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## ▶ LEONTIOU ARETI

### Laboratory Teaching Staff

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### Academic Titles

- ▶ BSc in Chemistry, Department of Chemistry, University of Ioannina, 2000
- ▶ PhD in Chemical Technology, Department of Chemistry, University of Ioannina, 2004

Thesis: Heterogeneous perovskite type mixed oxides of iron and manganese

### Research Interests

- ▶ Composition of innovative nanocomposing polymer materials with applications in food packaging.
- ▶ Composition and characterisation of mixed perovskite oxides and study of catalytic activity in reactions of environmental interest.

### Publications

- ▶ "Development of Poly (L-Lactic Acid)/Chitosan/Basil Oil Active Packaging Films via a Melt-Extrusion Process Using Novel Chitosan/Basil Oil Blends", C.E. Salmas, A.E. Giannakas, M. Baikousi, A. Leontiou, Z. Siasou, *Processes* 9 (1), 88.
- ▶ "Development of ZnO/Na-Montmorillonite Hybrid Nanostructures Used for PVOH/ZnO/Na-Montmorillonite Active Packaging Films Preparation via a Melt-

Extrusion Process”, C. Salmas, A. Giannakas, P. Katapodis, A. Leontiou, D. Moschovas, *Nanomaterials* 10 (6), 1079.

- ▶ "Novel LDPE/chitosan rosemary and melissa extract nanostructured active packaging films”, A. Giannakas, C. Salmas, A. Leontiou, D. Tsimogiannis, A. Oreopoulou, J. Braouhli, *Nanomaterials* 9, (2019) 1105.
- ▶ "Preparation, characterization, mechanical, barrier and antimicrobial properties of chitosan/PVOH/clay nanocomposites”, A. Giannakas, M. Vlach, C. Salmas, A. Leontiou, P. Katapodis, H. Stamatis, N. Barkoula, A. Ladavos, *Carbohydrate Polymers* 140 (2016) 408-415.
- ▶ "Preparation, morphological characterization, mechanical and barrier properties investigation of chitosan-clay nanocomposites”, A. Giannakas, K. Grigoriadi, A. Leontiou, N. Barkoula and A. Ladavos, *Carbohydrate Polymers* 108 (2014) 103-111.
- ▶ "A comparative study of substituted perovskite-type solids of oxidic  $\text{La}_{1-x}\text{Sr}_x\text{FeO}_{3\pm\delta}$  and chlorinated  $\text{La}_{1-x}\text{Sr}_x\text{FeO}_{3\pm\delta}\text{Cl}_\sigma$  form: Catalytic performance for  $\text{CH}_4$  oxidation by  $\text{O}_2$  or  $\text{N}_2\text{O}$ ", A.A. Leontiou, A.K. Ladavos, A.E. Giannakas, T.V. Bakas, P.J. Pomonis, *Journal of Catalysis* 251 (2007) 103-112.
- ▶ "Characterization and catalytic investigation of NO+CO reaction on perovskites of the general formula  $\text{La}_x\text{M}_{1-x}\text{FeO}_3$  (M=Sr and/or Ce) prepared via a reverse micelles microemulsion route", A.E. Giannakas, A.A. Leontiou, A.K. Ladavos, P.J. Pomonis, *Applied Catalysis A: General* 309 (2006) 254-262.
- ▶ "The I-Point method for estimating the surface area of solid catalysts and the variation of C-term of the BET equation", P.J. Pomonis, D.E. Petrakis, A.K. Ladavos, K.M. Kolonia, C.C. Pantazis, A.E. Giannakas, A.A. Leontiou, *Catalysis Communications* 6 (2005) 93-96.
- ▶ "Kinetics investigation of NO+CO reaction on La-Sr-Mn-O perovskite-type mixed oxides", A.A. Leontiou, A.K. Ladavos, G.S. Armatas, P.N. Trikalitis, P.J. Pomonis, *Applied Catalysis A: General* 263 (2004) 227-239.
- ▶ "Reverse uptake of oxygen from  $\text{La}_{1-x}\text{Sr}_x(\text{Fe}^{3+}/\text{Fe}^{4+})\text{O}_{3\pm\delta}$  perovskite-type mixed oxides ( $x = 0,00, 0.15, 0.30, 0.40, 0.60, 0.70, 0.80, 0.90$ )", A.A. Leontiou, A.K. Ladavos, T.V. Bakas, T.C. Vaimakis, P.J. Pomonis, *Applied Catalysis A: General* 241 (2003) 143-154.
- ▶ "Catalytic NO reduction with CO on  $\text{La}_{1-x}\text{Sr}_x(\text{Fe}^{3+}/\text{Fe}^{4+})\text{O}_{3\pm\delta}$  perovskite-type mixed oxides ( $x = 0.00, 0.15, 0.30, 0.40, 0.60, 0.70, 0.80, 0.90$ )", A.A. Leontiou, A.K. Ladavos, P.J. Pomonis, *Applied Catalysis A: General* 241 (2003) 133-141.

### Conference publications

- ▶ "A green method of manufacturing hybrid materials from hydrophilic and

- organophil montmorillonite and essential oils”, A. Giannakas, A. Leontiou, I. Tsagkalias, D. Achilias, A. Ladavos, *5th Conference on Green Chemistry and Sustainable Development, Patras, 20-22 October 2017*.
- ▶ "Composition and characterization of LDPE nanocomposined film - clay modified with essential oils”, A. Giannakas A. Leontiou, K. Zacharioudakis, A. Ladavos, *5th Conference on Green Chemistry and Sustainable Development, Patras, 20-22 October 2017*.
  - ▶ "Effect of the different manufacturing method on mechanical properties, moisture barrier and antioxidant capacity of nanosythetic chitosan/thyme oil/montmorillonite film", A. Giannakas, A. Leontiou, A. Ladavos, *5th Conference on Green Chemistry and Sustainable Development, Patras, 20-22 October 2017*.
  - ▶ "Authenticity check and certification of the geographical origin of agricultural products”, (poster), C. Salmas, A. Leontiou, A. Patakas, A. Ladavos, *12th Chemistry Conference of Greece - Cyprus, Thessaloniki, 8-10 May 2015*.
  - ▶ "A comparative study of substituted perovskite-type mixed solids of oxidic  $\text{La}_{1-x}\text{Sr}_x\text{FeO}_{3\pm\delta}$  and chlorinated  $\text{La}_{1-x}\text{Sr}_x\text{FeO}_{3\pm\delta}\text{Cl}_\sigma$  forms for the catalytic oxidation of  $\text{CH}_4$  by  $\text{O}_2$ ”, (poster), A.A. Leontiou, A.K. Ladavos, P.J. Pomonis, *7th European Congress on Catalysis, Sofia, Bulgaria, 28 August – 1 September 2005*.
  - ▶ "The I-Point method for the estimation of surface area of solids catalysts and the variation of C term of the BET equation using BET-Scatchard plots”, P.J. Pomonis, D.E. Petrakis, A.K. Ladavos, K.M. Kolonia, G.S. Armatas, A.A. Leontiou, A.E. Giannakas, C.C. Pantazis, *7th European Congress on Catalysis, Sofia, Bulgaria, 28 August – 1 September 2005*.
  - ▶ "Surface properties, textural features and catalytic performance for NO+CO abatement of spinels  $\text{MAl}_2\text{O}_4$  (M=Mg, Co and Zn) developed by reverse and bicontinuous microemulsion method”, A.E. Giannakas, A.A. Leontiou, A.K. Ladavos, D.E. Petrakis, K.M. Kolonia, P.J. Pomonis, *7th European Congress on Catalysis, Sofia, Bulgaria, 28 August – 1 September 2005*.
  - ▶ "A novel method for the estimation of surface area of solids catalysts and the variation of C-term of the BET equation using BET-Scatchard plots”, P.J. Pomonis, D.E. Petrakis, A.K. Ladavos, K.M. Kolonia, A.A. Leontiou, A.E. Giannakas, C.C. Pantazis, *13th International Congress on Catalysis, Paris, 11-16 July 2004*.
  - ▶ "Comparative study of substituted perovskitic oxides  $\text{La}_{1-x}\text{Sr}_x\text{FeO}_{3\pm\delta}$  and  $\text{La}_{1-x}\text{Sr}_x\text{FeO}_{3\pm\delta}\text{Cl}_\sigma$  for  $\text{CH}_4$  oxidation reaction with  $\text{N}_2\text{O}$  or  $\text{O}_2$ ”, (poster), A. Leontiou, A. Ladavos, P. Pomonis, *8th Panhellenic Catalysis Symposium, Ayia Napa, Cyprus, 30 October – 1 November 2004*.
  - ▶ "Oxygen absorption study in mixed perovskitic structure oxides  $\text{La}_{1-x}\text{Sr}_x\text{FeO}_{3\pm\delta}$  using thermal analysis techniques”, A. Leontiou, A. Ladavos, P. Pomonis, *2nd Panhellenic Conference on Thermal Analysis, Ioannina, 25-26 June 2004*.

- ▶ "Catalytic activity of La-Sr-Mn-O mixed perovskitic oxides in NO+CO reaction", (poster), A. Leontiou, A. Ladavos, G. Armatas, P. Pomonis, *5th Conference of the Department of Chemistry, University of Ioannina, 22-24 October 2002*.
- ▶ "Catalytic activity of La-Sr-Mn-O mixed perovskitic oxides in NO+CO reaction", (poster), A. Leontiou, A. Ladavos, G. Armatas, P. Pomonis, *7th Panhellenic Symposium on Catalysis, Edessa, 4-5 October 2002*.

#### **Book chapters**

- ▶ "Montmorillonite composite materials and food packaging", Aris E. Giannakas and Areti Leontiou, in "Composites for Food Packaging", Wiley Academic Publications, May 2018.