Sergey N. Semenov

Department of Molecular Chemistry and Materials Science sergey.semenov@weizmann.ac.il

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**Education**

* Harvard University 2014 – 2017

Postdoctoral Fellow

* Radboud University of Nijmegen, The Netherlands 2010 – 2014

Postdoctoral Fellow

* University of Zurich, Switzerland 2006 – 2011

Ph.D., Chemistry (with honors, top 5%)

* Moscow State University, Russia 2001 – 2006

M.S., Chemistry (with honors)

**Research Interests**

Autocatalysis, Chemical Networks, Origin of Life, Systems Chemistry, Catalysis, Organometallic Chemistry, Electrochemistry

**Research Experience**

* Assistant Professor (Senior Scientist) 2018 – Present

Weizmann Institute of Science

Department of Molecular Chemistry and Materials Science

* Postdoctoral Fellow, Harvard University 2014 – 2017

Department of Chemistry and Chemical Biology

Advisor: George M. Whitesides

Physical-Organic Chemistry, Chemical Reaction Networks, Origin of Life, Complexity

* Marie Curie Fellow, Radboud University of Nijmegen 2012 – 2014

Institute of Molecules and Materials

Advisor: Wilhelm T.S. Huck

* Postdoctoral Fellow, Radboud University of Nijmegen 2010 – 2012

Institute of Molecules and Materials

Advisor: Wilhelm T.S. Huck

Reaction-Diffusion Networks, Soft-Matter, Biophysics

* Research associate, University of Zurich 2006 – 2010

Chemistry Department

Advisor: Heinz Berke

**Awards and Scholarships**

* Scientific Council Prize for Chemistry 2024 2024
* Clore Prize 2018 2018
* Marie Curie Intra-European Fellowship (Grant 300519, ~200000 €) 2012
* Auszeichnung from University of Zurich 2010
* SCNAT/SCS Chemistry Travel Award 2010
* Forschungskredit research grant from University of Zürich (~50000 CHF) 2008
* Grant for talented students and young scientists of Moscow State University 2006
* Third award at Samsung idea contest 2005

**Funding**

External funding

* Binational Science Foundation (NSF-BSF) (264000 USD) 2024
* Minerva Foundation (150000 EUR) 2024
* Israel Science Foundation grant (330000 USD) 2023
* ACS Petroleum Fund grant (new direction) (110000 USD) 2022
* Israel Science Foundation grant (440000 USD) 2019
* Israel Science Foundation equipment grant (253000 USD) 2019

Internal funding

* SAERI Seed and Boost funding (75000 USD) 2024
* Yeda-Sela-SABRA-WRC (360000 USD) 2020, 2021, 2023
* WIS-UChicago Collaboration (100000 USD for two sides) 2019
* SAERI grant (with Baran Eren 150000 USD for two sides) 2022

Student’s funding

* Polina Fomitskaya (ministry of absorption grant (~30000 USD)) 2023
* Ilya Puchkin (ministry of absorption grant (~30000 USD)) 2023
* Tatiana Michnevich (ministry of absorption grant (~30000 USD)) 2022
* XiuXiu Li (Dean fellowship 50% (~30000 USD)) 2021
* Miriam Somekh (Dean fellowship 50% (~30000 USD)) 2020
* Alexander Novichkov (ministry of absorption grant (~30000 USD)) 2018

**Invited Talks**

* Invited lecture, “From life-inspired materials to the origin of life: dissipative structures by molecular design”, Technion, Haifa, Israel, December 16, 2024.
* Prof. Fred and Cyd Hassner memorial lecture, “From life-inspired materials to the origin of life: dissipative structures by molecular design”, Bar-Ilan University, Ramat Gan, Israel, December 02, 2024.
* Invited lecture, “From life-inspired materials to the origin of life: dissipative structures by molecular design”, Flatiron Institute, New York, NY, USA, November 20, 2024.
* Invited lecture, “From life-inspired materials to the origin of life: dissipative structures by molecular design”, Brandeis University, Waltham, MA, USA, November 18, 2024.
* Invited lecture, “From life-inspired materials to the origin of life: dissipative structures by molecular design”, Johns Hopkins University, Baltimore, MD, USA, November 14, 2024.
* Invited lecture, “Oscillators, waves, and patterns by molecular design”, Gordon Research Conference on Systems Chemistry, Portland, ME, USA, June 16-21, 2024.
* Keynote lecture, “From life-inspired materials to the origin of life: dissipative structures by molecular design”, Gordon Research Seminar on Systems Chemistry, Portland, ME, USA, June 15-16, 2024.
* Invited lecture, “Dissipative structures by molecular design: potential for application of ML”, CUNY Advanced Science Research Center, New York, USA, June 14, 2024.
* Invited lecture, “From life-inspired materials to the origin of life: dissipative structures by molecular design”, Dartmouth College, Hanover, NH, USA, June 13, 2024.
* Invited lecture, “Oscillators, waves, and patterns by molecular design”, Columbia University, New York, USA, March 22, 2024.
* Invited lecture, “From life-inspired materials to the origin of life: oscillators, waves, and patterns by molecular design”, Georgia Institute of Technology, Atlanta, USA, March 21, 2024.
* Invited lecture, “Spatiotemporal control of hydrogel actuators by autocatalytic reaction networks”, ACS spring meeting, New Orleans, USA, March 17-21, 2024.
* Invited lecture, “From molecules to dynamic structures: the rational design of chemical oscillators, waves, and patterns”, Arizona State University, Tempe, USA, February 23, 2023.
* Invited lecture, “Coupling of alternating current to transition metal catalysis”, 7th International Conference on Catalysis and Chemical Engineering, Las Vegas, USA, February 20-22, 2023.
* Invited lecture, “Chemical Turing Patterns”, CCB Turing Symposium: The Chemical Basis of Morphogenesis at 70, Flatiron Institute, New York, USA, October 19-21, 2022.
* Invited lecture, “The role of out-of-equilibrium conditions in prebiotic chemistry”, ILASOL 2022, Jerusalem, 30 May 2021
* Invited lecture, “Coupling of alternating current to transition metal catalysis”, Ben-Gurion University of Negev, Beer-Sheva, 23 November 2021
* Invited lecture, “Thiolate-based autocatalytic reaction networks”, ILASOL 2021, 20 April 2021
* Invited lecture, “Thiolate-based autocatalytic reaction networks”, ChemSystemsMeet conference, 22-23 March 2021
* Invited lecture, “Thiolate-based autocatalytic reaction networks”, Ben-Gurion University of Negev, Beer-Sheva, 2 December 2019
* Invited lecture, “Thermodynamics and Kinetics of Oscillatory reactions”, ITMO University, St. Petersburg, Russia, 28 May 2018
* Invited lecture, “Autocatalytic, bistable, oscillatory networks of biologically relevant organic reaction”, Hebrew University, Jerusalem, 2 March 2018
* Invited lecture, “Autocatalytic, bistable, oscillatory networks of biologically relevant organic reaction”, Technion, Haifa, 28 January 2018
* Keynote speaker, “Oscillations in networks of organic and enzymatic reactions: towards active smart materials” 2017 International Conference on BioNano Innovation, 24-27 September, Brisbane, Australia. 2017
* Invited lecture, “Autocatalytic, bistable, oscillatory networks of biologically relevant organic reaction”, Nanyang Technological University, Singapore, 7 February 2016
* Invited lecture, “Autocatalytic, bistable, oscillatory networks of biologically relevant organic reaction”, Institute of Organic Chemistry, Russia Academy of Science, Moscow, Russia, 26 December 2016

**Publications**

ResearchGate <https://www.researchgate.net/profile/Sergey_Semenov>

Google Scholar <https://scholar.google.com/citations?user=e7uZBT0AAAAJ&hl=en>

ResearcherID <http://www.researcherid.com/rid/A-2322-2015>

**Book chapters**

1. **Sergey N. Semenov** “*De novo* Design of Chemical Reaction Networks and Oscillators and Their Relation to Emergent Properties” in “*Out-of-Equilibrium (Supra) molecular Systems and Materials*” Eds. Nicolas Giuseppone and Andreas Walther, *John Wiley & Sons* (2021)

**Published and accepted manuscripts**

1. Arpita Paikar, Xiuxiu Li, Liat Avram, Barbara S Smith, István Sütő, Dezső Horváth, Elisabeth Rennert, Yuqing Qiu, Ágota Tóth, Suriyanarayanan Vaikuntanathan, **Sergey N. Semenov** “Chemical waves in reaction-diffusion networks of small organic molecules” // ***Chem. Sci.*** (2025), *16*, 659-669.
2. Ekaterina A. Zhigileva, Ilia A. Puchkin, **Sergey N. Semenov** “A pseudo-catalytic network motif for thiol-based chemical reaction networks” // ***ChemSystemsChem*** (2024), e202400072.
3. Nikita Orekhov, Nina Bukhtiiarova, Zlata A. Brushevich, Anton A. Muravev, Nadav Elad, Yael Tsarfati, Anna Kossoy, Isai Feldman, Anastasia Zelenina, Anna A. Rubekina, **Sergey N. Semenov**, Ekaterina V. Skorb “Altering the structures of 3D supramolecular assemblies from melamine and cyanuric acid derivatives in water” // ***Chem. Commun.*** (2024), *60*, 10680-10683.
4. Xiuxiu Li, Polina Fomitskaya, Viktoryia A. Smaliak, Barbara S. Smith, Ekaterina V. Skorb, **Sergey N. Semenov** “Selenium catalysis enables negative feedback organic oscillators” // ***Nat. Commun.*** (2024), *15*, 3316.
5. Anton I. Hanopolskyi, Tatiana A. Mikhnevich, Arpita Paikar, Boaz Nutkovich, Iddo Pinkas, Tali Dadosh, Barbara S. Smith, Nikita Orekhov, Ekaterina V. Skorb, **Sergey N. Semenov** “Interplay between autocatalysis and liquid-liquid phase separation produces hierarchical microcompartments” // ***Chem*** (2023), *9,* 3666-3684.
6. Gonen Ashkenasy, Stuart Kauffman, Doron Lancet, Sijbren Otto, Kepa Ruiz-Mirazo, **Sergey N. Semenov**, Joana Xavier “Collectively autocatalytic sets” // ***Cell Rep. Phys. Sci.*** (2023), *4*, 101594.
7. Evgeniy O. Bortnikov, Barbara S. Smith, Dmitriy M. Volochnyuk, **Sergey N. Semenov** “Stirring-Free Scalable Electrosynthesis Enabled by Alternating Current” // ***Chem. Eur. J.*** (2023), *29*, e202203825.
8. Julius Gemen, Michał J Białek, Miri Kazes, Linda J. W. Shimon, Moran Feller, **Sergey N. Semenov**, Yael Diskin-Posner, Dan Oron, Rafal Klajn “Ternary Host-Guest Complexes with Rapid Exchange Kinetics and Photoswitchable Fluorescence” // ***Chem*** (2022), *8*, 2362-2379.
9. Evgeniy O. Bortnikov, **Sergey N. Semenov** “Unconventional Approaches for Organic Electrosynthesis: Recent Progress” // ***Curr. Opin. Electrochem***. (2022), *35*, 101050.
10. Timur A. Aliev, Alexandra A. Timralieva, Tatiana A. Kurakina, Konstantin E. Katsuba, Yulia A. Egorycheva, Mikhail V. Dubovichenko, Maxim A. Kutyrev, Vladimir V. Shilovskikh, Nikita Orekhov, Nikolay Kondratyuk, **Sergey N. Semenov**, Dmitry M. Kolpashchikov, Ekaterina V. Skorb “Designed assembly and disassembly of DNA in supramolecular structure: From ion regulated nuclear formation and machine learning recognition to running DNA cascade” // ***Nano Select*** (2022), *3*, 1526-1536.
11. Arpita Paikar, Alexander I. Novichkov, Anton I. Hanopolskyi, Viktoryia A. Smaliak, Xiaomeng Sui, Nir Kampf, Ekaterina V. Skorb, **Sergey N. Semenov** “Spatiotemporal Regulation of Hydrogel Actuators by Autocatalytic Reaction Networks” // ***Adv. Mater.*** (2022), *34*, 2106816. Selected for the front cover.
12. Xiaoming Miao, Arpita Paikar, Benjamin Lerner, Yael Diskin-Posner, Guy Shmul, **Sergey N. Semenov** “Kinetic selection in the out-of-equilibrium autocatalytic reaction networks that produce macrocyclic peptides” // ***Angew. Chem. Int. Ed.*** (2021), *60*, 20366-20375. Hot paper, highlighted in Chemistry Views.
13. Alexander I. Novichkov, Anton I. Hanopolskyi, Xiaoming Miao, Linda J. W. Shimon, Yael Diskin-Posner, **Sergey N. Semenov** “Autocatalytic and oscillatory reaction networks that form guanidines and products of their cyclization” // ***Nat. Commun.*** (2021), *12*, 2994.
14. Deborah Fass, **Sergey N. Semenov** “Previously unknown type of protein crosslink discovered” (News & Views) // ***Nature*** (2021) *593*, 343-344.
15. Evgeniy O. Bortnikov, **Sergey N. Semenov** “Coupling of Alternating Current to Transition-Metal Catalysis: Examples of Nickel-Catalyzed Cross-Coupling” // ***J. Org. Chem.*** (2021), *86*, 782–793.
16. Anton I. Hanopolskyi, Viktoryia A. Smaliak, Alexander I. Novichkov, **Sergey N. Semenov** “Autocatalysis: Kinetics, Mechanisms and Design” // ***ChemSystemsChem***, (2021), *3*, e2000026.
17. Ekaterina V. Skorb, **Sergey N. Semenov** “Mathematical Analysis of a Prototypical Autocatalytic Reaction Network” // ***Life****,* (2019), *9*, 42 – 52.
18. Brian J. Cafferty, Albert S. Y. Wong, **Sergey N. Semenov**, Lee Belding, Samira Gmür, Wilhelm T. S. Huck, George M. Whitesides “Robustness, Entrainment, and Hybridization in Dissipative Molecular Networks, and the Origin of Life” // ***J. Am. Chem. Soc****.,* (2019), *141*, 8289 – 8295.
19. **Sergey N. Semenov**, Lee Belding, Brian J. Cafferty, Maral P.S. Mousavi, Anastasiia M. Finogenova, Ricardo Cruz, Ekaterina V. Skorb, George M. Whitesides “Autocatalytic Cycles in a Copper-Catalyzed Azide-Alkyne Cycloaddition Reaction” // ***J. Am. Chem. Soc****.,* (2018), *140*, 10221 – 10232.
20. Yulia Lanchuk, Anna Nikitina, Nadzeya Brezhneva, Sviatlana A. Ulasevich, **Sergey N. Semenov**, Ekaterina V. Skorb, “Photocatalytic Regulation of an Autocatalytic Wave of Spatially Propagating Enzymatic Reactions” // ***ChemCatChem*** (2018), *10*, 1798 - 1803.
21. **Sergey N. Semenov**, Alar Ainla, Ekaterina V. Skorb, Sjoerd G. J. Postma, “Four‐Variable Model of an Enzymatic Oscillator Based on Trypsin” // ***Israel Journal of Chemistry***, (2018), *58*, 781 - 786.
22. Shencheng Ge, **Sergey N. Semenov**, Amit A. Nagarkar, Jonathan Milette, Dionysios C. Christodouleas, Li Yuan, George M. Whitesides “Magnetic Levitation To Characterize the Kinetics of Free-Radical Polymerization” // ***J. Am. Chem. Soc****.,* (2017), *139*, 18688 – 18697.
23. **Sergey N. Semenov**, Lewis J. Kraft, Alar Ainla, Mengxia Zhao, Mostafa Baghbanzadeh, Victoria E. Campbell, Kyungtae Kang, Jerome M. Fox, George M. Whitesides “Autocatalytic, Bistable, Oscillatory Networks of Biologically Relevant Organic Reaction” // ***Nature***, (2016), *537*, 656 – 660.
24. Carleen M. Bowers, Dmitrij Rappoport,Mostafa Baghbanzadeh, Felice C. Simeone, Kung-Ching Liao, **Sergey N. Semenov**, Tomasz Żaba, Piotr Cyganik, Alan Aspuru-Guzik, George M. Whitesides “Tunneling across SAMs Containing Oligophenyl Groups” // ***J. Phys. Chem. C****,* (2016), *120*, 11331 – 11337.
25. Florian Schwarz, Georg Kastlunger, Franziska Lissel, Carolina Egler-Lucas, **Sergey N. Semenov**, Koushik Venkatesan, Heinz Berke, Robert Stadler, Emanuel Lörtscher “Field-induced Conductance Switching by Charge-state Alternation in Organometallic Single-Molecule Junctions” // ***Nature Nanotechnol.***, (2016), *11*, 170 - 176.
26. Albert S.Y. Wong, Sjoerd Postma, Ilia N. Vialshin, **Sergey N. Semenov**, Wilhelm T. S. Huck “The influence of molecular structure on the properties of out-of-equilibrium oscillating enzymatic reaction networks” // ***J. Am. Chem. Soc****.,* (2015), *137*, 12415 – 12420.
27. **Sergey N. Semenov,** Albert S.Y. Wong, Martijn van der Made, Sjoerd Postma, Rik van Roekel, Tom F. A. De Greef, Wilhelm T. S. Huck “Rational design of functional and tunable oscillating enzymatic networks” // ***Nature Chemistry***, (2015**)**, *7*, 160 – 165.
28. **Sergey N. Semenov**, Albert J. Markvoort, Tom F. A. de Greef, Wilhelm T. S. Huck “Threshold Sensing Through a Synthetic Enzymatic Reaction-Diffusion Network” // ***Angew. Chem. Int. Ed.*** (2014), 53, 8066 – 8069.
29. **Sergey N. Semenov**, Sjoerd G.J. Postma, Ilia N. Vialshin, Wilhelm T. S. Huck “Fluorescent hydrogels for studying Ca2+ - dependent reaction-diffusion processes” // ***Chem. Commun****.,* (2014), *50*, 3089-3092.
30. Venkatachalam Chokkalingam, Jurjen Tel, Florian Wimmers, Xin Liu, **Sergey N. Semenov**, Julian Thiele, Carl G. Figdor, Wilhelm T.S. Huck “Probing Cellular Heterogeneity in Cytokine-Secreting Cells Using Droplet-Based Microfluidics” // ***Lab on a Chip***, (2013), *13*, 4740 – 4744.
31. **Sergey N. Semenov**, Albert J. Markvoort, Wouter B. L. Gevers, Aigars Piruska, Tom F. A. de Greef, Wilhelm T. S. Huck “Ultrasensitivity by Molecular Titration in Spatially Propagating Enzymatic Reactions” // ***Biophys. J****.*, (2013), *105*, 1057-1066.
32. **Sergey N. Semenov**, Olivier Blacque, Thomas Fox, Koushik Venkatesan, Heinz Berke “[W(CO)(dppe)2] Cumulenylidene and Acetylide Complexes Accessed via Stannylated Acetylenes and Butadiynes” // ***Organometallics***, (2010), *29*, 6321-6328.
33. **Sergey N. Semenov**, Shiva F. Taghipourian, Olivier Blacque, Thomas Fox, Koushik Venkatesan, Heinz Berke “An Iron Capped Metalorganic Polyyne {[Fe](C≡C)2[W]≡CC≡CC≡[W](C≡C)2[Fe]}”// ***J. Am. Chem. Soc****.,* (2010), *132*, 7584-7585.
34. **Sergey N. Semenov**, Olivier Blacque, Thomas Fox, Koushik Venkatesan, Heinz Berke “Electronic Communication in Dinuclear C4-Bridged Tungsten Complexes” // ***J. Am. Chem. Soc****.,* (2010**)**, 132, 3115-3127.
35. Fabio Marchetti, Claudio Pettinari, Adriano Pizzabiocca, Andrey Drozdov, Sergey I. Troyanov,Constantine O. Zhuravlev, **Sergey N. Semenov**, Yuriy A. Belousov, Ivan G. Timokhin “Syntheses, structures, and spectroscopy of mono- and polynuclear lanthanide complexes containing 4-acyl-pyrazolones and diphosphineoxide” // ***Inorg. Chem. Acta****.*, (2010), 363, 4038-4047.
36. **Sergey N. Semenov**, Olivier Blacque, Thomas Fox, Koushik Venkatesan, Heinz Berke “Self-Coupling of a 4-H-Butatrienylidene Tungsten Complex” // ***Angew. Chem. Int. Ed.*** (2009), 48, 5203-5206.
37. Oxana Kotova, **Sergey Semenov**, Svetlana Eliseeva, Sergey Troyanov, Konstantin Lyssenko, Natalia Kuzmina “New Helical Zinc Complexes with Schiff Base Derivatives of β -Diketonates or β -Keto Esters and Ethylenediamine” // ***Eur. J. Inorg. Chem****.*, (2009), 23, 3467-3474.
38. **Sergey N. Semenov**, Andrey Yu. Rogachev, Svetlana V. Eliseeva, Claudio Pettinari, Fabio Marchetti, Andrey A. Drozdov, Sergey I. Troyanov “First Direct Assembly of Molecular Helical Complexes into Coordination Polymer” // ***Chem. Commun****.,* (2008), 1992-1994.
39. Svetlana V. Eliseeva, Oxana V. Kotova, Frédéric Gumy, **Sergey N. Semenov**, Vadim G. Kessler, Leonid S. Lepnev, Jean-Claude G. Bünzli, Natalia P. Kuzmina “Role of the Ancillary Ligand N,N-Dimethylaminoethanol in the Sensitization of EuIII And TbIII Luminescence In Dimeric β-Diketonates” // ***J. Phys. Chem. A***, (2008), 112, 3614-3626.
40. **Sergey N. Semenov**, Andrey Yu. Rogachev, Svetlana V. Eliseeva, Yury A. Belousov, Andrey A. Drozdov, Sergey I. Troyanov “5-nitroaminotetrazole as Building Block for Extended Network Structures: Syntheses and Crystal Structures of a Number of Heavy Metal Derivatives” // ***Polyhedron***, (2007), 26, 4899-4907.
41. Claudio Pettinari, Fabio Marchetti, Riccardo Pettinari, Paolo Natanti, Andrey Drozdov, **Sergey Semenov**, Sergey I. Troyanov, Vladislav Zolin “Syntheses, Spectroscopic Characterization and X-Ray Structural Studies of Lanthanide Complexes with Adamantyl Substituted 4-Acylpyrazol-5-One” // ***Inorg. Chem. Acta****.*, (2006), 359, 4063-4070.
42. Claudio Pettinari, Fabio Marchetti, Riccardo Pettinari, Andrey Drozdov, **Sergey Semenov**, Sergey I. Troyanov, Vladislav Zolin “A New Rare-Earth Metal Acylpyrazolonate Containing the Zundel Ion H5O2+ Stabilized by Strong Hydrogen Bonding” // ***Inorg. Chem. Commun****.*, (2006), 9, 634-637.
43. **Sergey N. Semenov**, Egor Yu. Maltsev, Ivan G. Timokhin, Sergey I. Troyanov, Andrey A. Drozdov “The Crystal Structure of Two Hydrated Tin Chlorides SnCl4⋅2H2O And SnCl4⋅3H2O” // ***Mend. Commun***., (2005), 205-207.
44. Claudio Pettinari, Riccardo Pettinari, Fabio Marchetti, Andrey Drozdov, Ivan Timokhin, **Sergey Semenov**, Sergey I. Troyanov “The Role of Reaction Medium on the Coordination Environment of Terbium in Complexes with 4-Acylpyrazol-5-Ones” // ***Inorg. Chem. Commun****.*, (2003), 6, 1423-1425.

**Patents**

1. Evgeniy O. Bortnikov, **Sergey N. Semenov** “Alternating Current (AC) Transition-Metal Catalysis”, WO2022059010, submitted 2020.
2. Ekaterina V. Skorb, **Sergey N. Semenov** “Trapping of DNA by supramolecular aggregates of melamine cyanurate and its derivatives” submitted 2021.
3. Evgeniy O. Bortnikov, **Sergey N. Semenov** “Mixing-Free Scalable Electrosynthesis Enabled by Alternating Current”, submitted 2023.

**Teaching Experience**

* Lecturer, Weizmann Institute of Science 2020-present

Original course of 14 lectures “General chemistry”

* Supervisor of a summer students, Harvard University 2016-1017
* Guest Lecturer, Moscow State University 2012

Department of Materials Science

Original course of 6 lectures “Organometallic chemistry: catalysis and new materials”

* Guest Lecturer, Moscow State University 2011

Department of Materials Science

Original course of 8 lectures “Organometallic chemistry: catalysis and new materials”

* Supervisor of a master’s project, Radboud University of Nijmegen 2011
* Supervisor, University of Zurich

Inorganic chemistry laboratory course 2 2010

* Assistant, University of Zurich

Inorganic chemistry laboratory course 1 2009

* Supervisor of bachelor projects, Moscow State University 2006
* Chemistry Teacher, Moscow State University 2005 – 2006

School for young chemists (12-14 years old pupils)

**Professional Services**

Reviewer**:***Science,**Nature Physics, Nature Chemistry, Nature Communications, Journal of the American Chemical Society, Advanced Material, Dalton Transactions, Crystal Engineering Communications*, *Chemical Communications,* *Journal of Materials Chemistry, Physical Chemistry Chemical Physics, Journal of Molecular Structure, Langmuir.*

Reviewer of grant applications for the following agencies: *European Research Council, Israel Science Foundation, ACS Petroleum Fund.*

Member of the organizing committee for the upcoming conference in the area of systems chemistry “Systems Chemistry: from Molecular Networks to Bioinspired Materials”. The conference scheduled to be in Israel in November, 2024.

Editorial Advisory Board member for ChemSystemsChem, Wiley.