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Professor & Chairman Chemical Engineering
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February 26, 2013

Professor Dionisis Tsichritzis Chair, Search Committee for Polytechnic School of Crete Polytechnic School of Crete, Chania, Crete HELLAS

RE: Dean of the Polytechnic School of Crete

Dear Professor Tsichritzis,

I am interesting in being considered for the position of the Dean of the Polytechnic School of Crete.

Please consider this letter as my official application for the position of the Dean of the Polytechnic School of Crete (item #1 of the requirements). I am also attaching a scanned copy of my Hellenic passport, and a full CV.

If you have any questions or need any additional information, please do not hesitate to contact me. Looking forward to hear from you.

Sincerely yours,

P. Smírniotis

Panagiotis (Peter) Smirniotis, Ph.D. Professor and Chairman, Chemical Engineering Director of Catalysis & Reaction Engineering Laboratories University of Cincinnati

Attachments

## PANAGIOTIS (PETER) SMIRNIOTIS, Ph.D.

DoB: May 28, 1966

Professor and Chairman, Chemical Engineering Director of Catalysis & Reaction Engineering Laboratories College of Engineering & Applied Science (CEAS) University of Cincinnati Cincinnati, OH 45221-0012, USA

Phone (513) 556-1474, Fax (513) 556-3473 web site: http://alpha.che.uc.edu/~catalysi

## **EDUCATION:**

1994 Ph.D.

Chemical Engineering, State University of New York at Buffalo,

1989 BS & Diploma Chemical Engineering Department, University of Patras, GREECE

# **HONORS, AWARDS AND DISTINCTIONS:**

National & International			
2006	North American Central Regional Young Investigator Award of SIGMA XI		
2004	Eminent Engineer of Tau Beta Pi		
2001	BP Faculty Excellence Award		
2000	Young Investigator Award of the U.S. DoArmy		
2000	Science for Peace Programme of NATO (Belgium)		
1999	DuPont Young Professor		
1997	The 1997 CAREER Award (NSF)		
1997	1997 NASA SHARP PLUS (Emerging Ethnic Engineers Program)		
1994	U.S.A. Achievement Academy Award (USAA)		
University of Cincinnati			
2004	Outstanding Professor of the Quarter in the College (Fall 2004)		
2003	Outstanding Professor of the Quarter in the College (Fall 2003)		
2002	SIGMA XI Young Investigator Award (UC Chapter)		
2000	Outstanding Professor of the Chemical Engineering Department		
1999	Research Award for Young Faculty of the College of Engineering		
1999	Honor Roll Professor of the Engineering College		
1998	Honor Roll Professor of the Engineering College		
1998	Outstanding Professor of the Chemical Engineering Department		
1997	Outstanding Professor of the Quarter in the College (Summer 1997)		
1997	Faculty Summer Research Fellowship		
1995	The 1995 Award for Ethnic Education		
Undergraduate Education			

1989	Valedictorian of the	Chemical Engineering I	Department,

University of Patras, GREECE

Annual Recipient of the National Scholarship Foundation of Greece 1985-1989

## **ADMINISTRATIVE EXPERIENCE:**

2010 to present	Chemical Engineering Chairman
	Chemical Engineering Program, SEEBME, U. of Cincinnati
2009 to 2011	Director Elected, Catalysis & Reaction Engineering (CRE)
	Division, American Institute of Chemical Engineers (AICHE)
2004 to 2008	President of the Tri-State Catalysis Society
	Tri-State Catalysis Society brings together scientists/engineers
	from the Academic world and the Industries of OH, KY, and WV
2005 to 2007	Department Head
	Chemical & Materials Engineering Department, U. of Cincinnati
2004 to 2006	Graduate Studies Director of Chemical Engineering
	Chemical & Materials Engineering Department, U. of Cincinnati

## **WORK EXPERIENCE:**

09/2010 to present	Graduate Faculty
	Chemical, Environmental & Material Engineering, U.of Cincinnati
09/2003 to present	Professor
	Chemical Engineering Program, U. of Cincinnati
01/2002 to 07/2002	Visiting Professor
	Laboratory for Technical Chemistry, ETH, Zürich, Switzerland
1999 to 2003	Associate Professor
	Chemical Engineering Department, University of Cincinnati
1998-2003	Consultant: Procter & Gamble Co.
1994-1999	Assistant Professor
	Chemical Engineering Department, University of Cincinnati
1990-1994	Research and Teaching Assistant
	Chemical Engineering Department, State University of NY at Buffalo
1987-1989	Research Assistant
	Chemical Engineering Department, University of Patras, Greece
Summer 1987	Industrial Research Associate
	PECHINEY Co. (Aluminum of Greece, Greece)

## **CURRENT STATUS OF RESEARCH:**

Dr. Peter Smirniotis' research at UC is characterized by in-depth investigations to advance the fundamental understanding and practical aspects of numerous catalytic systems of major Industrial, Environmental and Energy related disciplines. His research is highly recognized for its breadth, excellence, and unique thoroughness resulting in an H Index equal to 34 (as found in the web of Science). This is the highest H Index for a faculty of his age in the entire College of Engineering and Applied Science and falls right behind those of two senior faculty with the highest ones, namely Dr. Andrew Steckl with H equal to 39, and Dr. Punit Boolchand with H equal to 36. Dr. Smirniotis has the highest average citations per paper (23) in the College of Engineering and Applied Science.

Dr. Peter Smirniotis focuses on the following areas of research:

- Heterogeneous Catalysis on: (a) development/optimization of zeolites and molecular sieves as catalysts for refining & energy related industries, (b) selective catalytic reduction of  $NO_x$  from mobile and stationary sources, (c) photocatalytic degradation of toxic organics in aqueous and gas streams and (d) catalysis for industrial chemicals.
- Characterization of solid materials with state-of-the-art techniques
- Molecular Sieves and Novel Nanomaterials
- Reactor modeling and Chemical Kinetics
- High temperature Separation of CO<sub>2</sub> Separation
- Separation of biorelated molecules with mesoporous sorbents and membranes (collaboration with Neville Pinto)
- · Hydrogen Production

## **PROFESSIONAL AFFILIATIONS:**

American Institute of Chemical Engineers (A.I.Ch.E.)
American Chemical Society (ACS)
International Zeolite Association
North American Catalysis Society
The Tri-State Club of Catalysis
Sigma-Xi Society, The Scientific Research Society
New York Academy of Sciences

#### **PROFESSIONAL DISTINCTIONS:**

Reviewer for: AIChE Journal, Industrial & Engineering Chemistry Research (IECR), Journal of Catalysis, Applied Catalysis, Catalysis Letters, Journal of Physical Chemistry, Materials Chemistry Research, Chemical Engineering Science, and Catalysis Today.

#### Reviewer for

proposals: Editor: • NSF, ACS-PRF, US EPA, DoArmy, DoE, NASA

Editorial Board of Applied Catalysis B: Environmental (2003 - present).
Editorial Board of International Journal of Photoenergy (2008 - present).

• Editorial Board of Applied Catalysis A: General (1997, 1998, 2001-05).

• News Brief Correspondent for Applied Catalysis A (Feb 1997 - 2002).

• Editor Catalysis Today (a 1998, 2000 and 2002 issue dedicated to

Environmental Catalysis and Reaction Engineering).

AIChE 1996 to present: Chairman and co-chairman for several sessions in Environmental Catalysis and Reaction Engineering, Fundamentals of Oxide Catalysis, Environmental Reactor Design, Novel Reactors and Catalysis for Fine Chemicals, Porous Materials.
 Chairman of the Heterogeneous Catalysis session of the Tri-State

Catalysis Society Symposium (Charleston, WV April 8-9, 1997).

- Chairman of the Acid Chemistry II session of the 16th North American Catalysis Society Meeting (Boston, MA May 30 -June 4, 1999).
- Chairman of the Catalysis and Zeolites session of the 32nd ACS Regional Meeting (Covington, KY May 17-19, 2000).
- Co-chairman of the four Emission Control through Catalysis sessions of the 221st ACS Spring National Meeting (San Diego, CA April 1-5, 2001).
- Chairman of the Environmental Catalysis session of the 17th North American Catalysis Society Meeting (Toronto, Canada June 3-8, 2001).
- Chairman of the Air Treatment session session of the 7<sup>th</sup> International Conference on TiO<sub>2</sub> Photocatalysis: Fundamentals and Applications (Toronto, Canada, November 17-21, 2002).
- Chairman of the 1) Photocatalysis: Fundamentals and 2) Photocatalysis: Synthesis and mechanistic Studies sessions of the 18<sup>th</sup> North American Catalysis Society Meeting (Cancun, Mexico, June 1-6, 2003).
- Chairman of the Photocatalysis Sessions of the 19<sup>th</sup> North American Catalysis Society Meeting (Philadelphia, PA, May 21-28, 2005).
- Chairman of two sessions for ACS and AIChE Symposium on Applied Chemistry and Engineering (Molecular Design in Catalysis, and Novel Catalytic Methods and Reactor Design) of the 233<sup>th</sup> ACS Meeting (Chicago Ill, March 25-29, 2007).

#### Graduate and Postgraduate Advisees

Former: Wenmin Zhang (Ph.D.), Lev Davydov (Ph.D.), Srikant Gopal (Ph.D.), Donovan Pena (Ph.D.), Keysang Yoo (Ph.D.), Bo Sun (Ph.D.), Hong Lu (Ph.D.), Nick Economides (M.S.), Tejinder Brar (MS), Eric Burckle (MS), Robert Coil (M.S.), Gary Robb (MS), Martin Bertin (M.S.), Yi-Chuan Chen (M.S.), Xiaotong Wei (M.S.), Lei Ji (M.S.), Mr. Raad Muhanna Assaf (MS), Douglas Moushey (M.S.), Jacqueline Siegel (M.S.), Rajesh Koirala (M.S.), Manasa Sridhar (M.S.).

Current: Siva Inturi (Ph.D.), Ephraim Sheerin (Ph.D.), Dimitris Pappas (Ph.D.), Steve Quillin (M.S.), Dr. Krishna G. Reddy (postdoctoral fellow), Dr. Thirupathi Reddy (postdoctoral fellow).

#### FUNDING

Dr. Smirniotis has attracted over \$3,900,000 external funding for research as a single PI and over \$600,000 as co-PI for the period September 1994 to December 2012.

#### Government

National Science Foundation (NSF),

Department of Energy (DoE),

National Research Council,

Ohio Coal Development (OCDO).

NATO (Science for Peace Programme),

**US EPA** 

Department of Army

Industries

BP Chemicals Inc.,

American Chemical Society (Petroleum Research Fund),

Technical Association of Paper and Pulp Industries (TAPPI), Hewlett-Packard Company, Procter & Gamble Company, DuPont Company, Cummins Inc.

#### **PUBLICATIONS:**

## Articles (refereed) in press and published

- 1) P. G. Smirniotis and E. Ruckenstein, "Optimum Dilution Profiles of Composite Zeolites in Packed Beds", Chemical Engineering Communications, Vol. 106, 119-138, 1991.
- 2) P. G. Smirniotis and E. Ruckenstein, "Catalytic Cracking of Gas Oil: Effect of the Amount of Zeolite Composite Catalysts", Chemical Engineering Communications, Vol. 116, 171-191, 1992.
- 3) P. G. Smirniotis and E. Ruckenstein, "The Activity of Composite Catalysts: Theory and Experiments for Spherical and Cylindrical Single Pellets", Chemical Engineering Science, Vol. 48, 585-593, 1993.
- 4) P. G. Smirniotis and E. Ruckenstein, "*Platinum Impregnated Zeolite β as a Reforming Catalyst"*, Catalysis Letters, Vol. 17, 341-347, 1993.
- 5) P. G. Smirniotis and E. Ruckenstein, "Comparison between Zeolite  $\beta$  and  $\gamma$ -Al<sub>2</sub>O<sub>3</sub> Supported Pt for Reforming Reactions", Journal of Catalysis, Vol. 140, 526-542, 1993.
- 6) P. G. Smirniotis and E. Ruckenstein, "The Performance of Pt/β Zeolite and Pt/γ-Al<sub>2</sub>O<sub>3</sub> Composite Pellets in the Reforming of Methylcyclopentane and Methylcyclohexane", Chemical Engineering Science, Vol. 48, 3263-3272, 1993.
- 7) E. Ruckenstein and P. G. Smirniotis, "Two Sources of Synergism in the Reforming of n-Hexane, Methylcyclopentane and Methylcylohexane Mixtures over Composites of Basic and Acidic Zeolites", Catalysis Letters, Vol. 24, 123-132, 1994.
- 8) P. G. Smirniotis and E. Ruckenstein, "The Synergism of Pt/γ-Al<sub>2</sub>O<sub>3</sub> and Pt/β Zeolite in the Reforming of Naphthenes". **Industrial & Engineering Chemistry Research**, Vol. 33, 493-503, 1994.
- 9) P. G. Smirniotis and E. Ruckenstein, "Maximum and Time Stable Aromatic Yield in the Reforming of Alkylcyclopentanes over Pt/β Zeolites", Catalysis Letters, Vol. 25, 351-359, 1994.
- 10) P. G. Smirniotis and E. Ruckenstein, "Comparison of the Performance of ZSM-5.
  β Zeolite, Y, USY and their Composites in the catalytic cracking of n-Octane, 2.2.4-

- *Trimethylpentane and 1-Octene"*, **Industrial & Engineering Chemistry Research**, Vol. 33, 800-813, 1994.
- 11) P. G. Smirniotis and E. Ruckenstein, "Effect of Pt/Al sites ratio on the Performance of Pt/β zeolite in the Reforming of Alkylcyclopentanes", Applied Catalysis A: General, Vol. 117, 75-96, 1994.
- 12) P. G. Smirniotis and E. Ruckenstein, "Increased Aromatization in the Reforming of Mixtures of n-Hexane. Methylcyclopentane and Methylcyclohexane Mixtures over Composites of Pt/BaKL Zeolite with Pt/β and Pt/USY Zeolites", Applied Catalysis A: General, Vol. 123, 59-88, 1995.
- 13) P. G. Smirniotis and E. Ruckenstein, "Alkylation of Benzene or Toluene with Methanol or Ethylene over ZSM-5 and β Zeolite: Effect of the Zeolite pore openings and of the Hydrocarbons involved on the Mechanism of Alkylation". Industrial & Engineering Chemistry Research, Vol. 34, 1517-1528, 1995.
- 14) P. G. Smirniotis, and W. Zhang, "Effect of the Si/Al Ratio and of the Zeolite Structure on the Performance of Dealuminated zeolites for the Reforming of Hydrocarbon Mixtures", Industrial & Engineering Chemistry Research, Vol. 35, 3055-3066, 1996.
- 15) R. Tsekov, and P. G. Smirniotis, "Radiation Field in Continuous Annular Photocatalytic Reactors: The Role of the Lamp Finite Size", Chemical Engineering Science, Vol. 52, 1667-1671, 1997.
- 16) W. Zhang, and P. G. Smirniotis, "Dealuminated Zeolite-based Composite Catalysts for the Reforming of an Industrial Naphthene-rich Feedstock", Applied Catalysis A: General, Vol. 168, 113-130, (1998).
- 17) N. Economidis, R. F. Coil, and P. G. Smirniotis, Catalytic Performance of  $Al_2O_3/SiO_2/TiO_2$  loaded with  $V_2O_5$  for the Selective Catalytic Reduction of  $NO_X$  with Ammonia, Catalysis Today, Vol. 40, 27-37, 1998.
- 18) R. Tsekov, and P. G. Smirniotis, Resonant Diffusion of Normal Alkanes in Zeolites: Effect of the Zeolite Structure and Alkane Molecule Vibrations, Journal of Physical Chemistry: B, Vol. 102, 9385-9391, 1998.
- 19) G. M. Robb, W. Zhang, and P. G. Smirniotis, "Acidity of Dealuminated β Zeolites via Coupled NH<sub>3</sub>-Stepwise Temperature Programmed Desorption and FT-IR Spectroscopy" Microporous and Mesoporous Materials, Vol. 20, 307-316, 1998.
- 20) R. Tsekov, and P. G. Smirniotis, "Theoretical Models for the Rate of NO Decomposition over Cu-Exchanged Zeolites", Journal of Physical Chemistry: B, Vol. 102, 9525-9531, 1998.

- 21) W. Zhang, and P. G. Smirniotis, "Study of Oxide-based Catalysts for the Oxidative Transformation of Acetonitrile to Acrylonitrile with CH<sub>4</sub>", Journal of Catalysis, Vol. 182, 70-81, 1999.
- 22) L. Davydov, P. G. Smirniotis, and S. E. Pratsinis, "Novel Differential Reactor for the Measurement of Overall Quantum Yields", Industrial & Engineering Chemistry Research, Vol. 38, 1376-1383, 1999.
- 23) P. G. Smirniotis, and W. Zhang, "Study of the oxidative methylation of acetonitrile to acrylonitrile with CH4 over Li/MgO", Applied Catalysis A: General, Vol. 176, 63-73, 1999.
- 24) P. G. Smirniotis, L. Davydov, and E. Ruckenstein, "Composite Zeolite-based Catalysts and Sorbents", Catalysis Reviews in Science and Engineering, Vol. 41(1), 43-113, 1999.
- 25) W. Zhang and P. G. Smirniotis, "Effect of Zeolite Structure and Acidity on the Product Selectivity and Reaction Mechanism for n-Octane Hydroisomerization and Hydrocracking, Journal of Catalysis, Vol. 182, 400-416, 1999.
- 26) N. Economidis, D. Peña, and P. G. Smirniotis, *Comparison of TiO2-based Oxide Catalysts for the Selective Catalytic Reduction of NO*", **Applied Catalysis B:** Environmental, Vol. 23, 123-134, 1999.
- 27) W. Zhang, and P. G. Smirniotis," On the Exceptional Time on Stream Stability of HZSM-12: Relation between Zeolite Pore Structure and Activity", Catalysis Letters, Vol. 60, 223-228, 1999.
- 28) W. Zhang, E. C. Burckle, and P. G. Smirniotis," *Characterization of the Acidity of USY, Mordenite, and ZSM-12 via NH<sub>3</sub>-Stepwise Temperature Programmed Desorption and FT-IR*" Microporous and Mesoporous Materials, Vol. 33, 173-185, 1999.
- 29) C. L. Bothe Almquist, R. P. Ettireddy, A Bobst, and P. G. Smirniotis, "An XPS, XRD, and EPR Study of Li/MgO Catalysts: Case of the Oxidative Methylation of Acetonitrile with  $CH_4$ ", Journal of Catalysis, Vol. 192, 174-184, 2000.
- 30) W. Zhang, P. G. Smirniotis, M. Gangoda, and R. N. Bose, "Bronsted and Lewis Acid Sites in Dealuminated ZSM-12 and β Zeolites Characterized by NH<sub>3</sub>-STPD. FT-IR and MAS NMR Spectroscopy", Journal of Physical Chemistry B, Vol. 104, 4122-4129, 2000.
- 31) L. Davydov, and P. G. Smirniotis, "Quantitative Assessment of Photocatalytic Processes" Journal of Catalysis, Vol. 191, 105-115, 2000.

- 32) A. V. Vorontsov, E. N. Savinov, and P. G. Smirniotis, "Vibrofluidized- and Fixed-Bed Photocatalytic Reactors" Chemical Engineering Science, Vol. 55, 5089-5098, 2000.
- 33) L. Davydov, S. E. Pratsinis, and P. G. Smirniotis, " *The Intrinsic Catalytic Activity in Photoreactors*", Environmental Science & Technology, Vol. 34, 3435-3442, 2000.
- 34) T. Brar, P. France and P. G. Smirniotis, "Control of Crystal Size and Distribution of Zeolite A", Industrial & Engineering Chemistry Research, Vol. 40, 1133-1139, 2001.
- 35) B. M. Reddy, B. Chowdhury, and P. G. Smirniotis, "An XPS study of the Dispersion of MoO<sub>3</sub> on TiO<sub>2</sub>-ZrO<sub>2</sub>, TiO<sub>2</sub>-SiO<sub>2</sub>, TiO<sub>2</sub>-Al<sub>2</sub>O<sub>3</sub>, SiO<sub>2</sub>-ZrO<sub>2</sub>, and SiO<sub>2</sub>-TiO<sub>2</sub>-ZrO<sub>2</sub> mixed oxides", Applied Catalysis A: General, Vol. 211, 19-30, 2001.
- 36) L. Davydov, E.P. Reddy, P. France and P. G. Smirniotis, "Sonophotocatalytic Destruction of Organic Contaminants in Aqueous Systems on TiO<sub>2</sub> Powders", Applied Catalysis B: Environmental, Vol. 32, 95-105, 2001.
- 37) A. V. Vorontsov, E. N. Savinov, L. Davydov, and P. G. Smirniotis, "Photocatalytic Destruction of Gaseous Diethylsulfide over TiO<sub>2</sub>", **Applied Catalysis B:** Environmental, Vol. 32, 11-24, 2001.
- 38) L. Davydov, R. Tsekov and P. G. Smirniotis, "Optimal Radiation Field in Continuous Flow Heterogeneous Photoreactors" Chemical Engineering Science, Vol. 56, 4837-4847, 2001.
- 39) T. Brar, P. France and P. G. Smirniotis, "Heterogeneous versus Homogeneous Nucleation and Growth of Zeolite A", Journal of Physical Chemistry B, Vol. 105 (23), 5383-5390, 2001.
- 40) P. G. Smirniotis, D. A. Peña, and B. Uphade, "Low-Temperature SCR of NO by NH<sub>3</sub> using Mn-, Cr-, and Cu-oxides supported on Hombikat TiO<sub>2</sub>", **Angewandte Chemie Int. Ed.**, Vol 40 (13), 2479-2481, 2001.
- 41) B.M. Reddy, I. Ganesh, E.P. Reddy, A. Fernandez and P.G. Smirniotis, "Surface Characterization of Ga<sub>2</sub>O<sub>3</sub>-TiO<sub>2</sub> and V<sub>2</sub>O<sub>5</sub>/Ga<sub>2</sub>O<sub>3</sub>-TiO<sub>2</sub> catalysts", **Journal of Physical Chemistry**, Vol. 105, 6227-6235, 2001.
- 42) K. Yoo, E. C. Burckle and P. G. Smirniotis, "Comparison of Protonated Zeolites with Various Dimensionalities for the Liquid Phase Alkylation of i-Butane with 2-Butene", Catalysis Letters, Vol. 74, 85-90, 2001.
- 43) L. Davydov, E.P. Reddy, P. France, and P.G. Smirniotis, "*Transition-Metal Substituted Titania-Loaded MCM-41 as Photocatalysts in Visible Light*", **Journal of Catalysis**, Vol. 203, 157-167, 2001.

- 44) B. M. Reddy, B. Chowdhury, P. G. Smirniotis, "An XPS study of La<sub>2</sub>O<sub>3</sub> and In<sub>2</sub>O<sub>3</sub> Influence on the Properties of MoO<sub>3</sub>/TiO<sub>2</sub> Catalysts", Applied Catalysis A: General, Vol. 219, 53-60, 2001.
- 45) S. Gopal, K. Yoo, and P. G. Smirniotis, "Synthesis of Al-rich ZSM-12 Zeolite using TEA+ Cation as Template", Microporous and Mesoporous Materials, Vol. 49, 149-156, 2001.
- 46) S. Gopal, and P. G. Smirniotis, "Deactivation Behavior of Large Pore Pt/H-zeolite Catalyst during Cyclopentane Hydroconversion", Journal of Catalysis, Vol. 205, 231-243, 2002.
- 47) E.P. Reddy, L. Davydov, and P.G. Smirniotis, "Synthesis, Characterization and Photocatalytic Activity of Titania loaded Cadmium incorporated MCM-41", Catalysis Letters. Vol. 79, p. 183-189, 2002.
- 48) K. Yoo and P. G. Smirniotis, "The influence of Si/Al ratios of synthesized beta zeolites for the Alkylation of i-butane with 2-butene", Applied Catalysis A: General, v.227, p. 171-179, 2002.
- 49) E. P. Reddy, L. Davydov, and P. G. Smirniotis, "Characterization of TiO<sub>2</sub> loaded V, Fe and Cr Incorporated MCM-41 by XRD, TPR, UV-Vis, Raman and XPS Techniques", **Journal of Physical Chemistry B**, Vol. 106, 3394-3401, 2002.
- 50) A.V. Vorontsov, L. Davydov, E.P. Reddy, C. Lion, E.N. Savinov, and P.G. Smirniotis, "Routes of Photocatalytic Destruction of Chemical Warfare Agents Simulants", New Journal of Chemistry, Vol. 26, 732-744, 2002.
- 51) K. Yoo, E. C. Burckle, and P. G. Smirniotis, "Isobutane/2-Butene Alkylation using Large Pore Zeolites in Mild Reaction Conditions", Journal of Catalysis, Vol. 211, 6-18, 2002.
- 52) A.V. Vorontsov, A. A. Panchenko, E.N. Savinov, C. Lion, and P.G. Smirniotis, "Photocatalytic Degradation of 2-phenethyl-2-chloroethylsulfide in Liquid and Gas Phases", Environmental Science and Technology, Vol. 36, 5261-5269, 2002.
- 53) Y.-C. Chen and P. G. Smirniotis, "Enhancement on Photocatalytic Degradation by Ultrasound using Phenol and Chlorophenols", accepted for publication Industrial & Engineering Chemistry Research, Vol. 41, 5958-5965, 2002.
- 54) R. Tsekov, E. Evstatieva, and P. G. Smirniotis, "Surface Diffusion Control of the Photocatalytic Oxidation in Air/TiO<sub>2</sub> Heterogeneous Reactors", Phys. Chemical Communication, Vol. 5(24), 161-164, 2002.

- 55) E.P. Reddy, L. Davydov, and P.G. Smirniotis, "TiO<sub>2</sub>-loaded Zeolites and MCM-41 in the Sonophotocatalytic Decomposition of Aqueous Organic Pollutants: The Role of the Support", Applied Catalysis B: Environmental, Vol. 42, 1-11, 2003.
- 56) D. V. Kozlov, A. V. Vorontsov, P. G. Smirniotis and E. N. Savinov, "Gas-phase photocatalytic oxidation of Diethylsulfide over TiO<sub>2</sub>: Kinetic Investigations and Catalyst Deactivation", Applied Catalysis B: Environmental, Vol. 42, 77-87, 2003.
- 57) S. Gopal, and P. G. Smirniotis, "Pt/H-ZSM-12 as a Catalyst for the Hydroisomerization of  $C_5$  to  $C_7$  n-Alkanes and Simultaneous Saturation of Benzene", Applied Catalysis A: General, Vol. 247, 113-123, 2003.
- 58) A.V. Vorontsov, E.N. Savinov, C. Lion, and P.G. Smirniotis, "TiO<sub>2</sub> Reactivation in Photocatalytic Destruction of Gaseous Diethylsulfide in a Coil Reactor", **Applied Catalysis B:Environmental.** Vol. 44, 25-40, 2003.
- 59) E. V. Kuznetsova, E.N. Savinov, A. Vorontsov, and P.G. Smirniotis, "Heterogeneous Oxidation of Cu(OH)<sub>2</sub>/α-Fe<sub>2</sub>O<sub>3</sub> under Visible Light: Routes of Photocatalytic Destruction of Chemical Warfare Agents Simulants", **Reaction Kinetic and Catalysis Letters**, Vol. 78(2), 341-348, 2003.
- 60) D.V. Bavykin, E. N. Savinov, and P. G. Smirniotis, "Kinetics of the TiO<sub>2</sub> Films growth produced by the Hydrothermal Hydrolysis of TiOSO<sub>4</sub>", Reaction Kinetic and Catalysis Letters, Vol. 79(1), 77-84, 2003.
- 61) B. Sun, A.V. Vorontsov, and P.G. Smirniotis, "The Role of Platinum deposited on Titania during Phenol Photocatalytic Oxidation", Langmuir, Vol. 19, 3151-3156, 2003.
- 62) K. Yoo, and P. G. Smirniotis, "Study on Deactivation Pathway of one-Dimensional Zeolites, ZSM-12 and LTL, for the Alkylation of Isobutane with 2-Butene", Applied Catalysis A: General, Vol. 246, 243-251, 2003.
- 63) K. Yoo, R. Kashfi, S. Gopal, P. G. Smirniotis, M. Gangoda, and R. N. Bose, "*TEABr Directed Synthesis of ZSM-12 and its NMR Characterization*", **Microporous and Mesoporous Materials**, Vol. 60, 57-68, 2003.
- 64) Y.-C. Chen, A.V. Vorontsov, and P.G. Smirniotis, "Enhanced Photocatalytic Degradation of Dimethyl Methylphosphonate in the presence of Low-Frequency Ultrasound", Photochemical and Photobiological Sciences, Vol. 2, 694-698, 2003.
- 65) A. V. Vorontsov, C. Lion, E. N. Savinov, and P. G. Smirniotis, "Pathways of Photocatalytic Gas Phase Destruction of HD Simulant 2-Chloroethyl Ethylsulfide", Journal of Catalysis, Vol. 220, 414-423, 2003.
- 66) B. Sun, and P. G. Smirniotis, "Interaction of Anatase and Rutile TiO<sub>2</sub> Particles in Aqueous Photooxidation", Catalysis Today, Vol. 88, 49-59, 2003.

- 67) K. Yoo, R. Tsekov, and P.G. Smirniotis, "Experimental and Theoretical Proof of Resonant Diffusion of Normal Alkanes in One-Dimensional Zeolites, LTL and ZSM-12", Physical Chemistry B, Vol. 107, 13593-13596, 2003.
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- 2) <u>Title</u>: Sulfur tolerant highly durable CO2 sorbents,
- P.G. Smirniotis, H. Lu, *Date of submission:* 12/10/2009, US **8,114,808 issued on February 14, 2012.**

## PAPERS PRESENTED IN SYMPOSIA CONFERENCES AND MEETINGS:

Dr. Smirniotis has presented over 200 papers in national and international conferences. About a quarter of them are invited talks.