadopoulou, S.; Nonlinear stability analysis and a new design methodology for a PEM fuel cell fed DC-DC boost converter (2012) *International Journal of Hydrogen Energy*, 37 (23), pp. 18205-18215
59. Ziogou, C., Ipsakis, D., Stergiopoulos, F., Papadopoulou, S., Bezergianni, S., Voutetakis, S.; Infrastructure, automation and model-based operation strategy in a stand-alone hydrolytic solar-hydrogen production unit (2012) *International Journal of Hydrogen Energy*, 37 (21), pp. 16591-16603

60. Ipsakis, D., Voutetakis, S., Papadopoulou, S., Seferlis, P.; Optimal operability by design in a methanol reforming-PEM fuel cell autonomous power system (2012) *International Journal of Hydrogen Energy*, 37 (21), pp. 16697-16710
61. Ziogou, C., Pistikopoulos, E.N., Voutetakis, S., Georgiadis, M.C., Papadopoulou, S.; A Multivariable Nonlinear Model Predictive Control Framework for a PEM Fuel Cell System (2012) *Computer Aided Chemical Engineering*, 31, pp. 1617-1621
62. Ziogou, C., Voutetakis, S., Papadopoulou, S., Georgiadis, M.C.; Development of a Nonlinear Model Predictive Control Framework for a PEM Fuel Cell System (2012) *Computer Aided Chemical Engineering*, 30, pp. 1343-1346
63. Ipsakis, D., Voutetakis, S., Papadopoulou, S., Seferlis, P., Elmasides, C., Papadaki, K., Mastrogeorgopoulos, S., Kyriakides, A.; Dynamic modeling and control of a steam reformer-fuel cell power system operating on LPG for vehicular applications (2012) *Chemical Engineering Transactions*, 29, pp. 49-54
64. Ziogou, C., Ipsakis, D., Tsita, K.G., Seferlis, P., Bezergianni, S., Papadopoulou, S., Voutetakis, S.; A novel and flexible energy management strategy with application in a hydrolytic solar hydrogen autonomous system (2012) *Chemical Engineering Transactions*, 29, pp. 1189-1194
65. Ziogou, C., Ipsakis, D., Elmasides, C., Stergiopoulos, F., Papadopoulou, S., Seferlis, P., Voutetakis, S.; Automation infrastructure and operation control strategy in a stand-alone power system based on renewable energy sources (2011) *Journal of Power Sources*, 196 (22), pp. 9488-9499
66. Ziogou, C., Voutetakis, S., Papadopoulou, S., Georgiadis, M.C.; Modeling, simulation and experimental validation of a PEM fuel cell system (2011) *Computers and Chemical Engineering*, 35 (9), pp. 1886-1900
67. Ziogou, C., Panos, C., Kouramas, K.I., Papadopoulou, S., Georgiadis, M.C., Voutetakis, S., Pistikopoulos, E.N.; Multi-Parametric Model Predictive Control of an Automated Integrated Fuel Cell Testing Unit (2011) *Computer Aided Chemical Engineering*, 29, pp. 744-747
68. Ziogou, C., Ipsakis, D., Stergiopoulos, F., Papadopoulou, S., Bezergianni, S., Voutetakis, S.; Evaluation of Design Issues and Automation Infrastructure in a Solar-Hydrogen Production Unit at CERTH in Thessaloniki (2011) *Computer Aided Chemical Engineering*, 29, pp. 1969-1973
69. Ziogou, C., Voutetakis, S., Papadopoulou, S., Georgiadis, M.C.; Dynamic modelling and experimental validation of a PEM fuel cell system (2010) *Chemical Engineering Transactions*, 21, pp. 565-570
70. Ziogou, C., Voutetakis, S., Papadopoulou, S., Georgiadis, M.C.; Modeling and experimental validation of a PEM fuel cell system (2010) *Computer Aided Chemical Engineering*, 28 (C), pp. 721-726
71. Ouzounidou, M., Ipsakis, D., Voutetakis, S., Papadopoulou, S., Seferlis, P.; A combined methanol autothermal steam reforming and PEM fuel cell pilot plant unit: Experimental and simulation studies (2009) *Energy*, 34 (10), pp. 1733-1743
72. Ipsakis, D., Voutetakis, S., Seferlis, P., Stergiopoulos, F., Papadopoulou, S., Elmasides, C., Keivanidis, C.; Energy management in a stand-alone power system for the production of electrical energy with long term hydrogen storage (2008) *Computer Aided Chemical Engineering*, 25, pp. 1125-1130
73. Ipsakis, D., Voutetakis, S., Seferlis, P., Stergiopoulos, F., Papadopoulou, S., Elmasides, C.; The effect of the hysteresis band on power management strategies in a stand-alone power system (2008) *Energy*, 33 (10), pp. 1537-1550
74. Bollas, G.M., Vasalos, I.A., Lappas, A.A., Iatridis, D.K., Voutetakis, S.S., Papadopoulou, S.A.; Integrated FCC riser-regenerator dynamics studied in a fluid catalytic cracking pilot plant (2007) *Chemical Engineering Science*, 62 (7), pp. 1887-1904
75. Voutetakis, S.S., Seferlis, P., Papadopoulou, S., Kyriakos, Y.; Model-based control of temperature and energy requirements in a fluidised furnace reactor (2006) *Energy*, 31 (13), pp. 2082-2091
76. Papadopoulou S.; GPC as a Tool for the Real-Time-Estimation of the Chain Length Distribution in a Polymerization Reactor, *International Polymer Processing*, (1987) *The JOURNAL of the polymer processing society*, 2, CARL HANSER VERLAG, p.41
77. Schuler, H., Papadopoulou, S.; Real-time estimation of the chain length distribution in a polymerization reactor-II. comparison of estimated and measured distribution functions (1986) *Chemical Engineering Science* 41(10), pp. 2681-2683

### **Εργασίες δημοσιευμένες σε πρακτικά διεθνών συνεδρίων με κριτές**



1. Yfoulis C., Papadopoulou S., Voutetakis S., Enhanced control of a buck-boost DC-DC converter via an explicit MPC reference governor scheme, proceedings of IECON2019-45th Annual Conference of the IEEE Industrial Electronics Society, IEEE Xplore Digital Library: <https://ieeexplore.ieee.org/document/8927486>
2. Karasavvas E., Panopoulos K., Papadopoulou S., Voutetakis S.; Exergy Analysis of the Integration of a concentrated Solar Power Plant with calcium Looping for Energy Storage, Proceedings of ECOS 2019 the 32<sup>nd</sup> Conference on Efficiency, Cost, Optimization Simulation and Environmental Impact of Energy Systems, June 23-28, 2019, Wroclaw, Poland
3. Yfoulis, C., Papadopoulou, S.; A Portable Low-Cost Arduino-Based Laboratory Kit for Control Education, (2018) 2018 UKACC 12th International Conference on Control, CONTROL 2018 8516817, pp. 435
4. Iosifidis, D., Alvanos, N., Yfoulis, C., Papadopoulou, S., Galatsopoulos, C.; Practical PID Hovering Control of a Laboratory Quadcopter Using Low-Cost Embedded Control Hardware and Software (2018), 2018 UKACC 12th International Conference on Control, CONTROL 2018 8516781, pp. 428-433
5. Galatsopoulos, C., Papadopoulou, S., Ziogou, C., (...), Yfoulis, C., Voutetakis, S.; Non-Linear Model Predictive Control for Preventing Premature Aging in Battery Energy Storage System (2018) 2018 UKACC 12th International Conference on Control, CONTROL 2018 8516720, pp. 174-179
6. Galatsopoulos, C., Papadopoulou, S., Ziogou, C., Voutetakis, S.; Energy Management Strategy in a Residential Battery Energy Storage System, (2018) MED 2018 - 26th Mediterranean Conference on Control and Automation 8442681, pp. 831-836
7. Trigkas, D., Ziogou, C., Voutetakis, S., Papadopoulou, S.; Supervisory Control of Energy Distribution at Autonomous RES-powered Smart-grids using a Finite State Machine Approach, (2018) 2018 5th International Conference on Control, Decision and Information Technologies, CoDIT 2018 pp. 415-420
8. Yfoulis, C., Papadopoulou, S., Trigkas, D., Voutetakis, S.; Switching PI speed control of a nonlinear laboratory dc micro-motor using low-cost embedded control hardware and software, (2018) 5th International Conference on Control, Decision and Information Technologies, CoDIT 2018, pp. 1029-1034
9. Etim, N.-B.B., Giaouris, D., Papadopoulos, A.I., Patsios, H., Papadopoulou, S.b, Voutetakis, S., Seferlis, P., Walker, S., Taylor, P., Gadoue, S.; Adaptive Power Pinch Analysis for Energy management of Hybrid Energy Storage Systems (2018) Proceedings - IEEE International Symposium on Circuits and Systems 2018-May, 8351732
10. Nyong-Bassey Bassey Etim, Damian Giaouris, Athanasios I. Papadopoulos, Haris Patsios, Simira Papadopoulou, Spyros Voutetakis, Panos Seferlis, Sara Walker, Philip Taylor, "Sensitivity Analysis of Hybrid Energy Storage Systems Utilising Adaptive Power Pinch Analysis", UKES, 2018.
11. Nyong-Bassey Bassey Etim, Damian Giaouris, Haris Patios, Shady Gadoue, Athanasios I. Papadopoulos, Panos Seferlis, Spyros Voutetakis, Simira Papadopoulou, "A Probabilistic Adaptive Model Predictive Power Pinch Analysis (PoPA) Energy Management Approach to Uncertainty", PEMD, 2018.
12. Ziogou, C., Georgiadis, M.C., Voutetakis, S., Papadopoulou, S.; Optimum Energy Management of PEM Fuel Cell Systems Based on Model Predictive Control (2017) E3S Web of Conferences, 16, art. no. 10003
13. Gkizas, G., Amanatidis, C., Yfoulis, C., Stergiopoulos, F., Giaouris, D., Ziogou, C., Voutetakis, S., Papadopoulou, S.; State-feedback control of an interleaved DC-DC boost converter (2016) 24th Mediterranean Conference on Control and Automation, MED 2016, art. no. 7535901, pp. 931-936
14. Yfoulis, C., Giaouris, D., Ziogou, C., Stergiopoulos, F., Voutetakis, S., Papadopoulou, S.; Optimal energy-based stabilizing controllers for DC-DC converters (2016) 24th Mediterranean Conference on Control and Automation, MED 2016, art. no. 7535900, pp. 925-930
15. Ziogou, C., Voutetakis, S., Papadopoulou, S.; Design of an energy decision framework for an autonomous RES-enabled smart-grid network (2016) 2016 23rd International Conference on Telecommunications, ICT 2016, art. no. 7500384
16. Ziogou, C., Giaouris, G., Papadopoulou, S., Voutetakis, S.; Supervisory control and monitoring of a hybrid high temperature PEM fuel cell system with Li-Ion batteries and an LPG reformer (2016) 22nd International Congress of Chemical and Process Engineering, CHISA 2016 and 19th Conference on Process Integration, Modelling and Optimisation for Energy Saving and Pollution Reduction, PRES 2016 2, pp. 1119

17. Ziogou, C., Papadopoulou, S., Voutetakis, S.; Energy exchange strategy for autonomous smart-grids with renewable energy sources empowered by an Internet of Things (IOT) architecture (2016) 22nd International Congress of Chemical and Process Engineering, CHISA 2016 and 19th Conference on Process Integration, Modelling and Optimisation for Energy Saving and Pollution Reduction, PRES 2016 2, pp. 1461
18. Yfoulis, C., Giaouris, D., Stergiopoulos, F., Ziogou, C., Voutetakis, S., Papadopoulou, S.; Optimal switching Lyapunov-based control of a boost DC-DC converter (2015) 2015 23rd Mediterranean Conference on Control and Automation, MED 2015 - Conference Proceedings, art. no. 7158767, pp. 304-309
19. Tebibel, H., Labeled, S., Khellaf, A., Ziogou, C., Papadopoulou, S., Voutetakis, S.; Impact of the battery depth of discharge on the performance of photovoltaic hydrogen production unit with energy management strategy (2015) 2015 International Conference on Renewable Energy Research and Applications, ICRERA 2015, art. no. 7418575, pp. 1074-1078
20. Voutetakis, S., Elmasides, C., Ziogou, C., Giaouris, D., Stergiopoulos, F., Papadopoulou, S.; Integrated supervisory and control system for backup power and traction batteries (2014) International Conference on Lead-Acid Batteries, LABAT, pp. 137-140
21. Yfoulis, C., Giaouris, D., Stergiopoulos, F., Ziogou, C., Voutetakis, S., Papadopoulou, S.; Robust constrained stabilization of a boost DC-DC converter with Lyapunov-based control and piecewise-linear Lyapunov functions (2014) 2014 European Control Conference, ECC 2014, art. no. 6862531, pp. 2170-2175
22. Yfoulis, C., Giaouris, D., Stergiopoulos, F., Ziogou, C., Voutetakis, S., Papadopoulou, S.; Flexible polyhedral Lyapunov functions for the robust constrained stabilization of bilinear boost DC-DC converters (2014) 2014 22nd Mediterranean Conference on Control and Automation, MED 2014, art. no. 6961549, pp. 1261-1266
23. Ziogou, C., Giaouris, D., Yfoulis, C., Stergiopoulos, F., Seferlis, P., Voutetakis, S., Papadopoulou, S.; Supervisory Energy Management of an Integrated Fuel Cell / Battery System for Vehicular Applications (2014) Computing and Systems Technology Division 2014 - Core Programming Area at the 2014 AIChE Annual Meeting, 2, pp. 1032-1033
24. Ziogou, C., Giaouris, D., Yfoulis, C., Stergiopoulos, F., Seferlis, P., Voutetakis, S., Papadopoulou, S.; Supervisory energy management of an integrated fuel cell / battery system for vehicular applications (2014) International Congress on Energy 2014, ICE 2014 - Topical Conference at the 2014 AIChE Annual Meeting, 3, pp. 1437-1438
25. Giaouris, D., Papadopoulos, A.I., Seferlis, P., Papadopoulou, S., Voutetakis, S., Stergiopoulos, F., Elmasides, C.; Optimum energy management in smart grids based on power pinch analysis (2014) 21st International Congress of Chemical and Process Engineering, CHISA 2014 and 17th Conference on Process Integration, Modelling and Optimisation for Energy Saving and Pollution Reduction, PRES 2014, 4, p. 2161
26. Ziogou, C., Georgiadis, M.C., Pistikopoulos, E.N., Voutetakis, S., Papadopoulou, S.; Performance improvement of an NMPC problem by search space reduction and experimental validation to a PEM fuel cell system (2013) 2013 European Control Conference, ECC 2013, art. no. 6669295, pp. 2555-2560
27. Giaouris, D., Yfoulis, C., Voutetakis, S., Papadopoulou, S.; Stability analysis of digital state feedback-controlled boost converters (2013) IECON Proceedings (Industrial Electronics Conference), art. no. 6700539, pp. 8391-8396
28. Yfoulis, C., Giaouris, D., Voutetakis, S., Papadopoulou, S.; Constrained switching stabilization of a dc-dc boost converter using piecewise-linear Lyapunov functions (2013) 2013 21st Mediterranean Conference on Control and Automation, MED 2013 - Conference Proceedings, art. no. 6608817, pp. 814-823
29. Ziogou, C., Papadopoulou, S., Voutetakis, S., Georgiadis, M.C.; Online implementation of an integrated explicit and nonlinear Model Predictive Control (exNMPC) framework for a PEM fuel cell system (2013) IFAC Proceedings Volumes (IFAC-PapersOnline), pp. 749-754
30. Giaouris, D., Ziogou, C., Papadopoulos, A.I., Ipsakis, D., Seferlis, P., Papadopoulou, S., Elmasides, C., Sergiadis, G., Voutetakis, S.; Deployment and operation of an isolated smart grid (2013) INTELEC, International Telecommunications Energy Conference (Proceedings), 2013-October, art. no. 6663328
31. Ipsakis, D., Voutetakis, S., Papadopoulou, S., Seferlis, P., Elmasides, C., Papadaki, K., Mastrogeorgopoulos, S., Kyriakides, A.; Dynamic modeling and control of a steam reformer-fuel cell power system operating on LPG for vehicular applications (2012) CHISA 2012 - 20th International Congress of Chemical and Process Engineering and PRES 2012 - 15th Conference PRES, p. 5

32. Ziogou, C., Ipsakis, D., Tsita, K.G., Seferlis, P., Bezergianni, S., Papadopoulou, S., Voutetakis, S.; A novel and flexible energy management strategy with application in a hydrolytic solar hydrogen autonomous system (2012) CHISA 2012 - 20th International Congress of Chemical and Process Engineering and PRES 2012 - 15th Conference PRES, p. 6
33. Giaouris, D., Stergiopoulos, F., Ziogou, C., Papadopoulou, S., Voutetakis, S.; Efficient design of boost converters for fuel cells (2011) INTELEC, International Telecommunications Energy Conference (Proceedings), art. no. 6099765
34. Ipsakis, D., Vakouftsi, E., Ouzounidou, M., Marnellos, G., Papadopoulou, S., Stergiopoulos, F., Voutetakis, S.; CFD and dynamic simulation studies in a h<sub>2</sub>s-fed proton conducting solid oxide fuel cell (2011) EFC 2011 - Proceedings of the 4th European Fuel Cell Piero Lunghi Conference and Exhibition, pp. 283-284
35. Ipsakis, D., Voutetakis, S., Papadopoulou, S., Seferlis, P.; Process design and disturbance rejection evaluation on fuel processing systems incorporating fuel cells (2011) EFC 2011 - Proceedings of the 4th European Fuel Cell Piero Lunghi Conference and Exhibition, pp. 321-322
36. Ziogou, C., Voutetakis, S., Papadopoulou, S., Georgiadis, M.C.; Power control of a pem fuel cell system using nonlinear model predictive control (2011) EFC 2011 - Proceedings of the 4th European Fuel Cell Piero Lunghi Conference and Exhibition, pp. 291-292
37. Ziogou, C., Voutetakis, S., Papadopoulou, S., Georgiadis, M.C.; Dynamic modeling and experimental validation of a PEM fuel cell system (2010) 19th International Congress of Chemical and Process Engineering, CHISA 2010 and 7th European Congress of Chemical Engineering, ECCE-7, p. 6
38. Ziogou, C., Ipsakis, D., Elmasides, C., Stergiopoulos, F., Papadopoulou, S., Seferlis, P., Voutetakis, S.; Automation and operation strategies in a stand-alone power system that uses solar and wind energy in conjunction with hydrogen long-term storage (2009) IFAC Proceedings Volumes (IFAC-PapersOnline), pp. 86-91
39. Ziogou, C., Papadopoulou, S., Seferlis, P., Voutetakis, S.; An efficient multi-objective model predictive control framework of a PEM fuel cell (2009) IFAC Proceedings Volumes (IFAC-PapersOnline), 7 (PART 1), pp. 869-874
40. Ipsakis, D., Voutetakis, S., Seferlis, P., Papadopoulou, S.; Dynamic modeling and control issues on a methanol reforming unit for hydrogen production and use in a PEM fuel cell (2009) IFAC Proceedings Volumes (IFAC-PapersOnline), 7 (PART 1), pp. 822-827
41. Ouzounidou, M., Ipsakis, D., Voutetakis, S., Papadopoulou, S., Seferlis, P.; A pilot plant for hydrogen production via methanol reforming for power generation in a PEM fuel cell (2008) CHISA 2008 - 18th International Congress of Chemical and Process Engineering, p. 2
42. Bollas, G.M., Anastasiou, I., Papadopoulou, S.A., Voutetakis, S.S., Seferlis, P.; Feed conversion targeting in an FCC pilot plant using a non-linear MPC strategy (2007) Proceedings of the American Control Conference, art. no. 4283069, pp. 632-638
43. Bollas, G.M., Avramidis, S., Papadopoulou, S.A., Lappas, A.A., Voutetakis, S.S., Seferlis, P.; Model predictive control of a fluid catalytic cracking pilot plant (2006) CHISA 2006 - 17th International Congress of Chemical and Process Engineering,
44. Bollas, G.M., Papadopoulou, S.A., Lappas, A.A., Voutetakis, S.S., Seferlis, P., Vasalos, I.A.; Application of a model predictive control strategy on a fluid catalytic cracking pilot plant (2006) AIChE Annual Meeting, Conference Proceedings
45. Papadopoulou G. Kokolaki, I. Anastasiou, S. Voutetakis, P. Seferlis ; "MODELING AND PARAMETER ESTIMATION OF A CATALYST DEACTIVATION FLUIDIZED BED REACTOR" Proceedings of the 5th International Conference on Technology and Automation, Thessaloniki Greece, 15-16 October 2005, pp. 216-221
46. P. Tzionas, D. Krontsos, S. Papadopoulou, "Neural Network for Fault Detection and Isolation of a Three Tank System" Proceedings of the 5th International Conference on Technology and Automation, Thessaloniki Greece, 15-16 October 2005, pp. 137-142
47. Papadopoulou S.: Continuous Estimation of the Chain Length Distribution in a Polymerization Reactor: Kalman Filtering Considering Gel-Permeation chromatographic Measurements, (1988) IFAC Proc. Series, Nr.4., Pergamon Press, p.141, ISBN 0-08-034917- X.
48. Papadopoulou S., Gilles E.D.: Continuous Estimation of the Chain Length Distribution in a Polymerization Reactor Considering Time Discrete GPC Measurements, (1986) Polymer Reaction Engineering, Editors K.H. Reichert, W. Geiseler, Huethig & Wepf Verlag, N.York., p.243.

### **Συμμετοχή σε Διεθνή Συνέδρια με κριτές**

1. Karasavvas E., Panopoulos K., Papadopoulou S., Voutetakis S.; Exergy Analysis of the Integration of a concentrated Solar Power Plant with calcium Looping for Energy Storage, Proceedings of

- ECOS 2019 the 32<sup>nd</sup> Conference on Efficiency, Cost, Optimization Simulation and Environmental Impact of Energy Systems, June 23-28, 2019, Wroclaw, Poland
2. Yfoulis, C., Papadopoulou, S.; A Portable Low-Cost Arduino-Based Laboratory Kit for Control Education, (2018) 2018 UKACC 12th International Conference on Control, CONTROL 2018 8516817, pp. 435
  3. Iosifidis, D., Alvanos, N., Yfoulis, C., Papadopoulou, S., Galatsopoulos, C.; Practical PID Hovering Control of a Laboratory Quadcopter Using Low-Cost Embedded Control Hardware and Software (2018), 2018 UKACC 12th International Conference on Control, CONTROL 2018 8516781, pp. 428-433
  4. Galatsopoulos, C., Papadopoulou, S., Ziogou, C., (...), Yfoulis, C., Voutetakis, S.; Non-Linear Model Predictive Control for Preventing Premature Aging in Battery Energy Storage System (2018) 2018 UKACC 12th International Conference on Control, CONTROL 2018 8516720, pp. 174-179
  5. Galatsopoulos, C., Papadopoulou, S., Ziogou, C., Voutetakis, S.; Energy Management Strategy in a Residential Battery Energy Storage System, (2018) MED 2018 - 26th Mediterranean Conference on Control and Automation 8442681, pp. 831-836
  6. Trigkas, D., Ziogou, C., Voutetakis, S., Papadopoulou, S.; Supervisory Control of Energy Distribution at Autonomous RES-powered Smart-grids using a Finite State Machine Approach, (2018) 2018 5th International Conference on Control, Decision and Information Technologies, CoDIT 2018 pp. 415-420
  7. Yfoulis, C., Papadopoulou, S., Trigkas, D., Voutetakis, S.; Switching PI speed control of a nonlinear laboratory dc micro-motor using low-cost embedded control hardware and software, (2018) 5th International Conference on Control, Decision and Information Technologies, CoDIT 2018, pp. 1029-1034
  8. Etim, N.-B.B., Giaouris, D., Papadopoulos, A.I., Patsios, H., Papadopoulou, S.b, Voutetakis, S., Seferlis, P., Walker, S., Taylor, P., Gadoue, S.; Adaptive Power Pinch Analysis for Energy management of Hybrid Energy Storage Systems Proceedings - IEEE International Symposium on Circuits and Systems 2018-May, 8351732
  9. Yfoulis, C., Giaouris, D., Ziogou, C., Stergiopoulos, F., Voutetakis, S., Papadopoulou, S. "Optimal energy-based stabilizing controllers for DC-DC converters" 24th Mediterranean Conference on Control and Automation, MED 2016
  10. Gkizas, G., Amanatidis, C., Yfoulis, C., Stergiopoulos, F., Giaouris, D., Ziogou, C., Voutetakis, S., Papadopoulou, S. "State-feedback control of an interleaved DC-DC boost converter" 24th Mediterranean Conference on Control and Automation, MED 2016, 7535901, pp. 931-936
  11. Ziogou, C., Voutetakis, S., Papadopoulou, S., "Design of an energy decision framework for an autonomous RES-enabled smart-grid network" 2016 23rd International Conference on Telecommunications, ICT 2016
  12. Ziogou, C., Giaouris, G., Papadopoulou, S., Voutetakis, S.; Supervisory control and monitoring of a hybrid high temperature PEM fuel cell system with Li-Ion batteries and an LPG reformer (2016) 22nd International Congress of Chemical and Process Engineering, CHISA 2016 and 19th Conference on Process Integration, Modelling and Optimisation for Energy Saving and Pollution Reduction, PRES 2016 2, pp. 1119
  13. Ziogou, C., Papadopoulou, S., Voutetakis, S.; Energy exchange strategy for autonomous smart-grids with renewable energy sources empowered by an Internet of Things (IOT) architecture (2016) 22nd International Congress of Chemical and Process Engineering, CHISA 2016 and 19th Conference on Process Integration, Modelling and Optimisation for Energy Saving and Pollution Reduction, PRES 2016 2, pp. 1461
  14. Tebibel, H., Labeled, S., Khellaf, A, Ziogou, C., Papadopoulou, S., Voutetakis, S. "Impact of the battery depth of discharge on the performance of photovoltaic hydrogen production unit with energy management strategy" 2015 International Conference on Renewable Energy Research and Applications, ICRERA 2015, 7418575, pp. 1074-107
  15. Ziogou, C., Giaouris, D., Yfoulis, C., Stergiopoulos, F., Voutetakis, S., Papadopoulou, S. "Behaviour Assessment of a Fuel Cell - Battery System Using a Supervisory Control Methodology Empowered by a Hybrid Timed Automaton (HTA)" 12th International Symposium on Process Systems Engineering and 25th European Symposium on Computer Aided Process Engineering, 31/5 -4/6, Copenhagen, Denmark
  16. Ziogou C., Pistikopoulos E., Georgiadis G., Voutetakis S., Papadopoulou S., 2015, Deployment of a Search Space Reduction Algorithm to an NMPC Problem - Comparative Experimental Analysis to a Fuel Cell System, paper 544g, 2015 AIChE Annual Meeting, 8-13 Nov., Salt Lake City, USA

17. Ziogou C., Giaouris D., Voutetakis S., Papadopoulou S., 2015, Design and Development of a High Temperature PEM Fuel Cell System for Charging of Li-Ion Battery Stacks, paper 2451, 2015 AIChE Annual Meeting, 8-13 Nov., Salt Lake City, USA
18. C. Ziogou, D. Giaouris, C. Yfoulis, F. Stergiopoulos, P. Seferlis, S. Voutetakis, S. Papadopoulou, 2015, Efficient Decision Making Based on a Hybrid Power Distribution Strategy - Application to a Fuel Cell Electric Vehicle, paper 244f, 2015 AIChE Annual Meeting, 8-13 Nov., Salt Lake City, USA
19. Ziogou C., Giaouris D., Voutetakis S., Papadopoulou S., 2015, Energy Exchange in Autonomous Isolated Networks with Renewable Energy Sources Empowered By a Multi-Agent Internet of Things (IoT) Architecture, paper 180f, 2015 AIChE Annual Meeting, 8-13 Nov., Salt Lake City, USA
20. Ziogou C., Ipsakis D., Stergiopoulos F., Papadopoulou S., Bezergianni S., Voutetakis, S. (2015) "Evaluation of Design Issues and Automation Infrastructure in a Solar-Hydrogen Production Unit at CERTH in Thessaloniki", Proceedings of the 21st European Symposium on Computer Aided Process Engineering – ESCAPE 21, May 29-June 1, Porto-Karras/Chalkidiki, Greece.
21. Voutetakis S., Ziogou C., Ipsakis D., Stergiopoulos F., Papadopoulou S., Bezergianni S., (2015) "Automation Design and Simulated Operation of a Solar-Hydrogen Integrated System Located at CE.R.T.H./C.P.E.R.I.", Proceedings of the International Conference on Hydrogen Production- ICH2P-2015, June 19-22, Thessaloniki, Greece.
22. H. Tebibel, S. Labeled, A. Khellaf, C. Ziogou, S. Papadopoulou and S. Voutetakis, "Impact of the battery depth of discharge on the performance of photovoltaic hydrogen production unit with energy management strategy," 2015 International Conference on Renewable Energy Research and Applications (ICRERA), Palermo, 2015, pp. 1074-1078
23. Yfoulis C., Giaouris D., Stergiopoulos F., Ziogou C., Voutetakis S., Papadopoulou S. (2015) "Optimal switching Lyapunov-based control of a boost DC-DC converter" Control and Automation (MED), 2015 23th Mediterranean Conference on June 16,304-309 ,IEEE
24. Ziogou, C., Giaouris, D., Yfoulis, C., Stergiopoulos, F., Voutetakis, S., Papadopoulou, S. "Behaviour Assessment of a Fuel Cell - Battery System Using a Supervisory Control Methodology Empowered by a Hybrid Timed Automaton (HTA)", (2015) Computer Aided Chemical Engineering, 37, pp. 2327-2332
25. Giaouris D., Papadopoulos A. I., Seferlis P., Papadopoulou S., Voutetakis S. (2015), "Adaptive management of renewable energy smart grids using a power grand composite curves approach", Computer Aided Chemical Engineering, 37, pp. 2411-2416
26. D. Giaouris, C. Yfoulis, F. Stergiopoulos, C. Ziogou, S. Voutetakis, S. Papadopoulou "Border collisions and chattering in state feedback controlled boost converters, The International Symposium on Nonlinear Theory and its Applications, NOLTA2014, Luzern, Switzerland, September 14-18, 2014
27. Giaouris D., Papadopoulos A. I., Seferlis P., Papadopoulou S. A., Voutetakis S. S. (2014) "Adaptive Energy Management in Renewable Energy Smart Grids Using the Power Grand Composite Curves Approach", in the 2014 AIChE Annual meeting, Atlanta, USA November 15-21.
28. Ipsakis, D., Voutetakis, S., Papadopoulou, S., Seferlis, P., Elmasides, C., Papadaki, K., and Kyriakides, A., Dynamic modeling and control of a steam reformer-fuel cell power system operating on LPG for vehicular applications. CHISA 2012 - 20th international congress of chemical and process engineering and PRES 2012 - 15th conference PRES; 2012.
29. Ziogou C., Voutetakis S., Papadopoulou S., Georgiadis M., "Development of a Nonlinear Model Predictive Control Framework for a PEM Fuel Cell System", Proceedings of the 22nd European Symposium on Computer Aided Process Engineering (ESCAPE22), 17-20 /06/2012, London.
30. Ziogou C., Pistikopoulos E.N., Voutetakis S., Georgiadis M., Papadopoulou S., "A Multivariable Nonlinear Model Predictive Control Framework for a PEM Fuel Cell System", 11th International Symposium on Process Systems Engineering, 15-19/07/2012, Singapore.
31. Giaouris D., A. I. Papadopoulos, C. Ziogou, D. Ipsakis, P. Seferlis, S. Papadopoulou, S. Voutetakis, "Generic Modeling, Design and Operating Optimization of Hybrid Renewable Power Generation Flowsheets Including Hydrogen Storage", 12AIChE Annual Meeting, Pittsburg, 28/10-2/11 2012 (submitted)
32. Spyros Voutetakis, Chrysovalantou Ziogou, Dimitris Ipsakis, Fotis Stergiopoulos, Simira Papadopoulou, Costas Elmasides, On Line Energy Management Strategy of an Off-Grid Hybrid Power Generation System, 6th European Conference on PV-Hybrids and Mini-Grids24 - 26 April 2012, Chambéry, France

33. Chrysovalantou Ziogou, Dimitris Ipsakis, Panos Seferlis, Stella Bezergianni, Simira Papadopoulou, Spyros Voutetakis, A Novel and Flexible Energy Management Strategy with Application in a Hydrolytic Solar Hydrogen Autonomous System, 15th Conference Process Integration, Modelling and Optimisation for Energy Saving and Pollution Reduction (PRES-12), August 25-29, 2012, Prague, Czech Republic
34. Damian Giaouris, S. Banerjee, Spyros Voutetakis, Simira Papadopoulou, P. Seferlis, F. Stergiopoulos, D. Ipsakis, Chrysovalantou Ziogou, Athanasios Papadopoulos, Costas Elmasides, Nonlinear Behaviour of Interleaved Boost Converters Used in Renewable Energy Applications, International Symposium on Nonlinear Theory and its Applications (NOLTA 2012), October 22-26, 2012, Majorca, Spain
35. Dimitris Ipsakis, Spyros Voutetakis, Simira Papadopoulou, Panos Seferlis, Costas Elmasides, Krystalia Papadaki, Spyros Mastrogeorgopoulos, Alexios Kyriakides, Dynamic Modeling and Control of a Steam Reformer-Fuel Cell Power System Operating on LPG for Vehicular Applications, 15th Conference Process Integration, Modelling and Optimisation for Energy Saving and Pollution Reduction (PRES-12), August 25-29, 2012, Prague, Czech Republic
36. Chrysovalantou Ziogou, Dimitris Ipsakis, Fotis Stergiopoulos, Simira Papadopoulou, Stella Bezergianni, Spyros Voutetakis, Evaluation of design issues and automation infrastructure in a solar-hydrogen production unit at CERTH in Thessaloniki, 21st European Symposium on Computer Aided Process Engineering, May 29-June 1, 2011 –Porto Carras, Chalkidiki – Greece
37. Chrysovalantou Ziogou, Dimitris Ipsakis, Fotis Stergiopoulos, Simira Papadopoulou, Stella Bezergianni, Spyros Voutetakis, Automation Design and Simulated Operation of a Solar-Hydrogen Integrated System Located at CERTH/CPERI, 11th International Conference on Hydrogen Production, June 19-22, 2011 – Thessaloniki, Greece
38. Dimitris Ipsakis, Spyros Voutetakis, Simira Papadopoulou, Panos Seferlis, Disturbance Rejection Sensitivity Analysis in an Integrated Methanol Reforming and PEM Fuel Cell System, 11th International Conference on Hydrogen Production, June 19-22, 2011 – Thessaloniki, Greece
39. Dimitris Ipsakis, Eleni Vakouftsi, Martha Ouzounidou, George Marnellos, Simira Papadopoulou, Fotis Stergiopoulos, Spyros Voutetakis, CFD and Dynamic Simulation Studies in a H<sub>2</sub>S-Fed Proton Conducting Solid Oxide Fuel Cell, 11th European Fuel Cell Conference & Exhibition, December 14-16, 2011 – Rome, Italy
40. Dimitris Ipsakis, Spyros Voutetakis, Simira Papadopoulou, Panos Seferlis, Process Design and Disturbance Rejection Evaluation on Fuel Processing Systems Incorporating Fuel Cells, 11th European Fuel Cell Conference & Exhibition, December 14-16, 2011 – Rome, Italy
41. Ziogou C., Voutetakis S., Papadopoulou S., Georgiadis M., Modeling and Experimental Validation of a PEM Fuel Cell System, 20th European Symposium on Computer Aided Process Engineering (ESCAPE 20) 6-9 June 2010 Ischia, Naples, Italy
42. C. Ziogou, S. Voutetakis, S. Papadopoulou, M. Georgiadis, Experimental Validation of a PEM Fuel Cell Dynamic Model, 7th Symposium on Fuel Cell Modelling and Experimental Validation (MODVAL7), March 2010, Lausanne, Switzerland
43. Dimitris Ipsakis, Spyros Voutetakis, Panos Seferlis, Simira Papadopoulou, Dynamic Modeling and Control Issues on a Methanol Reforming Unit for Hydrogen Production and Use in a PEM Fuel Cell, International Symposium on Advanced Control of Chemical Processes (ADCHEM09), 12-15 July 2009 Istanbul, Turkey
44. Chrysovalantou Ziogou, Simira Papadopoulou, Panos Seferlis, Spyros Voutetakis, An efficient multi-objective model predictive control framework of a PEM fuel cell, International Symposium on Advanced Control of Chemical Processes (ADCHEM09), 12-15 July 2009 Istanbul, Turkey
45. Chrysovalantou Ziogou, Dimitris Ipsakis, Fotis Stergiopoulos, Spyros Voutetakis, Panos Seferlis, Simira Papadopoulou, Costas Elmasides, Automation and Operation Strategies in a Stand-Alone Power System that uses Solar and Wind Energy in Conjunction with Hydrogen Long-Term Storage, IFAC Symposium on Power Plants and Power Systems Control, 5-8 July 2009, Tampere, Helsinki
46. K. Kontonikolas, C. Ziogou, F. Stergiopoulos, S. Papadopoulou, S. Voutetakis, Design and Development of an Embedded Control System of a DC/DC Power Converter for a Fuel Cell, 17th Mediterranean Conference on Control and Automation, June 24-26, 2009, Thessaloniki, Greece
47. Dimitris Ipsakis, Spyros Voutetakis, Panos Seferlis, Simira Papadopoulou, Michael Stoukides, Modeling and Analysis of an Integrated Power System Based on Methanol Autothermal Reforming, 17th Mediterranean Conference on Control and Automation, June 24-26, 2009, Thessaloniki, Greece

48. C. Ziogou, S. Papadopoulou, P. Seferlis, S. Voutetakis, A Constrained model predictive control scheme for the efficient power regulation of a PEM Fuel Cell, Computer Aided Process Engineering (CAPE) Forum, March 27-28, 2009, Limerick, Ireland
49. Dimitris Ipsakis, Spyros Voutetakis, Panos Seferlis, Ziogou Chrisovalantou, Fotis Stergiopoulos, Simira Papadopoulou, Costas Elmasides, Analysis of a Stand-Alone Power System based on solar and wind energy with hydrogen long-term storage: Operational experience and control studies, MedPower 2008, 6th Mediterranean Conference and Exhibition on Power Generation, Transmission and Distribution, Thessaloniki, Greece, 2-5 November 2008
50. Martha Ouzounidou, Dimitrios Ipsakis, Spyros Voutetakis, Simira Papadopoulou, Panos Seferlis, Experimental Studies and Optimal Design for a Small-Scale Autonomous Power System Based on Methanol Reforming and a PEM Fuel Cell, The AIChE 2008 Annual Meeting, Philadelphia, PA, U.S.A., November 16-21, 2008
51. Chrisovalantou Ziogou, Spyros Voutetakis, Simira Papadopoulou, Panos Seferlis, Nikos Karampetakis, "Maximum Power Targeting for the PEM Fuel Cell using an NMPC Framework", International Workshop on Non-Linear Model Predictive Control (NMPC08), Pavia, Italy, 5-9 Sep 2008
52. Dimitris Ipsakis, Spyros Voutetakis, Panos Seferlis, Fotis Stergiopoulos, Simira Papadopoulou, Costas Elmasides, Chrysovalantis Keivanidis, Energy management in a stand-alone power system for the production of electrical energy with long term hydrogen storage, 18th European Symposium on Computer Aided Process Engineering, June 1-4, 2008 - Lyon – France
53. Dimitris Ipsakis, Spyros Voutetakis, Panos Seferlis, Fotis Stergiopoulos, Simira Papadopoulou, Costas Elmasides, Design and Operation Optimization for a Stand-Alone Power System Using Renewable Energy Sources and Hydrogen Storage, EMINENT-2 Workshop, Early-Stage Energy Technologies for Sustainable Future: Assessment Development, Application EMINENT 2, Veszprem, 5-6 May 2008
54. G.M. Bollas, I. Anastasiou, S.A. Papadopoulou, S.S. Voutetakis, P. Seferlis,;A non-linear MPC strategy for feed conversion targeting in a FCC pilot plant, CAPE Forum 2008, February 7-8, Thessaloniki, Greece
55. I. Anastasiou, C. Ziogou, K. Kostaras, S.A. Papadopoulou, S.S. Voutetakis, P. Seferlis ; Model Predictive Control of a Cyclic Propylene Steaming pilot plant, CAPE Forum 2008, February 7-8, Thessaloniki, Greece
56. Martha Ouzounidou, Dimitrios Ipsakis, Spyros Voutetakis, Simira Papadopoulou, Panos Seferlis, A pilot plant for hydrogen production via methanol reforming for power generation in a PEM fuel cell, 11th Conference on Process Integration, Modeling and Optimization for Energy Saving and Pollution Reduction, 24- 28 August 2008, Prague, Czech Republic
57. Dimitris Ipsakis, Fotis Stergiopoulos, Spyros Voutetakis, Costas Elmasides, Panos Seferlis, Simira Papadopoulou, ‘‘ Study of an autonomous power system based on solar and wind energy with hydrogen as the intermittent energy source for future use’’, 4th Dubrovnik Conference on Sustainable Development of Energy Water and Environmental Systems, June 4-8 2007, Dubrovnik, Croatia
58. George M. Bollas, Ismini Anastasiou, Chrysa Ziogou, Simira A. Papadopoulou, Spyros S. Voutetakis, Panos Seferlis A non-linear MPC strategy for conversion targeting in a FCC pilot plant – Development and online implementation Workshop on Nonlinear Model Based Control - Software and Applications (NMPC-SOFAP, 2007), Loughborough, UK, 19-20 April, 2007
59. George M. Bollas, Ismini Anastasiou, Chrysa Ziogou, Simira A. Papadopoulou, Spyros S. Voutetakis, Panos Seferlis A non-linear MPC strategy for conversion targeting in an FCC pilot plant – Development and online implementation Oral Presentation (invited lecture) PSE (Process Systems Enterprise Ltd) Annual Meeting, London, 17-18 April 2007
60. George M. Bollas, Ismini Anastasiou, Simira A. Papadopoulou, Spyros S. Voutetakis, Panos Seferlis, Feed Conversion targeting in an FCC pilot plant using a non-linear MPC Strategy, American Control Conference- ACC, 11-13/7/2007 New York, USA
61. George Bollas, Simira A. Papadopoulou, Angelos A. Lappas, Spyros S. Voutetakis, Panos Seferlis and Iacovos A. Vasalos, Application of a Model Predictive Control Strategy on a Fluid Catalytic Cracking Pilot Plant, paper 10B03 session Process Control Applications I, AIChE-2006 Annual Meeting, 11/2006, S. Francisco USA
62. G. M. Bollas, S. Avramidis, S. A. Papadopoulou, A. A. Lappas, S. S. Voutetakis, P. Seferlis, ‘Model predictive control of a fluid catalytic cracking pilot plant’, CHISA/PRESS, 27-31 August 2006, Praha, Czech Republic

63. G.M. Bollas, S.A. Papadopoulou, A.A. Lappas, S.S. Voutetakis, I.A. Vasalos, "Dynamic simulation and optimization of the FCC, application to the pilot plant of CPERI", Proceedings of the 2nd IEEEES 3-7 July 2005, Kos, Greece, No 162
64. Papadopoulou G. Kokolaki, I. Anastasiou, S. Voutetakis, P. Seferlis ; "MODELING AND PARAMETER ESTIMATION OF A CATALYST DEACTIVATION FLUIDIZED BED REACTOR" Proceedings of the 5th International Conference on Technology and Automation, Thessaloniki Greece, 15-16 October 2005, pp. 216-221
65. P. Tzionas, D. Krontsos, S. Papadopoulou, "Neural Network for Fault Detection and Isolation of a Three Tank System" Proceedings of the 5th International Conference on Technology and Automation, Thessaloniki Greece, 15-16 October 2005, pp. 137-142
66. S. Voutetakis, P. Seferlis, S. Papadopoulou, G. Kyriakos, M. Katsikoulis, I. Tsioliaridou and C. Kapselidakis, "Model-based Control of a Fluidized-bed Furnace", PRES '03, Hamilton, CANADA, October 26-29, 2003
67. Papadopoulou S.: Continuous Estimation of the Chain Length Distribution in a Polymerization Reactor: Kalman Filtering Considering Gel-Permeation chromatographic Measurements, IFAC Proc. Series, 1988, Nr.4., Pergamon Press, p.141, ISBN 0-08-034917- X.

### Συμμετοχή σε Ελληνικά Συνέδρια με κριτές

1. C. Ziogou, S. Papadopoulou, S. Voutetakis; Management of energy demand using Internet of Things (IoT) at smart grids, 12th Panhellenic conference of Chemical Engineering, 29-31 May 2019, Athens, Greece.
2. C. Ziogou, C. Yfoulis, F. Stergiopoulos, D. Giaouris, D. Ipsakis, M. Nikiforakis, P. Seferlis, M. C. Georgiadis, E. N. Pistikopoulos, S. Voutetakis, S. Papadopoulou, Design, Optimization and Control of an Integrated Fuel Cell System with Application on Vehicular Power Systems (OPT-VIPS), Ημερίδα παρουσίαση αποτελεσμάτων έργου ΑΤΕΙΘ, 2015, Θεσσαλονίκη
3. Δημήτρης Ιψάκης, Σπύρος Βουτετάκης, Σημίρα Παπαδοπούλου, Πάνος Σεφερλής, Μελέτη αντιστάθμισης διαταραχών σε ολοκληρωμένο σύστημα αναμόρφωσης μεθανόλης προς παραγωγή υδρογόνου και ενέργειας σε κυψέλη καυσίμου, 8ο Πανελλήνιο Συνέδριο Χημικής Μηχανικής, 26 - 28 Μαΐου 2011, Θεσσαλονίκη
4. Χρυσοβαλάντου Ζιώγου, Δημήτρης Ιψάκης, Φώτης Στεργιόπουλος, Στέλλα Μπεζεργιάννη, Σημίρα Παπαδοπούλου, Σπύρος Βουτετάκης, Ολοκληρωμένος σχεδιασμός και μελέτη μονάδας παραγωγής υδρογόνου από ηλιακή ενέργεια και ηλεκτρόλυση στο ΕΚΕΤΑ, 8ο Πανελλήνιο Συνέδριο Χημικής Μηχανικής, 26 - 28 Μαΐου 2011, Θεσσαλονίκη
5. Χ. Ζιώγου, Σ. Παπαδοπούλου, Σ. Βουτετάκης, Βέλτιστος έλεγχος κυψέλης καυσίμου βασισμένος σε μη γραμμικό μαθηματικό μοντέλο και ανίχνευση μέγιστου σημείου λειτουργίας, 7ο Πανελλήνιο Συνέδριο Χημικής Μηχανικής, 3-5 Ιουνίου 2009, Πάτρα
6. Ιψάκης Δημήτρης, Σημίρα Παπαδοπούλου, Σπύρος Βουτετάκης, Δυναμική προσομοίωση ολοκληρωμένης μονάδας παραγωγής υδρογόνου μέσω αυτόθερμης αναμόρφωσης της μεθανόλης, 7ο Πανελλήνιο Συνέδριο Χημικής Μηχανικής, 3-5 Ιουνίου 2009, Πάτρα
7. Μάρθα Ουζουνίδου, Δημήτρης Ιψάκης, Σπύρος Βουτετάκης, Σημίρα Παπαδοπούλου, Πάνος Σεφερλής, Μελέτη μονάδας αναμόρφωσης μεθανόλης με χρήση του παραγόμενου υδρογόνου σε κυψέλη καυσίμου τύπου PEM για την παραγωγή ηλεκτρικής ισχύος: Θεωρητικός σχεδιασμός και πειραματικά αποτελέσματα, 7ο Πανελλήνιο Συνέδριο Χημικής Μηχανικής, 3 - 5 Ιουνίου 2009, Πάτρα
8. Μάρθα Ουζουνίδου, Δημήτρης Ιψάκης, Σπύρος Βουτετάκης, Σημίρα Παπαδοπούλου, Πάνος Σεφερλής, Πειραματική μελέτη και προσομοίωση πιλοτικής μονάδας για την παραγωγή υδρογόνου μέσω αναμόρφωσης της μεθανόλης για παραγωγή ενέργειας σε κυψέλη καυσίμου, 10ο Πανελλήνιο Συμπόσιο Κατάλυσης, 3-4 Οκτωβρίου 2008, Μέτσοβο, Πρακτικά σελ. 23
9. Dimitris Ipsakis, Spyros Voutetakis, Panos Seferlis, Fotis Stergiopoulos, Simira Papadopoulou, Costas Elmasides, Analysis of a Stand-Alone Power System based on solar and wind energy with hydrogen long-term storage: Operational experience and control studies, MedPower 2008, 6th Mediterranean Conference and Exhibition on Power Generation, Transmission and Distribution, Thessaloniki, Greece, 2-5 November 2008
10. Dimitris Ipsakis, Spyros Voutetakis, Panos Seferlis, Fotis Stergiopoulos, Simira Papadopoulou, and Costas Elmasides, 'Power Management Strategies on a Stand-Alone Power System Using Renewable Energy Sources and Hydrogen Storage', Computer Aided Process Engineering Forum, 7-8 February 2008, Thessaloniki, Greece



11. Ismini Anastasiou, Simira A. Papadopoulou, Spyros S. Voutetakis, and Panos Seferlis, 'A non-linear MPC strategy for feed conversion targeting in a FCC pilot plant', Computer Aided Process Engineering Forum, 7-8 February 2008, Thessaloniki, Greece
12. Dimitrios Ipsakis, Martha Ouzounidou, Panos Seferlis, Spyros Voutetakis, Simira Papadopoulou 'Study of an Integrated System for the Production of Hydrogen by Autothermal Reforming of Methanol', Computer Aided Process Engineering Forum, 7-8 February 2008, Thessaloniki, Greece
13. Ismini Anastasiou, Chrisovalantou Ziogou, Kostas Kostaras, Simira A. Papadopoulou, Spyros S. Voutetakis, Panos Seferlis 'Model Predictive Control of a Cyclic Propylene Steaming Pilot Plant', Computer Aided Process Engineering Forum, 7-8 February 2008, Thessaloniki, Greece
14. Δημήτρης Ξυδάκης, Σπύρος Βουτετάκης, Πάνος Σεφερλής, Φώτης Στεργιόπουλος, Σημίρα Παπαδοπούλου, Κώστας Ελμασιδής, Χρυσοβαλάντης Κεϊβανίδης, Μελέτη της διαχείρισης της ενέργειας σε αυτόνομο σύστημα παραγωγής ενέργειας από ανανεώσιμες πηγές και ταυτόχρονη αποθήκευση υδρογόνου, 3ο Εθνικό Συνέδριο Τεχνολογιών Υδρογόνου, 19-20 Νοεμβρίου 2007, Πάτρα
15. Dimitris Ipsakis, Spyros Voutetakis, Panos Seferlis, Fotis Stergiopoulos, Simira Papadopoulou, Costas Elmasides, Chrysovalantis Keivanidis, Analysis and modeling of a stand-alone power system for the production of electrical energy with hydrogen long-term storage, 2nd International Conference on Renewable Energy Sources and Energy Efficiency, 18-20 October 2007, Athens, Greece
16. Ισμήνη Αναστασίου, Χρυσοβαλάντου Ζιώγου, Κώστας Κωσταράς, Σημίρα Παπαδοπούλου, Πάνος Σεφερλής, Σπύρος Βουτετάκης, Ανάπτυξη Συστήματος Βέλτιστου Ελέγχου βασισμένου σε Προρρήσεις Μοντέλου για την Πιλοτική Μονάδα CPS του ΙΤΧΗΔ/ΕΚΕΤΑ, 6ο Πανελλήνιο Επιστημονικό Συνέδριο Χημικής Μηχανικής, 31 Μαΐου – 2 Ιουνίου 2007, Αθήνα, σελ. 7497-752
17. Γιώργος Μ. Μπόλλας, Ισμήνη Αναστασίου, Χρυσοβαλάντου Ζιώγου, Σημίρα Παπαδοπούλου, Σπύρος Βουτετάκης, Πάνος Σεφερλής, Ανάπτυξη Συστήματος Βέλτιστου Ελέγχου με Παράλληλη Εκτίμηση Παραμέτρων και Καταστάσεων σε Πιλοτική Μονάδα FCC, 6ο Πανελλήνιο Επιστημονικό Συνέδριο Χημικής Μηχανικής, 31 Μαΐου – 2 Ιουνίου 2007, Αθήνα, σελ. 717-720
18. Γ. Μπόλλας, Ι. Βασάλος, Α. Λάππας, Σ. Βουτετάκης, και Σ. Παπαδοπούλου, Ανάπτυξη και ταυτοποίηση ενός δυναμικού μοντέλου προσομοίωσης για την πιλοτική μονάδα πυρόλυσης του ΙΤΧΗΔ, 5ο ΠΣΧΜ, 26-28/5/2005.
19. Σ. Α. Παπαδοπούλου, Γ. Κοκολάκη, Ι. Αναστασίου, Σ. Βουτετάκης, Π. Σεφερλής "Μαθηματική μοντελοποίηση και εκτίμηση παραμέτρων αντιδραστήρα ρευστοστερεάς κλίνης για την απενεργοποίηση καταλυτών", Proceedings of the 5th National Conference of Chemical Engineering, Thessaloniki, Greece, 26-28 May 2005
20. Κετικίδης Π., Βουτετάκης Σ., Βασάλος Ι. (ΕΙΤΧΗΔ), Θεοδωρόπουλος Δ., Παπαδοπούλου Σ. (ΤΕΙ): Μονάδα Δοκιμασίας και Αξιολόγησης Αισθητηρίων Φυσικού Αερίου. Πρακτικά 2ου Συνεδρίου Τεχνολογίας και Αυτοματισμού, 2-3/10/1998, Θεσσαλονίκη
21. Βουτετάκης Σ., Βασάλος Ι., Ιωαννίδης Η. και Παπαδοπούλου Σ., "Επέκταση του Συστήματος Αυτοματοποίησης Πιλοτικών Μονάδων Διεργασιών με Συλλογή Δεδομένων από Σειριακές Συσσκευές", 2ο Συνέδριο Τεχνολογίας και Αυτοματισμού, Θεσσαλονίκη, 2-3 Οκτωβρίου 1998

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