Professor Simcha Srebnik

Department of Chemical Engineering, Technion – Israel Institute of Technology, Haifa, Israel 32000.
Email: simchas@technion.ac.il
Phone: 04-829-3584

Academic Degrees

1994, B.Sc., Chemical Engineering, University of Toledo, Ohio.
1998, Ph.D., Chemical Engineering, University of California at Berkeley.

Academic Appointments

2008-present, Associate Professor, Department of Chemical Engineering, Technion – Israel Institute of Technology.

2001-2008, Senior Lecturer, Department of Chemical Engineering, Technion – Israel Institute of Technology.

1999-2001, Post-Doctoral researcher, Division of Environmental Sciences, The Hebrew University of Jerusalem. Advisors: Prof. Ovadia Lev and Prof. David Avnir.

Honors

2005, Best "Educational" Poster Award, COPS VII, Aix-en-Provence.
1999, Levi-Eshkol postdoctoral fellowship, The Hebrew University of Jerusalem.
1997, University Fellowship for Graduate Students, Univ. of California at Berkeley.
1994, National Science Foundation Graduate Fellowship.
1993, American Institute of Chemical Engineers Toledo Section Outstanding Senior.
1992, American Institute of Chemical Engineers Toledo Section Outstanding Junior.
1991, Society of Women Engineers Academic Achievement Award.
Golden key National Honor Society.
Tau Beta Pi (Honor Society).

Publications

1. S. Srebnik, A.K. Chakraborty, and E.I. Shakhnovich, Adsorption-freezing transition for random heteropolymers near disordered 2D manifolds due to 'pattern matching,' *Physical Review Letters*, v. 77, 3157-3160, 1996.
2. S. Srebnik, A.K. Chakraborty, and D. Bratko, Random heteropolymer adsorption on multifunctional surfaces: Effects of distinct intersegment interactions, *Journal of Chemical Physics*, v. 109, 6415-6419, 1998.
3. S. Srebnik, The role of segment interactions in pattern recognition between random heteropolymers and disordered surfaces, *Journal of Chemical Physics*, v. 112, 9655-9660, 2000.
4. S. Srebnik, O. Lev, and D. Avnir, Pore size distribution induced by microphase separation: Effect of the leaving group during polycondensation, *Chemistry of Materials*, v. 13, 811-816, 2001.
5. S. Srebnik, Theoretical model of the porosity of copolymer membranes, *Journal of Membrane Science*, v. 184, 97-106, 2001.
6. S. Srebnik, Solvent effects on heteropolymer adsorption, *Journal of Chemical Physics*, v. 114, 9179-9183, 2001.
7. A.D. Modestov, S. Srebnik, O. Lev, and J. Gun, Scanning capillary microscopy/mass spectrometry for mapping spatial electrochemical activity of electrodes, Analytical Chemistry, v. 73, 4229-4240, 2001.

8. S. Srebnik and O. Lev, Towards establishing criteria for polymer imprinting using mean field theory, *Journal of Chemical Physics*, v. 116, 10967-10972, 2002.
9. S. Srebnik, Induced porosity in cross-linked polymer networks: Mean field theory and simulations, Studies in Surface Science and Catalysis 144: *Characterization of Porous Solids VI*, Amsterdam Elsevier Science, v. 144, 43-50, 2002.
10. S. Srebnik and O. Lev, Theoretical investigation of imprinted cross-linked silicates, *Journal of Sol-Gel Science and Technology*, v. 26, 107-113, 2003.
11. V. Freger and S. Srebnik, Mathematical model for the formation of thin film composite membranes, *Journal of Applied Polymer Science*, v. 88, 1162-1169, 2003.
12. S. Srebnik, Polymer adsorption on periodic surfaces with relevance to membrane fouling, *Chemical Engineering Science*, v. 58, 5291-5298, 2003.
13. S. Srebnik, Theoretical investigation of the imprinting efficiency of molecularly imprinted polymers, *Chemistry of Materials*, v. 16, 883-888, 2004.
14. Y. Moskovitz and S. Srebnik, Enzyme stabilization using grafted polymers, *Physical Review E*, v. 70, 032902, 2004.
15. H. Cooper, E. Segal, S. Srebnik, R. Tchoudakov, M. Narkis and A. Siegmann, Electrically conductive sensors for liquids based on ternary immiscible polymer blends containing polyaniline, *Polymers for Advanced Technologies*, v. 15, 573-582, 2004. Times cited: 7. JIF: 2.007.
16. Y. Moskovitz and S. Srebnik, Mean-field model of immobilized enzymes embedded in grafted polymer layer, *Biophysical Journal*, v. 89, 22-31, 2005. Times cited: 9. JIF: 3.653.
17. S. Srebnik, Phase behavior of physically cross-linked asymmetric random heteropolymers, *Physical Review E*, v. 72, 051802, 2005.
18. E. Rossinsky and S. Srebnik, Monte Carlo simulation of protein folding in presence of residue-specific binding sites, *Biopolymers*, v. 79, 259-268, 2005.
19. I. Yungerman and S. Srebnik, Factors contributing to pore imperfections in imprinted polymers, *Chemistry of Materials*, v. 18, 657-663, 2006.
20. H. Cooper, E. Sega1, S. Srebnik, R. Tchoudakov, and M. Narkis, Electrically conductive sensors for liquids based on quaternary EVA/copolyamide/maleated-EVA/polyaniline blends, *Journal of Applied Polymer Science*, v. 101, 110-117, 2006.
21. I. Kusner and S. Srebnik, Conformational behavior of semi-flexible polymers confined to a cylindrical surface, *Chemical Physics Letters*, v. 430, 84-88, 2006.
22. S. Srebnik, I. Yungerman, G. Kochav, and M. Sheintuch, Activated diffusion in relaxed porous structures, *Chemical Engineering Science*, v. 62, 2242-2253, 2007.
23. I. Gurevitch and S. Srebnik, Multi-helical conformations of polymers adsorbed on carbon nanotubes, *Chemical Physics Letters*, v. 444, 96-100, 2007.
24. I. Kusner and S. Srebnik, Vector imitation model of semiflexible polymers: Application to polymer adsorbed on a spherical particle, *Macromolecules*, v. 40, 6432-6438, 2007.
25. I. Gurevitch and S. Srebnik, Conformational behavior of polymers adsorbed on nanotubes, *Journal of Chemical Physics*, v. 128, 144901, 2008.
26. R. Nadler and S. Srebnik, Molecular Simulation of Polyamide Synthesis by Interfacial Polymerization, *Journal of Membrane Science*, v. 315, 100-105, 2008.
27. S. Srebnik, Physical association of polymers with nanotubes, *Journal of Polymer Science: Polymer Physics*, v. 46, 2711, 2008 (special issue).
28. S. Srebnik and M. Sheintuch, Diffusion enhancement in composites of nanotubes and porous structures, *Molecular Simulation*, v. 35, 100, 2009 (invited).

29. R. Oizerovich-Honig, V. Raim, and S. Srebnik, Simulation of thin film membranes formed by interfacial polymerization, *Langmuir*, 26 (2010) 299.
30. L. Levi and S. Srebnik, Simulation of protein-imprinted polymers. 1. Imprinted pore properties, *Journal of Physical Chemistry B*, 114 (2010) 107.
31. L. Levi and S. Srebnik, Simulation of protein-imprinted polymers. 2. Imprinting efficiency, *Journal of Physical Chemistry B*, 114 (2010) 16744.
32. L. Levi and S. Srebnik, Structural characterization of protein-imprinted gels using lattice Monte Carlo simulation, *Macromolecular Symposia*, 291-292 (2010) 258.
33. Srebnik S. and Douglas J.F., Self-assembly of charged particles on nanotubes and the emergence of particle rings, chains, ribbons and chiral sheets, *Soft Matter*, 7 (2011) 6897.
34. L. Levi, V. Raim, and S. Srebnik, A Brief review of theoretical and computational studies of molecular imprinting, *Journal of Molecular Recognition*, 24 (2011) 883. Times cited: 1. JIF: 3.31.
35. L. Levi and S. Srebnik, Simulation of protein-imprinted polymers. 3. Imprinting selectivity, *Journal of Physical Chemistry B*, 49 (2011) 14469.
36. Moskovitz Y. and Srebnik S., Thermal Stability limits of proteins in solution and adsorbed on a hydrophobic surface, *Physical Chemistry Chemical Physics*, 14 (2012) 8013.