

1. NAME AND ACADEMIC RANK: Dimiter N. Petsev, Professor
2. DEGREES:
 - 1987 MS, Chemical Physics, University of Sofia, Sofia, Bulgaria
 - 1996 PhD, Physical Chemistry, University of Sofia, Sofia, Bulgaria
3. NUMBER OF YEARS SERVICE ON THIS FACULTY: 13 YEARS
4. OTHER RELATED EXPERIENCE – TEACHING, INDUSTRIAL, ETC.:
 - 1996 – 1998 Postdoctoral Research Associate, Chemistry Department, Purdue University
 - 1998 – 1999 Research Associate, Center for Materials Research, UAH
 - 1999 –2003 Senior Research Associate, Center for Materials Research, UAH
5. CONSULTING AND PATENTS:
 - 9 US Patent Applications
6. PRINCIPAL PUBLICATIONS IN LAST FIVE YEARS:
 - N. J. Carroll, P. F. Crowder, W. Patterson, D. R. Ratnaweera, D. Perahia, P. Atanassov, and D. N. Petsev, **Microfluidic Synthesis of Monodisperse Nanoporous Oxide Particles and Control of Hierarchical Pore Structure**, *ACS Appl. Mater. Interfaces*, **5** (2013) pp. 3524-3529.
 - E. M. Benner and D. N. Petsev **Potential flow in the presence of a sudden expansion. Application to capillary driven transport in porous media**, *Phys. Rev. E*, **87** (2013) pp. 033008.
 - M. Fleharty, F. van Swol and D. N. Petsev, **The Effect of Charge Regulation on Conductivity in Nanopores**, *J. Colloid Interface Sci.*, **416** (2014) pp. 105-111.
 - F. van Swol and D. N. Petsev, **Molecular Dynamics Simulation of Binary Hard Sphere Colloids Near Glass Transition**, *RSC Advances*, **4** (2014) pp. 21631-21637.
 - C. W. Narváez Villarrubia, C. Lau, G. Ciniciato, S. O. Garcia, S. Sibbett, D. Petsev, S. Babanova, G. Gupta, and P. Atanassov, **Practical Electricity Generation from a Paper Based Biofuel Cell Powered by Glucose in Ubiquitous Liquids**, *Electrochem. Comm.*, **45** (2014) pp. 44-47.
 - M. Fleharty, F. van Swol and D. N. Petsev, **Manipulating Semiconductor Colloidal Stability through Doping**, *Phys. Rev. Lett.*, **113** (2014) pp. 158302.
 - M. Fleharty, F. van Swol and D. N. Petsev, **Electric Double Layers at the Semiconductor-Electrolyte Interface**, *J. Colloid Interface Sci.*, **449** (2015) pp. 409-415. (*Editor's Choice*)
 - M. Fleharty, F. van Swol and D. N. Petsev, **Solvent Role in the Formation of Electric Double Layers with Surface Charge Regulation: a Bystander or a Key Participant?**, *Phys. Rev. Lett.*, **116** (2016) pp. 048301.

- R. Vangara, D. C. R. Brown, F. van Swol and D. N. Petsev, **Electrolyte Solution Structure and Its Effect on the Properties of Electric Double Layers with Surface Charge Regulation**, *J. Colloid Interface Sci.*, **488** (2017) pp. 180-189.
- R. Vangara, D. C. R. Brown, D. J. Prakash, D. N. Petsev and F. van Swol, **Corrosion and Surface Charge in Electric Double Layers by Classical Density Functional Theory**, in “Proceeding of the 2017 DOD-Allied Nations Technical Corrosion Conference”, 2017-732014.
- R. Vangara, F. van Swol and D. N. Petsev, **Solvation Effects on the Potential and Charge Distributions in Electric Double Layers**, *J. Chem. Phys.*, **147** (2017) 214704. (*Editor’s Pick*)
- R. Vangara, F. van Swol and D. N. Petsev, **Solvophilic and Solvophobic Surfaces and Non-Coulombic Surface Interactions in Charge Regulating Electric Double Layers**, *J. Chem. Phys.*, **148** (2018) 044702.
- E. Benner and D. N. Petsev, **Evaporation Effect on Two-Dimensional Wicking in Porous Media**, *J. Colloid Interface Sci.*, **514** (2018) 21-29.
- J. Toro-Mendoza, M. Garcia-Sucre, D. N. Petsev, **Deformation of Brownian Emulsion Droplets**, in “**Topics in Colloidal Aggregation and Interfacial Phenomena**”, M. Garcia-Sucre, J. Toro-Mendoza, A. Castellanos-Suarez and A. Lozsan, Editors (Res. Signpost, 2013), Chapter 8, pp. 225-243.
- N. Carroll and D. N. Petsev, **Microfluidics for Particle Synthesis**, in “**Topics in Colloidal Aggregation and Interfacial Phenomena**”, M. Garcia-Sucre, J. Toro-Mendoza, A. Castellanos-Suarez and A. Lozsan, Editors (Res. Signpost, 2013), Chapter 11, pp. 286-299.
- E. M. Benner and D. N. Petsev, **Evaporation Influences on Wicking in Thin Porous Strips**, in “**Porous Media: Theory, Properties and Applications**”, D. Wolfe, Editor, (Nova Science Publishers, 2016), Chapter 3, pp. 87-124.

SCIENTIFIC AND PROFESSIONAL SOCIETIES:

American Chemical Society

8. HONORS AND AWARDS:

NSF/CAREER Award

Junior faculty Research Award 2011

9. INSTITUTIONAL AND PROFESSIONAL SERVICE IN THE LAST FIVE YEARS:

Editorial Advisory Board: Langmuir

Editorial Advisory Board: Journal of Colloid and Interface Science

10. PERCENTAGE OF TIME AVAILABLE FOR RESEARCH OR SCHOLARLY ACTIVITIES: 75%

11. PERCENTAGE OF TIME COMMITTED TO THE PROGRAM: 100%