

## CURRICULUM VITAE

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### Professional Experience

- 2006 – Professor, Department of Petroleum Processing and Petrochemistry, Petrol – Gaze University, Ploiești, Romania.
- 2006 – Visiting Professor, Department of Chemical Engineering, Yale University, USA.
- 2005 – 2006 Associate Professor, Department of Petroleum Processing and Petrochemistry, Petrol – Gaze University, Ploiești, Romania.
- 2001 – 2005 Associate Research Scientist/Lecturer, Department of Chemical Engineering, Yale University:
- accomplished the first synthesis ever of pure boron single wall nanotubes (<http://pubs.acs.org/cen/coverstory/83/8335inorganic.html>),
  - designed and conducted research on synthesis of controlled diameter carbon nanotubes, gallium nitride nanowires, nanotubes and nanodots, and on methane combustion on PdO-based catalysts,
  - taught Chemical Reaction Engineering and Chemical Kinetics courses at the Graduate School of Arts and Sciences
  - conducted research projects of undergraduate and graduate students.
- 1999 – 2001 Postdoctoral Research Associate, Department of Chemical Engineering, Yale University:
- designed and performed research on catalysts for automotive exhaust gas treatment and methane combustion.
- 1996 – 1999 Lecturer, Department of Petroleum Technology and Petrochemistry, Petrol – Gaze University, Ploiești, Romania:
- taught undergraduate courses on Catalysis and industrial catalysts, Thermal and catalytic processing in petroleum refining and Computer assisted process design in chemical engineering
  - designed and conducted research studies on catalysts for the petroleum processing industry and soil and ground water pollution with petroleum products
  - advised senior research and diploma projects.
- 1991 – 1996 Teaching and Research Assistant, Petrol – Gaze University, Ploiești, Romania:
- taught undergraduate laboratory courses
  - performed research studies on catalysts for the petroleum processing industry.

## Education

- 1996 – 1999 PhD in Surfaces and Interfaces, Materials in Evolution, University Paris 7 – Denis Diderot, Paris, France. Thesis: “Preparation, Characterization and Reactivity of Palladium Catalysts Supported on Basic Oxides”, mention “Tres honorable” Advisor: Professor Francois Bozon-Verduraz.
- 1991 BS in Chemical Engineering, Petrol – Gaze University, Romania, GPA 9.49/10

## Grants as Principal Investigator

- 2005 – 2007 Awarded the Postdoctoral grant “Nanostructured Materials for Applications in Catalysis.” by the Romanian Department of Education and Research (MEdC).
- 2003 – 2006 Awarded the EPA grant “Electrocatalysis for Environmentally Friendly Energy Production Systems.”
- 2003 – 2004 Awarded the NSF-SGER “Templated Synthesis of Boron Nanostructures.”

## Fellowships

- 1999 Awarded a one-month PHARE – Tempus research fellowship.
- 1996 – 1998 Awarded the PhD fellowship of the French Ministry of Education, Research and Technology.

## Membership of Professional Bodies

Sigma Xi member  
Member of the North American Catalysis Society  
Member of the American Chemical Society  
Member of the AIChE  
Member of the Ad Astra Association of Romanian Researchers

## Representative Publications

Y. H. Yang, S. Lim, G. A. Du, C. A. Wang, **D. Ciuparu**, Y. Chen, G. L. Haller, “Controlling of physicochemical properties of nickel-substituted MCM-41 by adjustment of the synthesis solution pH and tetramethylammonium silicate concentration”, *Journal of Physical Chemistry B* **110**(12) (2006) 5927-5935.

Y. Chen, **D. Ciuparu**, S. Lim, G.L. Haller, L.D. Pfefferle, “The effect of the cobalt loading on the growth of single wall carbon nanotubes by CO disproportionation on Co-MCM-41 catalysts”, *Carbon*, **44**(1) (2006) 67.

**D. Ciuparu**, P. Haider, M. Fernández-García, Y. Chen, S. Lim, G. Haller, L. Pfefferle, “X-Ray absorption spectroscopic investigation of partially reduced cobalt species in Co-MCM-41 catalysts during synthesis of single wall carbon nanotubes”, *Journal of Physical Chemistry B*, **109**(34) (2005) 16332.

Y. Chen, **D. Ciuparu**, S. Lim, G.L. Haller, L.D. Pfefferle, “The effect of the cobalt loading on the growth of single wall carbon nanotubes by CO disproportionation on Co-MCM-41 catalysts”, *Carbon*, **44**(1) (2006) 67.

Y. Yang, S. Lim, G. Du, **D. Ciuparu**, Y. Chen, C. Wang, G.L. Haller, “Synthesis and Characterization of Highly Ordered Ni-MCM-41 Mesoporous Molecular Sieves”, *Journal of Physical Chemistry B*, **109**(27) (2005) 13237.

P. Haider, G.L. Haller, L. Pfefferle, **D. Ciuparu**, "New approach to avoid erroneous interpretation of results derived from the Generalized 2D Correlation Analysis for applications in catalysis", *Applied Spectroscopy*, **59**(8) (2005) 1060.

P. Haider, Y. Chen, S. Lim, G. Haller, L. Pfefferle and **D. Ciuparu**, "Application of the generalized 2D correlation analysis to dynamic near edge X-ray absorption spectroscopy data", *Journal of the American Chemical Society*, **127**(6) (2005), 1906.

Y. Chen, **D. Ciuparu**, Y. Yang, S. Lim, C. Wang, G.L. Haller and L Pfefferle, "Single-wall carbon nanotubes synthesis by CO disproportionation on nickel-incorporated MCM-41", *Nanotechnology*, **16**(7) (2005), S476.

S. Lim, Y. Yang, **D. Ciuparu**, C. Wang, Y. Chen, L. Pfefferle, G.L. Haller, "The effect of synthesis solution pH on the physicochemical properties of Co substituted MCM-41", *Topics in Catalysis*, **34**(1-4) (2005) 31.

P.B. Amama, S. Lim, **D. Ciuparu**, L. Pfefferle and G.L. Haller, "Hydrothermal synthesis of MCM-41 using different ratios of colloidal and soluble silica", *Microporous and Mesoporous Materials*, **81**(1-3) (2005) 191.

Y. Li, Y. Chen, R. Xiang, **D. Ciuparu**, L.D. Pfefferle, C. Horvath and J.A. Wilkins, "Incorporation of Single-Wall Carbon Nanotubes into an Organic Polymer Monolithic Stationary Phase for m-HPLC and Capillary Electrochromatography", *Analytical Chemistry*, **77**(5) (2005), 1398.

P.B. Amama, S. Lim, **D. Ciuparu**, Y. Yang, L. Pfefferle and G.L. Haller, "Synthesis, Characterization, and Stability of Fe-MCM-41 for Production of Carbon Nanotubes by Acetylene Pyrolysis", *Journal of Physical Chemistry B*, **109**(7) (2005), 2645.

S. Lim, **D. Ciuparu**, Y. Chen, Y. Yang, L. Pfefferle and G.L. Haller, "Pore Curvature Effect on the Stability of Co-MCM-41 and the Formation of Size-Controllable Subnanometer Co Clusters", *Journal of Physical Chemistry*, **109**(6) (2005), 2285.

J. Su, G. Cui, M. Gherasimova, H. Tsukamoto, J. Han, **D. Ciuparu**, S. Lim, L. Pfefferle, Y. He, A.V. Nurmikko, C. Broadbridge, A. Lehman, "Catalytic growth of group III-nitride nanowires and nanostructures by metalorganic chemical vapor deposition", *Applied Physics Letters*, **86**(1) (2005), 013105/1.

M. Gherasimova, J. Su, G. Cui, Z.-Y. Ren, S.-R. Jeon, J. Han, Y. He, Y.-K. Song, A. V. Nurmikko, **D. Ciuparu**, L. Pfefferle, "A nanocluster route to zero- and one-dimensional quantum structures by MOCVD", *Physica Status Solidi (c)*, **2**(7) (2005) 2361.

S. Lim, **D. Ciuparu**, Y. Chen, L. Pfefferle and G.L. Haller, "Effect of Co-MCM-41 Conversion to Cobalt Silicate for Catalytic Growth of Single Wall Carbon Nanotubes", *Journal of Physical Chemistry B*, **108** (2004), 20095.

**D. Ciuparu**, Y. Chen, S. Lim, Y. Yang, G.L. Haller and L. Pfefferle, "Mechanism of Cobalt Cluster Size Control in Co-MCM-41 during Single-Wall Carbon Nanotubes Synthesis by CO Disproportionation", *Journal of Physical Chemistry B*, **108**(40) (2004), 15565.

Y. Chen, **D. Ciuparu**, S. Lim, Y. Yang, G.L. Haller and L. Pfefferle, "Synthesis of uniform diameter single-wall carbon nanotubes in Co-MCM-41: effects of the catalyst prereduction and nanotube growth temperatures", *Journal of Catalysis*, **225**(2) (2004), 453.

Y. Chen, **D. Ciuparu**, S. Lim, Y. Yang, G.L. Haller and L. Pfefferle, "Synthesis of uniform diameter single wall carbon nanotubes in Co-MCM-41: effects of CO pressure and reaction time", *Journal of Catalysis*, **226**(2) (2004), 351.

R.F. Klie, **D. Ciuparu**, L. Pfefferle and Y. Zhu, "Multi-walled carbon nanotubes on amorphous carbon films", *Carbon*, **42**(10) (2004), 1953.

**D. Ciuparu**, R.F. Klie, Y. Zhu and L. Pfefferle, "Synthesis of Pure Boron Single-Wall Nanotubes", *Journal of Physical Chemistry B*, **108**(13) (2004), 3967.

**D. Ciuparu**, Y. Chen, S. Lim, G.L. Haller and L. Pfefferle, "Uniform-Diameter Single-Walled Carbon Nanotubes Catalytically Grown in Cobalt-Incorporated MCM-41", *Journal of Physical Chemistry B*, **108**(2) (2004), 503.

**D. Ciuparu**, E. Perkins and L. Pfefferle, "In situ DR-FTIR investigation of surface hydroxyls on  $\gamma$ -Al<sub>2</sub>O<sub>3</sub> supported PdO catalysts during methane combustion", *Applied Catalysis A: General*, **263**(2) (2004), 145.

S. Lim, **D. Ciuparu**, C. Pak, F. Dobek, Y. Chen, D. Harding, L. Pfefferle and G. Haller, "Synthesis and characterization of highly ordered Co-MCM-41 for production of aligned single walled carbon nanotubes (SWNT)", *Journal of Physical Chemistry B*, **107**(40) (2003), 11048.

C.S. McEnally, **D. Ciuparu** and L.D. Pfefferle, "Experimental study of fuel decomposition and hydrocarbon growth processes for practical fuel components: heptanes", *Combustion and Flame*, **134**(4) (2003), 339.

**D. Ciuparu**, F. Bozon-Verduraz and L. Pfefferle, "Oxygen exchange between palladium and oxide supports in combustion catalysts", *Journal of Physical Chemistry B*, **106**(13) (2002), 3434.

**D. Ciuparu**, M.R. Lyubovsky, E. Altman, L.D. Pfefferle and A. Datye, "Catalytic combustion of methane over palladium-based catalysts", *Catalysis Reviews-Science and Engineering*, **44**(4) (2002), 593.

**D. Ciuparu** and L. Pfefferle, "Contributions of lattice oxygen to the overall oxygen balance during methane combustion over PdO-based catalysts", *Catalysis Today*, **77**(3) (2002) 167.

**D. Ciuparu** and L. Pfefferle, "Support and water effects on palladium based methane combustion catalysts", *Applied Catalysis A-General*, **209**(1-2) (2001), 415.

**D. Ciuparu**, N. Katsikis and L. Pfefferle, "Temperature and time dependence of the water inhibition effect on supported palladium catalyst for methane combustion", *Applied Catalysis A-General*, **216**(1-2) (2001), 209.

**D. Ciuparu** and L. Pfefferle, "Methane combustion activity of supported palladium catalysts after partial reduction", *Applied Catalysis A-General*, **218**(1-2) (2001), 197.

**D. Ciuparu**, E. Altman and L. Pfefferle, "Contributions of lattice oxygen in methane combustion over PdO-based catalysts", *Journal of Catalysis*, **203**(1) (2001), 64.

**D. Ciuparu**, A. Ensuque, G. Shafeev and F. Bozon-Verduraz, "Synthesis and apparent bandgap of nanophase zirconia", *Journal of Materials Science Letters*, **19**(11) (2000), 931.

**D. Ciuparu**, A. Bensalem and L. Pfefferle, "Pd-Ce interactions and adsorption properties of palladium: CO and NO TPD studies over Pd-Ce/Al<sub>2</sub>O<sub>3</sub> catalysts", *Applied Catalysis B-Environmental*, **26**(4) (2000), 241.