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Curriculum Vitae

Sergiy Minko

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Summary of major accomplishments

Sergiy Minko is the Georgia Power Professor in Fiber and Polymer Science with joint appointments in the Department of Textiles, Merchandising and Interiors (TMI) and Department of Chemistry at the University of Georgia. In 2003-2013, he occupied the position of Egon Matijevic Chair Professor in the Department of Chemistry and Biomolecular Science at Clarkson University, Potsdam, NY, USA. Before joining Clarkson in 2003, he held a senior research position at the Leibniz Institute of Polymer Research in Dresden, Germany. He completed his academic education in the Ukraine, gaining an MS in Chemical Engineering and a PhD in Chemistry from Lviv Polytechnic National University. He also holds a DSc in Macromolecular Chemistry from the Institute of Physical Chemistry, National Academy of Sciences and Ministry of Education, Ukraine. Sergiy Minko's research concentrates on biomaterials, nanostructured materials, responsive materials, single-molecule research, colloids, nanoparticles, thin films, gels, fibers, fabrics, coatings, polymers, polymer interfaces, and polymer composites.

In 1997-1998, Sergiy Minko was an Alexander von Humboldt Research Fellow at the University of Ulm, Germany. He has been a Visiting Professor at Vienna University of Technology in Austria, at the Institut Charles Sadron, CNRS, Strasbourg, France, the Max Planck Institute for Polymer Research, Mainz, Germany, and Department of Materials Science and Engineering, Massachusetts Institute of Technology (MIT), Cambridge, MA, USA.

Published 220+ articles in peer-reviewed scholarly journals, 20 chapters in books, and filed 24 patents/ patent applications; all cited 20,000 times with H-index 70 (Google Scholar); since 2004, gave 200+ lectures/seminars; conducted interdisciplinary research on 65+ projects

Education

Institute of Physical Chemistry, National Academy of Sciences (NAS), Ukraine	Polymer Science, D.Sc.	06/1993
Lviv Polytechnic National University, Ukraine	Chemistry, Ph.D.	11/1983
Lviv Polytechnic National University, Ukraine	Chemical Engineering, MS/BS with Distinction Prize	06/1979

Professional Experience

Georgia Power Professor in Fiber and Polymer Science, TMI and Chemistry Departments, **The University of Georgia**	2014-present
2020 - present Board Secretary, CFO, CytoNest, Inc., Athens, GA	2020-present
Egon Matijevic Chaired Professor, Department of Chemistry and Biomolecular Science, **Clarkson University**, Potsdam, NY	2003-2013
Senior Staff Scientist and Group Leader**, Leibniz Institute of Polymer Research, Dresden**, Germany	2000–2003
Head, Department of Chemistry of Oxidation Processes and Professor, **Institute of Physical Chemistry**, NAS, Lviv, Ukraine (*Leave of Absence 1998-2000*)	1993–1997
Senior Research Fellow and Group Leader, **Institute of Physical Chemistry**, NAS, Lviv, Ukraine	1983–1993

Visiting/Sabbatical Positions

Department of Materials Science and Engineering, Department of Chemical Engineering, **MIT**, Cambridge, MA	2009-2010
Max Planck Institute for Polymer Research, Mainz, Germany	1999-2000
Department of Colloids and Interfaces, **Institute Charles Sadron, CNRS**, Strasbourg, France	1998-1999
Alexander von Humboldt Fellow, Department of Experimental Physics, **University of Ulm**, Germany	1997–1998
Vienna University of Technology, Austria	1993

Teaching Interests:

Basic and advanced courses in materials science, biomaterials, polymer science, nanostructured materials, fibers and fabrics.

Research Interests

Biomaterials, biointerfaces, enzyme catalysis, nanostructured materials, responsive materials, single molecule research, colloids, nanoparticles, capsules, hydrogels, thin films, polymers, polymer interfaces, polymer composites, microfluidic devices, nanosensors, separation membranes, smart coatings, porous materials, fibers, textiles

List of publications

Publications in peer-reviewed journals:

229. A. Gruzd, A. Tokarev, I. Tokarev, D. Kuksenkov, S. Minko All-Nanoparticle Monolayer Broadband Antireflective and SelfCleaning Transparent Glass Coatings, ***ACS Applied Materials & Interfaces*** **2021**, DOI:10.1021/acsami.0c18776.

228. Yadavalli, N. S.; Asheghali, D.; Tokarev, A.; Zhang, W. Z.; Xie, J.; Minko, S., ***Small*** **2020**, 16 (11). DOI 10.1002/smll.201907422.

227. Saremi, R.; Borodinov, N.; Laradji, A. M.; Sharma, S.; Luzinov, I.; Minko, S., ***Molecules*** **2020**, 25 (14). DOI 10.3390/molecules25143238.

226. Liyanapathiranage, A.; Pena, M. J.; Sharma, S.; Minko, S., ***ACS Omega*** **2020**, 5 (16), 9196-9203. DOI 10.1021/acsomega.9b04498.

225. Chawathe, M.; Asheghali, D.; Minko, S.; Jonnalagadda, S.; Sidorenko, A., ***ACS Applied Bio Materials*** **2020**, 3 (7), 4118-4127. DOI 10.1021/acsabm.0c00217.

224. Asheghali, D.; Lee, S.-J.; Furchner, A.; Gruzd, A.; Larson, S.; Tokarev, A.; Stake, S.; Zhou, X.; Hinrichs, K.; Zhang, L. G.; Minko, S., Enhanced neuronal differentiation of neural stem cells with mechanically enhanced touch-spun nanofibrous scaffolds. ***Nanomedicine : nanotechnology, biology, and medicine*** **2020**, 24, 102152-102152.

223. Lee, S.-J.; Asheghali, D.; Blevins, B.; Timsina, R.; Esworthy, T.; Zhou, X.; Cui, H.; Hann, S. Y.; Qiu, X.; Tokarev, A.; Minko, S.; Zhang, L. G., Touch-Spun Nanofibers for Nerve Regeneration. ***ACS Applied Materials & Interfaces*** **2020**, 12 (2), 2067-2075.

222. Tokarev, I.; Minko, S., Preprogrammed Dynamic Microstructured Polymer Interfaces. ***Advanced Functional Materials*** **2020**, 30 (2), 1903478.

221, Gao, H.; Asheghali, D.; Yadavalli, N. S.; Minh Thien, P.; Tho Duc, N.; Minko, S.; Sharma, S., Fabrication of core-sheath nanoyarn via touchspinning and its application in wearable piezoelectric nanogenerator. ***Journal of the Textile Institute*** **2020**, 12 (2), 2067-2075; DOI 10.1080/00405000.2019.1678558.

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S Bakshi, S.; Zakharchenko, A.; Minko, S.; Kolpashchikov, D.M.; Katz, E. Towards Nanomaterials for Cancer Theranostics: A System of DNA-Modified Magnetic Nanoparticles for Detection and Suppression of RNA Marker in Cancer Cells, ***Magnetochemistry*** **2019**, 5 (2), 24.

219. Gao, H.; Minh, P.T. Wang, H.; Minko, S.; Locklin, J.; Nguyen, T.; Sharma, S. High-performance flexible yarn for wearable piezoelectric nanogenerators, ***Smart Materials and Structures,*** **2018**, 27 (9), 095018.

218. Filipov, Y.; Zakharchenko, A.; Minko, S.; Katz, E. Magneto-Controlled Biocatalytic Cascades with Logically Processed Input Signals - Substrate Channeling versus Free Diffusion. ***Chemphyschem*** **2018**, 19, 3035-3043.

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215. Borodinov, N.; Gil, D.; Savchak, M.; Gross, C. E.; Yadavalli, N. S.; Ma, R.; Tsukruk, V. V.; Minko, S.; Vertegel, A.; Luzinov, I. En Route to Practicality of the Polymer Grafting Technology: One-Step Interfacial Modification with Amphiphilic Molecular Brushes. ***ACS Applied Materials & Interfaces*** **2018**, 10, 13941-13952.

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213. Bakshi, S.; Guz, N. V.; Zakharchenko, A,; Deng, H.; Tumanov, A. V.; Woodworth, G. D. Minko S.; Kolpashchikov, D. M.; Katz, E. Nanoreactors based on DNAzyme-functionalized magnetic nanoparticles activated by magnetic field, ***Nanoscale,*** **2018**, 10 (3), 1356-1365; DOI: 10.1039/ C7NR08581H.

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191. Katz, E.; Minko, S. Enzyme-Based Logic Systems Interfaced with Signal-Responsive Materials and Electrodes, ***Chem. Comm***. **2015**, 51, 3493-3500.

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Patents

24. Minko S, Sharma S, Hardin I, Luzinov I, Wu D S, Zakharchenko A, Saremi R, Kim Y S,

Method of dyeing textile material e.g. cotton fabric, involves preparing dyed nanocellulose dispersion at preset concentration from wood pulp fibers using homogenizer, and dyeing textile material using dyed nanocellulose dispersion, Patent Number(s): US2016010275-A1 ; US9506187-B2; Published: 14 Jan 2016

23. Gartstein, V.; Sherman, F. F.; Oh, H.; Lupitskyy, R.; Motornov, M.; Minko, S. Foam manipulation compositions containing fine particles, Patent Number:US 09376648, Published:JUN 28 2016.

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hydrophilic and hydrophobic components, and immobilizing components inside membranes pores. Patent Number(s): US8829062-B1. Published: 09 Sep 2014.

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3. Voronov, S. A.; Puchin, V.; Tokarev, V. S.; Kiselyov, E.; Minko, S. S.; Dikiy, M.; Vayda, M. Random copolymers of 1-tert-butylperoxyisopropyl-4-isopropenylbenzene and styrene as macroinitiators of grafted polymerization. SU 887578, 1981.

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1. Voronov, S. A.; Puchin, V.; Zaichenko, A.; Minko, S. S.; Tokarev, V. S.; Lastuhin, Y.; Kiselyov, E. Copolymers of vinylacetate with maleic anhydride and dimethylvinylethynylmethyl-tert-butylperoxide for self-hardening materials. SU 619488, 1978.

Synergistic Activities

Organized Symposia:

- Polymer Materials Science & Engineering Symposium "Functional Polymer Thin Films for Switching, Sensing and Adaptive Applications", the American Chemical Society National Meeting, March 2004, Anaheim, CA; received a PRF and industrial grant for the organization of the symposium
- Symposium "Advanced Nanostructured Materials: Smart Colloids and Nanoparticles. Responsive Surfaces and Thin Films", 79th Annual American Chemical Society Colloid and Surface Science Symposium, June 2005, Potsdam, NY
- Polymer Materials Science & Engineering Symposium, "Assembly, Structure, and Dynamics of Tethered Polymer Systems", the American Chemical Society National Meeting, Spring 2006, Atlanta, GA; received industrial grants for the organization of the symposium
- Polymer Materials Science & Engineering Symposium, "Responsive and Interactive Polymer Materials and Multicomponent Systems", the American Chemical Society National Meeting, August 2008, Philadelphia, PA; received PRF, NSF and industrial grants for the organization of the symposium
- Polymer Materials Science & Engineering Symposium, "Smart Hybrid Micro- and Nanoparticles" the American Chemical Society National Meeting, August 2009, Philadelphia, PA; received PRF, NSF and industrial grants for the organization of the symposium.
- Polymer Materials Science & Engineering Symposium, Hybrid Smart Micro- and Nanoparticles, the American Chemical Society National Meeting, August 2009, Washington, DC; received PRF, NSF and industrial grants for the organization of the symposium.
- Smart Polymer Systems iSmithers Conference, 5-6 May, 2010, in Atlanta, GA.
- Symposium Smart polymer materials & hybrid systems at 37th North East Regional Meeting of the American Chemical Society in Potsdam, NY, June 2-5, 2010.
- Smart Polymer Systems iSmithers Conference, 25-26 May, 2011, in Mainz, Germany.
- Half a Century of Fine Particles Science: A Symposium in Honor of Egon Matijević at 90", 244th ACS National Meeting & Exposition, Division of Colloid and Surface Science, August 19-23, 2012, Philadelphia, Pennsylvania
- Remotely Controlled Colloids and Interfaces: 245th ACS National Meeting & Exposition, Division of Colloid and Surface Science, April, 7-11, 2013, New Orleans.
- Mini-symposium Surface functionalization of fibrous materials as a part of the Fiber Society Fall Symposium in Clemson, SC, October 23-25, 2013.
- Magnetically stimulated soft matter, International conference, Athens, GA, May 11-12, 2015.
- Materials from Renewables International Conference, Fargo, ND, July 19-20, 2016

- Fiber Society Fall Conference and Materials from Renewables International Conference, Athens, GA, November 8-10, 2017

Editorial:

- Editor of a special issue of Advanced Functional Materials "Magnetically stimulated soft-matter, 2025-2016.
- Editor of the Team Issue Remotely Controlled Colloids, Interfaces, and Biosystems, Particles & Particle Systems Characterization, Willey, 2013
- Book editor: Responsive Polymer Materials: Designs and Applications, Willey-Blackwell Publishing, 2006
- A consulting editor of the special issue "Smart Clothes" in September 2006 of the magazine for teenagers *Odyssey*.

PhD/MS Students advised

Name	Status	Year of Ph D/ MS degree or dates of post-doc appointment	Academic Degree Received or planned
Igor Luzinov	Graduate student	1990	PhD
Iryna Goliat	Graduate student	1992	PhD
Rostislav Musij	Graduate student	1993	PhD
Alex Sidorenko	Graduate student	1994	PhD
Andriy Voronov	Graduate student	1995	PhD
Vladimir Senkovsky	Graduate student	2002	PhD
Galina Gafijchuk	Graduate student	2003	PhD
Denis Usov	Graduate student	2004	PhD
Mikhail Motornov	Graduate student	2004	PhD
Ihor Tokarev	Graduate student	2004	PhD
Leonid Ionov	Graduate student	2005	PhD
Ganna Gorodyska	Graduate student	2005	PhD
Nikolai Huobenov	Graduate student	2005	PhD
Max Orlov	Graduate student	2007	PhD
Robert Lupytskyy	Graduate student	2009	PhD
Roman Sheparovych	Graduate student	2010	PhD
Venkat Gopishetty	Graduate student	2010	PhD

Anton Grigoriev	Graduate student	2013	PhD
Deepthi Santhosh Pippalla	Graduate student	2011	MS
Oleksandr Trotsenko	Graduate student	2015	PhD
Taoufik Youbi	Graduate student	2013	MS
Stephen Hefferle	Graduate student	2012	MS
Kenneth Yancey	Graduate student	2012	MS
Andrey Zakharchenko	Graduate student	2018	PhD
Matthew Neal	Graduate student	2014	MS
Alexey Gudz	Graduate student	Current, at UGA	PhD
Amine Mohamed Laradji	Graduate student	2018	PhD
Darya Asheghali	Graduate student	2018	PhD
Raha Saremi	Graduate student	2018	PhD
Xue Wang	Graduate student	2020	PhD
Lauren Talbert	Graduate student	2017	MS
Yongwook Kim	Graduate student	Current, at UGA	PhD
Anuradhi Nayana Kumari Liyanapathiranage Dona	Graduate student	Current, at UGA	PhD
Shubham Sharma	Graduate student	Current, at UGA	PhD
Brianna Blevins	Graduate student	Current, at UGA	PhD