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1980-1986	BC, Molecular and Chemical Physics, Moscow Physico-Technical Institute
1986-1990	Ph.D., Institute of Chemical Physics of the Russian Academy of Sciences.
1991-1993	Post-Doctoral Fellow, University of Twente, The Netherlands.
1993-2000	Habilitation on polymer chemistry, University of Ulm, Germany.
from 2001	Assistant Professor, Department of Chemistry, UNC at Chapel Hill.

SCIENTIFIC PUBLICATIONS

(ordered chronologically, 1989-2000)

I. Review articles:

1. Sheiko, S.S.; Möller, M. "Scanning Force Microscopy on the Orientation of Gel-crystallized Ultra High Molecular Weight Polyethylene" in "Oriented Polymer Materials" Eds. S.Fakirov, Hüthling & Wepf, Heidelberg, 1996, p. 210-237.
2. Sheiko, S.S.; Turetzki, A.A.; Hopken, J.; Möller, M. "Molecular Organization of Polystyrene and Polymethylmethacrylate with Fluorocarbon Side Chains" in *Macromolecular Engineering*, Ed. M.K. Mishra, Plenum Press, New York 1995, p.219-227.
3. Sheiko S.S. "Imaging of Polymers Using Scanning Force Microscopy: From Superstructures to Individual Molecules" *Adv. Polymer Sci* 151, 61-174, (1999).
4. Sheiko S.S.; Möller M. "Hyperbranched Macromolecules: Soft Particles with Adjustable Shape and Capability to Persistent Motion" in *Topics in Polymer Chemistry. Dendrimers III*. Ed. F. Vögtle, Springer-Verlag, Heidelberg, 2000 (in press).
5. Sheiko S.S.; Möller M. "Visualization of Individual Molecules – An Intriguing Way to Discover New Functional Properties" *Chem. Rev.* to be published in 2001.

II. Patents

6. Sheiko S.S., Möller M., Reuvekamp E.M.C.M., Rogalla H., "Mesoscopic Calibration of AFM Tips", patent application, NL-9202179, 1992.

III. Reviewed articles:

7. Jashin, A.; Sheiko, S.S.; Zhuk, A.; Vainilovitch, I.S.; Magonov, S.N. "Tensile machine for stretching of polymer films" *Prib. Tehn. Eksp. (Russ.)* 4, 246, (1989).
8. Sheiko, S.S.; Oleinik, E.F. "Strain recovery in single crystal mats of polyethylene", *Vysokomol. Soedin. (Russ.)* B32 145, (1990).
9. Sheiko, S.S.; Salamatina, O.B.; Rudnev, S.N.; Oleinik, E.F. „Mechanism of plastic deformation of glassy polymers. Amorphous poly(ethyleneterephthalate)“ *Vysokomol. Soedin. (Russ.)* B32, 1844, (1990).

10. Magonov, S.N.; Vainilovitch, S.N.; Sheiko, S.S. "FTIR spectroscopy of polymer films under uniaxial stretching. 1. Atactic polystyrene" *Polym. Bull.* 25, 491, (1991).
11. Sheiko, S.S., Vainilovitch, I.S.; Magonov, S.N. "FTIR spectroscopy of polymer films under uniaxial stretching. 2. Amorphous and semicrystalline polyethyleneterephthalate" *Polym. Bull.* 25, 499, (1991).
12. Sheiko, S.S.; Frey, H.; Möller, M. "FT-IR studies of the mechanical response of the crystalline fraction in ultrastrong polyethylene tapes" *Coll. Polym. Sci.* 270, 440, (1992).
13. Möller, M.; Frey, H.; Sheiko S.S. "Blending, gel drawing and UV-crosslinking of ultra high molecular weight polyethylene and poly(di-n-pentylsilylene)" *Coll. Polym. Sci.* 271, 345-353, (1993).
14. Dickland, H.G.; Sheiko, S.S.; v. der Does, L.; Möller, M.; Bantjes, A. "An Atomic Force Microscopy Study on the morphology of elastomer-coagent blends" *Polymer* 34, 1773-1775, (1993).
15. Magonov, S.N.; Sheiko, S.S.; Deblieck, R.A.C.; Möller, M. "Atomic Force Microscopy of gel-drawn ultra high molecular weight polyethylene" *Macromolecules* 23, 1380-1386, (1993).
16. Sheiko S.S., Möller M., Cantow H.-J., Magonov S.N., "Scanning Force Microscopy of Nanofibrillar Structure of Drawn Polyethylene Tapes 1. Different Modes and Tips", *Polymer Bulletin*, 31, 693-698, (1993).
17. Sheiko, S.S.; Möller, M.; Reuvekamp, E.M.C.M.; Zandbergen, H.W. "Calibration and evaluation of scanning-force-microscopy probes" *Phys. Rev. B* 48, 5675-5678, (1993).
18. Sheiko, S.S.; Möller, M.; Reuvekamp, E.M.C.M.; Zandbergen, H.W. "Evaluation of the probing profile of scanning-force-microscopy tips" *Ultramicroscopy* 53, 371-380 (1994).
19. Sheiko, S.S.; Kunz, M.; Möller, M. "An Atomic Force Microscopy Study of the Necking Process of Gel Drawn Ultra-High Molecular Weight Polyethylene" *Polymer Science* 35, 1609-1617 (1994). *Official Engl. Translation of Vysokomolekul. Soed.* 35, nr.11, 1903-1912 (1993).
20. Wawkuschewski, A., Cantow, H.-J.; Magonov, S.N.; Sheiko, S.S.; Möller, M. "Scanning Force Microscopy of Nanofibrillar Structure of Drawn Polyethylene Tapes 2. Measurements under Water" *Polymer Bulletin* 31, 699-705 (1993).
21. van der Laan, G.P., de Haas M.P., Hummel A., Frey H., Sheiko S., Möller M., "Anisotropic Radiation Induced Conductivity in Oriented Poly(di-n-hexyl-silylene) in solid state and in the Mesophase" *Macromolecules* 27, 1897 (1994).
22. Frey, H.; Sheiko, S.; Möller, M.; Wittmann, J.C.; Lotz, B. "Highly Oriented Poly(di-n-alkylsilylene) films on Oriented PTFE Substrates" *Adv. Mater.* 5, 917-919 (1994).
23. Spatz, J.; Sheiko, S.; Möller, M.; Winkler, R.; Reineker, P.; Marti O. "Forces Affecting the Substrate in Resonant Tapping Force Microscopy" *Nanotechnology* 6, 40-44, (1995).
24. Spatz, J.P., Roescher, A.; Sheiko, S.; Krausch, G.; Möller, M. "Noble Metal Loaded Block Ionomers: Micelle Organization, Adsorption of Free Chains and Formation of Free Films", *Advanced Materials* 7, 731-735 (1995).
25. Sheiko, S.; Frey, H.; Blomers, B.; Möller, M. "Substrate-Induced Orientation of Poly(di-n-alkylsilylenes)" *Langmuir* 12, 584-587 (1996).
26. Molenberg, A.; Sheiko, S.; Möller, M. "A Block Copolymer from Polystyrene and Columnar Liquid-Crystalline Polydiethylsiloxane" *Macromolecules* 29, 3397-3400 (1996).

27. Sheiko, S.S.; Eckert, G.; Ignat'eva, G.; Muzafarov, A.M.; Spickermann, J.; Räder, H.J.; Möller, M. "Solid-like States of a Dendrimer Liquid Displayed by Scanning Force Microscopy" *Macromol. Chemie, Rapid Comm.* 17, 283-297 (1996).
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29. Spatz, J.P.; Sheiko, S.; Möller, M. "Substrate Induced Lateral Micro-Phase Separation by Self-ordering of a Diblock Copolymer" *Advanced Materials* , 8, 513-517 (1996)
30. Sheiko, S.; Lermann, E.; Möller, M. "Self-Dewetting of Perfluoroalkylmethacrylate Films on Glass" *Langmuir* 12, 4015-4024 (1996)
31. Winkler, R.G.; Spatz, J.P.; Sheiko, S.; Möller, M.; Reineker, P.; Marti, O. „Imaging Material Properties by Resonant Tapping Force Microscopy: A Model Investigation“ *Phys. Rev. B.* 54, 8908-8912 (1996)
32. Sheiko S., Kunz M., Deckmann H., Möller M., "Nanofibrillar Structure of Gel-Drawn UHMW PE", *Acta Polymerica.* 47, 492-497 (1997)
33. Fossum, E.; Matyashevskij, K.; Sheiko, S.; Möller, M. "Morphology Studies of Polystyrene-block-Poly(methylphenylsilylene)" *Macromolecules* 30, 1765-1767 (1997).
34. Sheiko, S.S.; Gauthier, M.; Möller, M. "Film Formation of Arborescent Graft Polystyrenes" *Macromolecules* 30, 2343-2349 (1997).
35. Sheiko, S.S.; Gerle, M.; Fischer, M.; Schmidt, M.; Möller, M. „Worm-like Polystyrene Brushes in Thin Films“ *Langmuir* 13, 5368-5772 (1997).
36. Sheiko, S.S.; Muzafarov, A.M.; Winkler, R.G.; Getmanova, E.V.; Eckert, G.; Reineker, P. "Contact Angle Microscopy on a Carbosilane Dendrimer with Hydroxyl End Groups: A Method for Mesoscopic Characterization of the Surface Structure" *Langmuir* 13, 4172-4181 (1997).
37. Spatz, J.P.; Sheiko, S.; Möller, M.; Winkler, R.; Reineker, P.; Marti, O. "Tapping Scanning Force Microscopy in Air - Theory and Experiment" *Langmuir* 13, 4699-4703 (1997).
38. Mazo, M.A.; Sheiko, S.S.; Perov, N.S.; Gusarova, E.B.; Balabaev, N.K. „Molecular Dynamic Simulation of Molecular Structure of Carbosilane Dendrimers“ *Izvestiya of Russian Academy of Sciences, Phys. Ser.* 61, 1728 (1997).
39. Baumann, F.; Deubzer, B.; Geck, M.; Dauth, J.; Sheiko, S.S.; Schmidt, M. "Soluble Organosilicon-Micronetworks with Spatially Confined Reaction Sites" *Advanced Materials* 9, 955-958 (1997)
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42. Krupers, M.J.; Sheiko, S.S.; Möller, M. „Micellar morphology of a Semifluorinated Diblock Copolymer“ *Polym. Bull.* 40, 211-217 (1998).
43. Prokhorova, S.A.; Sheiko, S.S.; Möller, M., Ahn, C.-H.; Percec, V. „Molecular Imaging of Monodendron Jacketed Linear Polymers by Scanning Force Microscopy“ *Makromol. Rapid Comm.* 19, 359-366 (1998).

44. Spatz, J.P.; Sheiko, S.S.; Möller, M. "Shape and Quality Control of Modified Scanning Force Microscopy Tips" *Ultramicroscopy* **75**, 1-4 (1998).
45. Hempenius, M.A.; Langeveld-Voss, B.M.W.; van Haare, J.A.E.H.; Janssen, R.A.J.; Sheiko, S.S.; Spatz, J.P.; Möller, M.; Meijer, E.W. "A Polystyrene-Oligothiophene-Polystyrene Triblock Copolymer" *J. Am. Chem. Soc.* **120**, 2798-2804 (1998).
46. Percec, V.; Ahn, C.-H.; Cho, W.-D.; Jamieson, A.M.; Kim, J.; Leman, T.; Schmidt, M.; Gerle, M.; . Möller, M.; Prokhorova, S.A.; Sheiko, S.S.; Cheng, S.Z.D.; Zhang, A.; Ungar, G.; Yeardley, D.J.P. *J. Am. Chem.Soc.* **120**, 8619-8631 (1998).
47. Polyakov, D.K.; Ignat'eva, G.M.; Rebrov, E.A.; Vasilenko, N.G.; Muzafarov, A.M.; Sheiko, S.S.; Möller, M. "Starl-shaped Multi-arm Poly(styrene-*block*-isoprene)" *Polymer Science. Ser. A*, **40**, 876-883 (1998) *Translated from Vysokomolekul. Soed.* **A40**, 1421-1429 (1998)
48. Huck, W.T.S.; van Veggel, F.C.J.M.; Sheiko, S.S.; Möller, M.; Reinhoudt, D.N. "Molecularly Thin Films of Metallo dendrimers" *J. Phys. Org. Chem.* **11**, 540-545 (1998).
49. Beers, K.; Gaynor, S.G.; Matyjaszewski, K., Sheiko, S.S.; Möller, M. "The synthesis of Densely Grafted Copolymers by Atom Transfer Radical Polymerization" *Macromolecules* **31**, 9413-9415 (1998)
50. Sheiko, S.S.; Buzin A.I.; Muzafarov, A.M.; Rebrov, E.A.; Getmanova, E.V. „Spreading of carbosilane dendrimers on the air/water interface“ *Langmuir* **14**, 7468-7474 (1998).
51. Sheiko, S.S.; Prokhorova S.A.; Schmidt U.; Dziezok, P.; Schmidt, M. ; Möller, M „Sparse Coatings by Disperse Adsorption of Molecular Brushes“ *ACS Symposium Series 741* Tsukruk V.V.; Wahl, K.J. Eds. (1999) 346-355.
52. Sheiko, S.S.; Slangen, P.-J.; Krupers, M.; Mourran, A.; Möller, M „Wetting Behavior of Thin Films of Polymethacrylates With Oligo(hexafluoropropene oxide) Side Chains“ *ACS Symposium Series* Castner, D.G.; Grainger, D.W. Eds. (1999) in press.
53. Gerle, M.; Fischer, K.; Schmidt, M.; Roos, S.; Müller, A.H.E.; Sheiko, S.S.; Prokhorova, S.A.; Möller, M. „Main Chain Conformation and Anomalous Elution Behavior of Cylindrical Brushes by GPC/MALLS, Light Scattering and SFM“ *Macromolecules* **32**, 2629-2637 (1999)
54. Prokhorova, S.A.; Sheiko, S.S.; Ahn, C.-H.; Percec, V.; Möller, M. „Molecular Conformations of Monodendron Jacketed Polymers by Scanning Force Microscopy“ *Macromolecules* **32**, 2653-2660 (1999)
55. Schwegler, L.A.; Sheiko, S.S.; Möller, M.; Fossum, E.; Matyjaszewski, K. "Preparation of Telechelic Polysilylenes: A General Methodology for the Synthesis of Polysilylene Based Triblock Copolymers" *Macromolecules* **32**, 5901-5904 (1999).
56. Mazo, M.A.; Zhilin, P.A.; Gusarova, E.B. ; Sheiko, S.S.; Balabaev, N.K. „Molecular Dynamics Simulation of Dendrimer Itramolecular Mobility“ (Russian) *Izvestiya Akadem. Nauk, Ser. Fiz.* **62**, 1098-1102 (1998)
57. Mazo, M.A.; Zhilin, P.A.; Gusarova, E.B. ; Sheiko, S.S.; Balabaev, N.K. „Computer Simulation of Itramolecular Mobility of Dendrimers“ *J. Molec. Liquids* **82**, 105-116 (1999)
58. Emmerich, O.; Hugenberg, Schmidt, M.; N.; Sheiko, S.S.; Baumann, F.; Deubzer, B.; Weis, J.; Ebenhoch, J. "Molecular Boxes Based on Hollow Organosilicon Micronetworks" *Advanced Materials* **11**, 1299-1303 (1999)
59. Khalatur, P.G., Khokhlov, A.R.; Prokhorova, S.A., Sheiko, S.S.; Möller, M.; Reineker, P. Shirvanyanz, D.G.; Starovoitova, N. "Unusual Conformation of Cylindrical Brushes Strongly Adsorbed on a Flat Solid Substrate" *Europ Phys J.* **1**, 99-103 (2000)

60. Zhang, X.-Y.; Klein, J.; Sheiko, S.S.; Muzafarov, A. "Normal and Shear Behavior Between Two Mica Surfaces with Adsorbed Carbosiloxane Dendrimer" *Langmuir* **16**, 3893-3901 (2000).
61. Beginn, U.; Sheiko, S.S.; Möller, M. "Self-Organisation of 3,4,5-Tris(octyloxy)benzamide in Solution and Embedding of the Aggregates into Methacrylate Resins" to be published in *Macromolecular Chemistry and Physics*. (2000) in press.
62. Prokhorova, S.A.; Sheiko, S.S.; Mourran, A.; Möller, M.; Beginn, U.; Zipp, G.; Ahn, C.-H.; Percec, V. „Epitaxial Crystallization of Monodendron Jacketed Linear Polymers on HOPG: studied by SFM and STM“ *Langmuir* **16**, 6862 -6867 (2000).
63. Sheiko, S.S.; Prokhorova, S.A.; Beers, K.; Matyjaszewski, K.; Potemkin, I.I.; Khokhlov, A.R.; Möller, M. "Conformational Transition of Cylindrical Brushes Confined to the Air-Water Interface" submitted to *Phys Rev Lett*.
64. Sheiko, S.S.; Borisov, O.V.; Prokhorova, S.A., Schmidt U, Möller, M.; Schmidt, M. "Microsegregation of Cylindrical Molecular Brushes: Scaling Analysis and Microscopic Observation" to be submitted to *Europ Phys J*.
65. Mourran, A.; Sheiko, S.S., Krupers, M.; Möller, M. "Vitrification of Breath Figures: New Approach towards Patterning of Polymer Surfaces" to be submitted to *Adv. Mater*.
66. Sheiko, S.S.; Lermann, E.; Pieper, T.; Möller, M. „Structure and Phase Behaviour of Perfluorododecyleicosan.“ to be submitted to *J. Phys. Chem.*.

IV. Conference contributions:

67. Hopken J., Sheiko S., Czech, Möller M., "Polymer surface modification by fluorocarbon-hydrocarbon substituents" *Polymer Preprint (Am. Chem. Soc., Div. Polym. Chem)* **33**(1), 937, (1992).
68. Sheiko S.S., Magonov S.N., Möller M. "AFM study of gel-drawn UHMW PE" *Polymer Preprint (Am. Chem. Soc., Div. Polym. Chem)* **33**(1), 788, (1992).
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73. Prokhorova S.A.; Schmidt U.; Sheiko, S.S.; Möller, M.; Dziezok, P.; Schmidt, M. „Adsorption of Poly(2-vinylpyridine) Wormlike Polyelectrolyte Brushes on Mica Studied in situ by MAC Mode“. Application Note, Molecular Imaging Inc. Arizona, USA, June, 1998.
74. Sheiko, S.S.; Prokhorova, S.A.; Möller, M., Ahn, C.-H.; Percec, V. „Surface Patterning by „Fat“ Macromolecules with a Well Defined Cylindrical Shape“ *Polymer Preprint (Am. Chem. Soc., Div. Polym. Chem)* **39**(2), 1157-1158 (1998).

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76. Mourran, A.; Sheiko, S.S., Krupers, M.; Möller, M. “Breath Figures and Surface Emulsion: New Approach to Pattern of Polymer Surfaces” *PMSE Proceedings of the Am. Chem. Soc.* 80 , 175-176 (1999)
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78. Beers, K.; Matyjaszewski, K.; Sheiko, S.S.; Prokhorova, S.A.; Möller, M. “Poly(n-Butyl Acrylate) Brush Macromolecules by ATRP: Determination of Contour Length from Fractionation and AFM Studies” *Polymer Preprint (Am. Chem. Soc., Div. Polym. Chem)* 40(2) 446-447 (1999).
79. Mourran, A.; Sheiko, S.S., Möller, M. “Vitrified condensation pattern in thin polymer films. New approach for micropatterning” *PMSE Proceedings of the Am. Chem. Soc.* 81, 426-427 (1999).
80. Sheiko, S.S.; Buzin A.; Muzafarov, A.M. “Interfacial ordering and wetting behavior of dendrimer liquids studied by scanning force microscopy” to be published in *Polymer Preprint (Am. Chem. Soc., Div. Coll. & Surf. Chem)* (1999).