



M. Tsapatsis

The author presented on this page has recently published his **10th article** in *Angewandte Chemie* in the last 10 years:

“Oriented CoSAPO-5 Membranes by Microwave-Enhanced Growth on TiO<sub>2</sub>-Coated Porous Alumina”: J. A. Stoeger, M. Palomino, K. V. Agrawal, X. Zhang, G. N. Karanikolos, S. Valencia, A. Corma, M. Tsapatsis, *Angew. Chem.* **2012**, 124, 2520–2523; *Angew. Chem. Int. Ed.* **2012**, 51, 2470–2473.

## Michael Tsapatsis

<b>Date of birth:</b>	July 26, 1965
<b>Position:</b>	Amundson Professor, Department of Chemical Engineering and Materials Science, University of Minnesota
<b>E-mail:</b>	tsapatsis@umn.edu
<b>Homepage:</b>	<a href="http://www.cems.umn.edu/research/tsapatsis/">http://www.cems.umn.edu/research/tsapatsis/</a>
<b>Education:</b>	1988 Diploma in chemical engineering, University of Patras (Greece) 1994 PhD with George R. Gavalas, California Institute of Technology 1994 Postdoctoral position with Mark E. Davis, California Institute of Technology
<b>Awards:</b>	<b>2005</b> Stratis V. Sotirchos Memorial Lecturer; <b>2006</b> Van Ness Lecturer; Robert W. Vaughan Lecturer; <b>2007</b> Charles M. A. Stine Award; <b>2011</b> American Association for the Advancement of Science Fellow
<b>Current research interests:</b>	Synthesis of molecular sieve thin films, adsorbents and catalysts; energy-efficient separation and purification processes; reaction engineering for renewable fuels and chemicals; nucleation and growth in solution
<b>Hobbies:</b>	Discovering ideas in old and forgotten papers; running when I can

**When I was eighteen I wanted to be ...** a chemical engineer.

**Looking back over my career, I ...** am hopeful, based on the progress achieved so far, that molecular sieve films will become a widespread energy-efficient separation technology.

**I am waiting for the day when someone will discover ...** the “αεκίνητρον” (perpetual motion machine).

**The biggest challenge facing scientists is ...** to ensure the peaceful use of their discoveries.

**My first experiment was ...** a failure.

**My favorite quote is ...** “never give up, never surrender” from the film “Galaxy Quest”.

**My biggest inspiration is ...** my wife.

**My favorite way to spend a holiday is ...** with my family somewhere warm and sunny.

**My favorite reaction is ...**  $A + 2B \rightarrow 3B$  (the prototype autocatalytic reaction).

**My science “heroes” are ...** my teachers and advisors.

**If I had one year of paid leave I would ...** take it immediately.

**If I could be a piece of lab equipment, I would be ...** the first electron microscope.

**My favorite book is ...** “The Structure of Scientific Revolutions” by Thomas S. Kuhn.

### My 5 top papers:

1. “Dispersible Exfoliated Zeolite Nanosheets and Their Application as a Selective Membrane”: K. Varoon, X. Zhang, B. Elyassi, D. D. Brewer, M. Gettel, S. Kumar, J. A. Lee, S. Maheshwari, A. Mittal, C.-Y. Sung, M. Cococcioni, L. F. Francis, A. V. McCormick, K. A. Mkhoyan, M. Tsapatsis, *Science* **2011**, 334, 72–75. (Near-term technological implications for energy-efficient separations using membranes.)
2. “Silica-Nanoparticle Coatings by Adsorption from Lysine–Silica-Nanoparticle Sols on Inorganic and Biological Surfaces”: N. Atchison, W. Fan, D. Brewer, M. A. Arunagirinathan, B. J. Hering, S. Kumar, K. K. Papas, E. Kokkoli, M. Tsapatsis, *Angew. Chem.* **2011**, 123, 1655–1659; *Angew. Chem. Int. Ed.* **2011**, 50, 1617–1621. (A promising use of nanoparticles for coatings and encapsulation of cells.)
3. “Grain Boundary Defect Elimination in a Zeolite Membrane by Rapid Thermal Processing”: J. Choi, H. K. Jeong, M. A. Snyder, J. A. Stoeger, R. I. Masel, M. Tsapatsis, *Science* **2009**, 325, 590–594. (An unexpected and exciting discovery that appears contrary to common sense.)
4. “Hierarchical Nanomanufacturing: From Shaped Zeolite Nanoparticles to High Performance Separation Membranes”: M. A. Snyder, M. Tsapatsis, *Angew. Chem.* **2007**, 119, 7704–7717; *Angew. Chem. Int. Ed.* **2007**, 46, 7560–7573. (A Review citing important papers and concepts and presenting an overview of our approach to thin-film formation.)
5. “Microstructural Optimization of a Zeolite Membrane for Organic Vapor Separation”: Z. Lai, G. Bonilla, I. Diaz, J. G. Nery, K. Sujaoti, M. A. Amat, E. Kokkoli, O. Terasaki, R. W. Thompson, M. Tsapatsis, D. G. Vlachos, *Science* **2003**, 300, 456–460. (Crystal engineering was used to grow crystals with better separation properties.)

DOI: 10.1002/anie.201202071