

## PAVLOS NIKOLAOU

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### EDUCATION

**09/2009-06/2012** – 1<sup>st</sup> Hight school of Chalkida | Chalkida Greece

**09/2012-02/2017** – Bachelor's degree (**BSc**)

Department of Materials Science (University of Patras, Greece)

Thesis Title: Molecular modified potentiometry electrodes

Supervisors: I.Koutselas, E. Topoglidis

**09/2017-02/2019** – Master's degree (**MSc**)

Department of Chemistry (University of Patras, Greece)

Thesis Title: Bio-electrochemical sensor for drug (losartan/artemisinin) detection.

Supervisor: E. Topoglidis

**11/2019-Present** – Doctor of Philosophy (**PhD**)

Department of Chemistry (Alma Mater Studiorum G. Ciamician, University of Bologna, Italy)

Supervisor: F. Paolucci Co-supervisor: G. Valenti

### WORKING EXPERIENCE

**03/2019-05/2019** – **Laboratory**: Electrochemistry of Molecular and Functional Materials (EMFM Lab)

Department of Chemistry (Alma Mater Studiorum G. Ciamician, University of Bologna),

Supervisors: Prof. Francesco Paolucci and Prof. Giovanni Valenti,

Internship (LLP Erasmus Placement Scholarship)

### PUBLICATIONS

- 1) **Pavlos Nikolaou**, Anastasia Vassilakopoulou, Dionysios Papadatos, Emmanuel Topoglidis and Ioannis Koutselas.  
“A chemical Sensor for  $CBr_4$  based on quasi-2D and 3D hybrid organic-inorganic perovskites immobilized on  $TiO_2$  films “, Materials Chemistry Frontiers, **2**,730-740, 2018. DOI: 10.1039/C7QM00550D.
- 2) Georgios Samourganidis, **Pavlos Nikolaou**, Andreas-Gkovosdis Louvaris, Maria Eleni Blana and Emmanuel Topoglidis.  
“Hemin modified  $SnO_2$ /Metglas electrodes for the simultaneous electrochemical and magnetoelastic sensing of  $H_2O_2$ ”, Coatings, **8** (8), 284, 2018. DOI: 10.3390/coatings8080284
- 3) **Pavlos Nikolaou**, Ioanna Vareli, Efstathios Deskoulidis, John Matsoukas, Anastasia Vassilakopoulou, Elias Sakellis, Ioannis Koutselas and Emmanuel Topoglidis.  
“The use of a graphite/ $SiO_2$  film electrode modified with hybrid organic-inorganic perovskites as an electrochemical sensor for losartan”, Solid State chemistry, **273**, 2019, 17-24. DOI: <https://doi.org/10.1016/j.jssc.2019.02.018>
- 4) Lambros Aris Ioannidis, **Pavlos Nikolaou**, Apostolos Panagiotopoulos, Andriana Vassi and Emmanuel Topoglidis.  
“MP-11 modified  $SnO_2$  thin film electrode for the detection of antimalarial drug artemisinin”, Analytical Methods, **11**, 2019, 3117 - 3125. DOI: 10.1039/C9AY00764D

- 5) Tomáš Mikysek, **Pavlos Nikolaou**, Mirjeta Kafexholli, Petr Šimůnek, Jiří Váňa, Aneta Marková, Martin Vala, Giovanni Valenti.  
*“Photophysical and Electrochemiluminescence of novel coumarin-based oxazaborines”*,  
*ChemElectroChem*, **7**, 2020, 1550-1557. DOI: 10.1002/CELC.201902102
- 6) **Pavlos Nikolaou**, Efstathios Deskoulidis, Fotios Tsopelas and Emmanuel Topoglidis.  
*“Electrochemical fingerprinting of fresh cow milks and milk powders using a novel electrode and its combination with chemometrics for the detection of fresh milk adulteration”*, *Talanta*, **206**, 2019, 120223.  
 DOI: 10.1016/j.talanta.2019.120223

## CONFERENCES

- 1) **P. Nikolaou**, A. Vassilakopoulou, D. Papadatos, I. Koutselas and E. Topoglidis. *Chemical sensor for the detection of CBr<sub>4</sub> on modified TiO<sub>2</sub> thin films*, **IMA 2017, 10<sup>th</sup> International conference on Instrumental Methods of Analysis** in Herakleion Greece (September 2017).
- 2) F. Tsopelas, C. Sterglopoulos, **P. Nikolaou**, M. Ochsenkuhn-Petropoulou, A. Tsantili-Kakoulidou. *Immobilized Artificial Membrane (IAM) chromatography as a tool in Medicinal Chemistry and in Environmental Sciences*, **6<sup>th</sup> International conference and exhibition on advances in chromatography & HPLC techniques** in Barcelona, Spain. (August 2018)
- 3) **Pavlos Nikolaou**, Emmanouel Topoglidis, Fotios Tsopelas. *Detection of adulteration of fresh milk with reconstituted milk powder by voltammetric fingerprinting on a novel electrode and chemometrics*, **11<sup>th</sup> Aegean Analytical Chemistry Days (AACD)** in Chania, Crete, Greece. (September 2018)
- 4) Emmanuel Topoglidis, **Pavlos Nikolaou**, Aris Ioannidis, Andrianna Vassi and Apostolos Panagiotopoulos. *Hemoglobin or MP-11 Modified SnO<sub>2</sub> Thin Film Electrodes for the Detection of Antimalarial Drug Artemisin*. **11<sup>th</sup> Aegean Analytical Chemistry Days (AACD)** in Chania, Crete, Greece. (September 2018)
- 5) **Pavlos Nikolaou**, Georgios Samourganidis, and Emmanuel Topoglidis. *Hemin modified SnO<sub>2</sub>/Metglas electrodes for the simultaneous electrochemical and magnetoelastic sensing of H<sub>2</sub>O<sub>2</sub>*, **XXXIII Panhellenic Conference on solid state physics and materials Science**, in Nicosia, Cyprus. (September 2018)
- 6) **Pavlos Nikolaou**, Ioanna Vareli, Ioannis Koutselas and Emmanuel Topoglidis. *Determination of losartan on Graphite/SiO<sub>2</sub> hybrid electrode modified with hybrid organic-inorganic perovskites*, **19<sup>th</sup> conference of medicinal chemistry, Drug Design and Development**, in Archaia Olimpia, Greece. (September 2018)
- 7) **Pavlos Nikolaou**, Ioannis Koutselas and Emmanuel Topoglidis. *Use of a novel graphite/SiO<sub>2</sub> hybrid electrode modified with hybrid organic-inorganic perovskites for the determination of losartan*, **7<sup>th</sup> International Conference "Micro&Nano 2018"** in Thessaloniki, Greece. (November 2018)
- 8) Ioannis Koutselas, Ioanna Vareli, Anastasia Vassilakopoulou, **Pavlos Nikolaou**, Emmanuel Topoglidis. *Simple devices based on hybrid organic inorganic low dimensional semiconductors*, **E-MRS Spring Meeting 2019** in Nice, France. (May 2019)

- 9) Emmanuel Topoglidis, Efstathios Deskoulidis, **Pavlos Nikolaou**. *Immobilization of hemoglobin on TiO<sub>2</sub>-graphite paste film electrodes for the electrochemical sensing of H<sub>2</sub>O<sub>2</sub>*. **Electrochemistry Conference ISE 2019** in Istanbul, Turkey. (September 30- 02 October 2019)
- 10) **Pavlos Nikolaou**, Tomáš Mikysek, Mirjeta Kafexholli, Petr Šimůnek, Jiří Váňa , Aneta Marková, Martin Vala, and Giovanni Valenti. *Electrogenerated Chemiluminescence and Photophysical properties of Oxazaborines Molecules*, **71<sup>st</sup> Annual Meeting of the International Society of Electrochemistry (ISE)** in Belgrade, Serbia. (August 30- 04 September 2020).
- 11) Emmanuel Topoglidis, Christina Sofia Leva, **Pavlos Nikolaou** and Ioannis Koutselas. *Development of a Sensitive Electrochemical Paracetamol Sensor based on Nano-composite Fe<sub>2</sub>O<sub>3</sub>/TiO<sub>2</sub> Electrodes*, **71<sup>st</sup> Annual Meeting of the International Society of Electrochemistry (ISE)** in Belgrade, Serbia. (August 30- 04 September 2020).

## SCHOLARSHIPS

Erasmus+/LLP **Scholarship** for the mobility in Bologna (Italy).  
Laboratory Responsible: Prof. Francesco Paolucci.

Hellenic Society for the Science and Technology of Condensed Matter (HSSTCM) **Scholarship** for participation to the XXXIII Panhellenic Conference on Solid State Physics and Materials Science in Cyprus.

## FURTHER EDUCATION

20-21/10/2016

09-10/03/2017 6-Day workshop , ‘Hygiene and Safety at work ‘, TITAN A.E., Patras, Greece

11-12/05/2017

**Spring Course**, ‘The impact of new Materials on Our Lives ‘, RWTH University of Aachen, Aachen, Germany. (May 8-19/2015)

**Spring Course**, ‘Chemical engineering in oil and gas analysis ‘, University of Zagreb, Zagreb, Croatia. (May 20-30/2016)

**Summer Course**, ‘Analytical techniques in bio-chemical engineering ‘, Carlos III University of Madrid, Madrid, Spain. (July 3-12/2017)

## ADDITIONAL SKILLS

**Languages:** Greek: Native language

English: TOEIC certificate, Hellenic American Union (**C1**)

Italian: Certificato Statale di Conoscenza delle Lingue (**B2**)

**Technical skills:** Microsoft Office: (MS word, Excel, Access, Power Point etc), Fortran 90, Origin Lab. (**excellent**)

**Electrochemical techniques:** Cyclic Voltammetry, Chronoamperometry, Differential Pulse Voltammetry, Electrochemiluminescence (ECL).

**Analytical techniques:** SEM, XRD

## **ACTIVITIES**

**10/2014-10/2017** - Volunteer in NGO BEST (Board European Student of Technology) student group in University of Patras

**06/2015** - Main Organizer in Summer course (space engineering) collaborated with Dr. V. Kostopoulos,

**10/2016-10/2017** – Public Relation responsible in board of BEST Patras, University of Patras.