

Brief CV

Prof. Dr. Valentine P. Ananikov

Academician of Russian Academy of Sciences

Elected Member of European Academy "Academia Europaea"

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h-index = 60, times cited = 12,529 (Web of Science; author = Ananikov V*)

h-index = 64, times cited = 15,782 (Google Scholar; <https://scholar.google.com/citations?user=V2bwOqsAAAAJ>)

PROFESSIONAL EXPERIENCE

- 2019: Academician of Russian Academy of Sciences
2012 - present: Professor, Chemistry Department, Moscow State University
2009 - present: Head, Division of Structural Studies, Zelinsky Institute of Organic Chemistry
2008: Elected Member of Russian Academy of Sciences
2005 - present: Head, Laboratory of Transition Metal and Nanoparticle Catalysis, Zelinsky Institute of Organic Chemistry
2004 - 2005: Leading Scientist
2000 - 2003: Researcher of Zelinsky Institute of Organic Chemistry
1996 - 1999: Ph.D. Student, Russian Academy of Sciences

EDUCATION

- 2003: Habilitation (Doctorate of Science in Organic Chemistry), Moscow, Russia.
1999: Ph.D in Organic Chemistry, Zelinsky Institute of Organic Chemistry, Moscow, Russia.
1996: Masters of Science in Biochemistry.

SELECTED AWARDS AND ACHIEVEMENTS

- Zelinsky Prize for outstanding achievements in organic chemistry (2020).
- Reaxys Award Russia, Elsevier Science, The Netherlands (2019).
- Election as a Member of European Academy "Academia Europaea" (2018).
- Organometallics Distinguished Author Award Lectureship by American Chemical Society, USA (2016).
- Hitachi High-Technologies Award In Appreciation for Novel Approach and Outstanding Contribution to Setting New Standards for Electron Microscopy Applications in Chemistry, Japan (2016).
- Scopus Award, Elsevier Science, The Netherlands (2016).
- Actively Cited Researcher, Web of Science, Thomson Reuters, USA (2015).
- MegaGrant of St.Petersburg State University, Russia (2013).
- Liebig Lecturer by German Chemical Society, Germany (2010).
- Balandin Prize for outstanding achievements in the field of catalysis by Russian Academy of Sciences (2010).
- Research Grants of President of Russia (2004, 2007).
- "Outstanding scientists of Russian Academy of Sciences" Award by Science Support Foundation (2005).
- Russian State Prize for Young Scientists for Outstanding Achievements in Science and Technology (2004).
- Medal of Russian Academy of Sciences (2000).
- Emerson Center Fellowship, Emory University, Atlanta, USA (1998).

ADVISORY AND EDITORIAL BOARDS

Angewandte Chemie International Edition (Wiley, Germany): International Advisory Board
JACS Au (American Chemical Society, USA): Editorial Advisory Board
ACS Catalysis (American Chemical Society, USA): Editorial Advisory Board

Chemistry – A European Journal (Wiley, Germany): Editorial Board
Organometallics (American Chemical Society, USA): International Advisory Board
Advanced Synthesis & Catalysis (Wiley, Germany): Academic Advisory Board
OpenChemistry (Wiley, Germany): International Advisory Board
Russian Chemical Reviews (Russian Academy of Sci., Moscow): Editorial Board
Mendeleev Communications (Elsevier Science): Editorial Board
Russian Chemical Bulletin (Russian Academy of Sci., Moscow): Editorial Board

RESEARCH INTERESTS

Catalysis, Nanotechnology, Organic Synthesis. Mechanistic studies, molecular complexity and transformations. Transition-metal-catalyzed transformations towards application in organic chemistry.

SELECTED RECENT LECTURES

- 22nd International Symposium on Homogeneous Catalysis (XXII ISHC), July 24 - 29, 2022, Lisbon, Portugal (Invited Lecture)
- VI North Caucasus organic chemistry symposium, April 18 - 22, 2022, Stavropol, Russia (Plenary Lecture)
- 13th Annual New Year's Symposium, October 8, 2021, Aachen, Germany (Plenary Lecture, on-line format)
- *Reaction mechanisms in catalysis, Faraday Discussion*, February 17-19, 2021, London, UK (Invited Lecture, on-line format)
- 6th International School-Conference on Catalysis for Young Scientists "Catalyst Design: From Molecular to Industrial Level", May 16 - 19, 2021, Novosibirsk, Russia (Plenary Lecture, on-line format)
- XXIst Netherlands' Catalysis and Chemistry Conference (NCCC XXI), March 2-4, 2020, Noordwijkerhout, The Netherlands (Plenary lecture)
- 13th CaRLa Winter School on Homogeneous Catalysis, February 16 - 21, 2020, Heidelberg, Germany (Plenary lecture)
- 2019 EBSA European Biophysical Congress, July 20-24, 2019, Madrid, Spain (Invited lecture)
- XIII International Conference on Heteroatom Chemistry (ICHAC 2019), June 30 - July 5 2019, Prague, Czech Republic (Keynote lecture)
- Markovnikov Congress on Organic Chemistry, June 21-28, 2019, Moscow-Kazan, Russia (Plenary lecture)
- The Fifth International Scientific Conference "Advances in Synthesis and Complexing", April 22-26, 2019, Moscow, Russia (Plenary lecture)
- Frontiers in Chemistry ArmChemFront-2018, October 21-25, 2018, Yerevan, Armenia (Invited Lecture)
- ACS Publications Forum: Scientific Diversity in Inorganic/Organic Chemistry in Europe, October 09 - 11, 2018, Heidelberg, Germany (Invited Lecture)
- 27th EuCheMS Conference on Molten Salts and Ionic Liquids EuCheMSIL 2018, October 07 - 12, 2018, Lisbon, Portugal (Plenary Lecture)
- Organic Reactions and Processes Gordon Research Conference "Progress in Organic Synthesis and Understanding Reaction Mechanisms", July 15-20, 2018, Stonehill College, Easton, MA, U.S. (Invited Lecture)
- RACIRI 2018 Summer School "From Basic Science and Applications to Technologies inspired by Nature", August 25 - September 01, 2018, Rugen, Germany (Invited Lecture)
- UK Catalysis Hub Conference, June 21, 2018, Oxford, UK (Invited Lecture)
- Workshop on Ionic Liquids and Biomolecules, BIONS, University College Dublin, May 31, 2018, Dublin, Ireland (Invited lecture)
- Leibniz Institute of Catalysis (LIKAT), April 16, 2018, Rostock, Germany (Invited Lecture)
- University of Goettingen, April 17, 2018, Goettingen, Germany (Invited Lecture)
- University of Muenster, April 19, 2018, Muenster, Germany (Invited Lecture)
- University of Aachen, April 20, 2018, Aachen, Germany (Invited Lecture)
- University of Heidelberg, April 23, 2018, Heidelberg, Germany (Invited Lecture)
- University of Bayreuth, April 24, 2018, Bayreuth, Germany (Invited Lecture)
- University of Regensburg, April 25, 2018, Regensburg, Germany (Invited Lecture)
- Sorbonne University, January 17, 2018, Paris, France (Invited Lecture).
- 33th Conference on Organic Chemistry, January 11 - 14, 2018, Skeikampen, Norway (Plenary Lecture).
- 19th IUPAB congress and 11th EBSA congress, July 16 - 20, 2017, Edinburgh, UK (Invited Lecture).
- 4th EuCheMS Inorganic Chemistry Conference, July 2 - 5, 2017, Copenhagen, Denmark (Plenary Lecture).

- 3rd International Conference on Ionic Liquids in Separation and Purification Technology, January 8 - 11, 2017, Kuala Lumpur, Malaysia (Keynote Lecture).
- 9th Asian-European Symposium on Metal-Mediated Efficient Organic Synthesis, September 4-7, 2016, Stockholm University, Sweden (Invited Lecture).
- FineCat Symposium on Heterogeneous Catalysis for Fine Chemicals, April 6-7, 2016, Palazzo Steri, Sala delle Capriate, University of Palermo, Italy (Plenary Lecture).
- 42nd International Conference on Coordination Chemistry, July 3-8, 2016, Brest, France (Keynote Lecture).
- The 16th International Congress on Catalysis (ICC 16), July 3-8, 2016, Beijing, China (Keynote Lecture).
- 27th International Symposium on Organic Chemistry of Sulfur, July 24–29, 2016, Jena, Germany (Invited Lecture).
- Massachusetts Institute of Technology, October 15, 2015, Cambridge, MA, USA (Invited Lecture).
- Princeton University, October 19, 2015, Princeton, NJ, USA (Invited Lecture).
- Pfizer Inc., October 16, 2015, Groton, CT, USA (Invited Lecture).
- Gordon Research Conference on Organometallic Chemistry, July 12 - 17, 2015, Salve Regina University, Newport, RI, USA (Invited Lecture).
- VI International Symposium on Advance in Synthetic and Medicinal Chemistry (EFMC-ASMC 2015), November 15-18, 2015, Weizmann Institute of Science, Rehovot, Israel (Plenary Lecture).
- University of Muenster, April 15, 2015, Muenster, Germany (Invited Lecture).
- XII European Congress on Catalysis, June 28 - July 1, 2015, Kazan, Russia (Plenary Lecture).
- 3rd EuCheMS Inorganic Chemistry Conference (EICC-3), August 30 - September 4, 2015, Wroclaw, Poland (Keynote Lecture).
- 19th International Symposium on Homogeneous Catalysis (ISHC-XIX), July 6-11, 2014, Ottawa, Canada (Keynote Lecture).
- XII International Conference on Nanostructured Materials (NANO 2014), July 13 - 18, 2014, Moscow, Russia (Keynote Lecture).
- 26th International Conference on Organometallic Chemistry (ICOMC2014), July 13 - 18, 2014, Sapporo, Japan (Invited Lecture).
- 247th ACS National Meeting & Exposition, March 16 - 20, 2014, Dallas, TX, USA.
- International Conference "Molecular Complexity in Modern Chemistry" (MCMC-2014), September 13 - 19, 2014, Moscow, Russia (Invited Lecture).
- University of Illinois at Chicago, June 11, 2013, Chicago, IL, USA (Invited Lecture).
- XVth International Conference "Heterocycles in Bio-organic Chemistry" (BioHeterocycles-2013), May 27-30, 2013, Riga, Latvia (Invited lecture).
- International Chemistry and Chemical Engineering Conference (CCE2013), April 18-21, 2013, Baku, Azerbaijan (Plenary lecture).
- University of Cologne, March 15, 2013, Köln, Germany (Invited Lecture).
- Max-Planck-Institut für Kohlenforschung, Gesellschaft Deutscher Chemiker (GDCh-lecture), March 14, 2013, Mülheim, Germany (Invited Lecture).
- University of Heidelberg, March 12, 2013, Heidelberg, Germany (Invited Lecture).

FEW SELECTED RECENT PUBLICATIONS

- Boiko D.A., Kozlov K.S., Burykina J.V., Ilyushenkova V.V., Ananikov V.P., "Fully Automated Unconstrained Analysis of High-Resolution Mass Spectrometry Data with Machine Learning" *J. Am. Chem. Soc.*, **2022**, 144, 32, 14590-14606.
- Eremin D.B., Galushko A.S., Boiko D.A., Pentsak E.O., Chistyakov I.V., Ananikov V. P., "Toward Totally Defined Nanocatalysis: Deep Learning Reveals the Extraordinary Activity of Single Pd/C Particles", *J. Am. Chem. Soc.*, **2022**, 144, 13, 6071–6079

- Burykina Ju.V., Kobelev A.D., Shlapakov N.S., Kostyukovich A.Yu., Fakhruddinov A.N., König B., Ananikov V. P., "Intermolecular Photocatalytic Chemo-, Stereo- and Regioselective Thiol-yne-ene Coupling Reaction", *Angew. Chem. Int. Ed.*, **2022**, 61(17), e202116888
- Pasyukov D., Shevchenko M., Shepelenko K., Khazipov O., Burykina Ju.V., Gordeev E.G., Minyaev M.E., Chernyshev V.N., Ananikov V. P., "One-Step Access to Heteroatom-Functionalized Imidazol(in)ium Salts", *Angew. Chem. Int. Ed.*, **2022**, 61, 9, e202116131
- Chernyshev V.N., Ananikov V.P., "Nickel and Palladium Catalysis: Stronger Demand than Ever", *ACS Catal.*, **2022**, 12, 2, 1180-1200.
- Ananikov V. P. "The dawn of cross-coupling", *Nature Catalysis*, **2021**, 4, 732-733.
- Kashin A.S., Degtyareva E.S., Ananikov V.P. "Visualization of the Mechanical Wave Effect on Liquid Microphases and Its Application for the Tuning of Dissipative Soft Microreactors", *J. Am. Chem. Soc. Au*, **2021**, 1, 1, 87–97.
- Kashin A.S., Ananikov V. P., "Nanoscale Advancement Continues—From Catalysts and Reagents to Restructuring of Reaction Media", *Angew. Chem. Int. Ed.*, **2021**, 18926-18928.
- Gordeev E.G., Pentsak E.O., Ananikov V.P., "Carbocatalytic Acetylene Cyclotrimerization: A Key Role of Unpaired Electron Delocalization", *J. Am. Chem. Soc.*, **2020**, 142, 8, 3784-3796.
- Sakharova L.T., Gordeev E.G., Eremin D.B., Ananikov V.P., "Pd-Catalyzed Synthesis of Densely Functionalized Cyclopropyl Vinyl Sulfides Reveals the Origin of High Selectivity in a Fundamental Alkyne Insertion Step", *ACS Catal.*, **2020**, 10, 9872-9888.
- Chernyshev V., Denisova E., Eremin D. and Ananikov V. P., "The key role of R-NHC couplings (R = C, H, heteroatom) and M-NHC bond cleavage in the evolution of M/NHC complexes and formation of catalytically active species", *Chem. Sci.*, **2020**, 11, 6957-6977.
- Kashin A.S., Ananikov V.P., "Monitoring chemical reactions in liquid media using electron microscopy", *Nature Reviews Chemistry*, **2019**, 3, 624-637.
- Pentsak E.O., Eremin D.B., Gordeev E.G., Ananikov V.P., "Phantom Reactivity in Organic and Catalytic Reactions as a Consequence of Microscale Destruction and Contamination-Trapping Effects of Magnetic Stir Bars", *ACS Catal.*, **2019**, 9, 3070-3081.
- Chernyshev V.M., Astakhov A.V., Chikunov I.E., Tyurin R.V., Eremin D.B., Ranny G.S., Khrustalev V.N., Ananikov V.P., "Pd and Pt Catalyst Poisoning in the Study of Reaction Mechanisms: What Does the Mercury Test Mean for Catalysis?", *ACS Catal.*, **2019**, 9, 2984-2995.
- Polynski M.V., Ananikov V.P., "Modeling Key Pathways Proposed for the Formation and Evolution of "Cocktail"-Type Systems in Pd-Catalyzed Reactions Involving Ar-X Reagents", *ACS Catal.*, **2019**, 9, 3991-4005.
- Kashin A. S., Degtyareva E. S., Eremin D. B., Ananikov V. P., "Exploring the performance of nanostructured reagents with organic-group-defined morphology in cross-coupling reaction", *Nature Communications*, **2018**, 9, 2936.
- Azov V. A., Egorova K. S., Seitkalieva M. M., Kashin A. S., Ananikov V. P., "'Solvent-in-Salt' Systems for Design of New Materials in Chemistry, Biology and Energy Research", *Chem. Soc. Rev.*, **2018**, 47, 1250-1284.
- Chernyshev V. M., Khazipov O. V., Shevchenko M. A., Chernenko A. Yu., Astakhov A. V., Eremin D. B., Pasyukov D. V., Kashin A. S., Ananikov V. P., "Revealing the Unusual Role of Bases in

Activation/Deactivation of Catalytic Systems: O–NHC Coupling in M/NHC Catalysis", *Chem. Sci.*, **2018**, 9, 5564-5577.

- Kucherov F.A., Gordeev E.G., Kashin A.S., Ananikov V. P., "3D Printing with Biobased PEF for Carbon Neutral Manufacturing", *Angew. Chem. Int. Ed.*, **2017**, 56, 15931–15935.
- Egorova K.S., Gordeev E.G., Ananikov V.P., "Biological Activity of Ionic Liquids and Their Application in Pharmaceuticals and Medicine", *Chem. Rev.*, **2017**, 117, 7132–7189.
- Egorova K.S., Ananikov V.P., "Toxicity of Metal Compounds: Knowledge and Myths", *Organometallics*, **2017**, 36, 4071-4090.
- Egorova K.S., Ananikov V. P., "Which Metals are Green for Catalysis? Comparison of the Toxicities of Ni, Cu, Fe, Pd, Pt, Rh, and Au Salts", *Angew. Chem. Int. Ed.*, **2016**, 55, 12150–12162.
- Galkin K.I., Krivodaeva E.A., Romashov L.V., Zalesskiy S.S., Kachala V.V., Burykina J.V., Ananikov V. P., "Critical Influence of 5-HMF Aging and Decomposition on the Utility of Biomass Conversion in Organic Synthesis", *Angew. Chem. Int. Ed.*, **2016**, 55, 8338-8342.
- Kashin A.S., Galkin K.I., Khokhlova E.A., Ananikov V. P., "Direct Observation of Self-Organized Water-Containing Structures in the Liquid Phase and Their Influence on 5-(Hydroxymethyl)furfural Formation in Ionic Liquids", *Angew. Chem. Int. Ed.*, **2016**, 55, 2161–2166.
- Zalesskiy S.S., Shlapakov N.S., Ananikov V. P., "Visible Light Mediated Metal-free Thiol–yne Click Reaction", *Chem. Sci.*, **2016**, 7, 6740–6745.
- Panova Yu.S., Kashin A.S., Vorobev M.G., Degtyareva E.S., Ananikov V.P., "Nature of the Copper-Oxide-Mediated C–S Cross-Coupling Reaction: Leaching of Catalytically Active Species from the Metal Oxide Surface", *ACS Catal.*, **2016**, 6, 3637 – 3643.
- Pentsak E. O., Kashin A. S., Polynski M. V., Kvashnina K. O., Glatzel P., Ananikov V. P., "Spatial Imaging of Carbon Reactivity Centers in Pd/C Catalytic Systems", *Chem. Sci.*, **2015**, 6, 3302-3313.
- Ananikov V.P., "Nickel: The "Spirited Horse" of Transition Metal Catalysis", *ACS Catal.*, **2015**, 5, 1964 - 1971.
- Degtyareva E.S., Burykina J.V., Fakhrutdinov A.N., Gordeev E.G., Khrustalev V.N., Ananikov V.P., "Pd-NHC Catalytic System for the Efficient Atom-Economic Synthesis of Vinyl Sulfides from Tertiary, Secondary, or Primary Thiols", *ACS Catal.*, **2015**, 5, 7208 – 7213.
- Pentsak E.O., Gordeev E.G., Ananikov V.P., "Noninnocent Nature of Carbon Support in Metal/Carbon Catalysts: Etching/Pitting vs Nanotube Growth under Microwave Irradiation", *ACS Catal.*, **2014**, 4, 3806 - 3814.
- Zalesskiy S.S., Danieli E., Blümich B., Ananikov V. P., "Miniaturization of NMR Systems: Desktop Spectrometers, Microcoil Spectroscopy, and "NMR on a Chip" for Chemistry, Biochemistry, and Industry", *Chem. Rev.*, **2014**, 114, 5641 - 5694.
- Zalesskiy S. S., Sedykh A. E., Kashin A. S., Ananikov V. P., "Efficient General Procedure To Access a Diversity of Gold(0) Particles and Gold(I) Phosphine Complexes from a Simple H₂AuCl₄ Source. Localization of Homogeneous/Heterogeneous System's Interface and Field-Emission Scanning Electron Microscopy Study", *J. Am. Chem. Soc.*, **2013**, 135, 3550 - 3559.
- Ananikov V. P., Orlov N. V., Zalesskiy S. S., Beletskaya I. P., Khrustalev V. N., Morokuma K., Musaev D. G., "Catalytic Adaptive Recognition of Thiol (SH) and Selenol (SeH) Groups Towards Synthesis of Functionalized Vinyl Monomers", *J. Am. Chem. Soc.*, **2012**, 134, 6637-6649.

- Beletskaya I. P., Ananikov V. P., "Transition-Metal-Catalyzed C-S, C-Se, and C-Te Bond Formation via Cross-Coupling and Atom-Economic Addition Reactions", *Chem. Rev.*, **2011**, 111, 1596-1636.
- Ananikov V. P., "Characterization of Molecular Systems and Monitoring of Chemical Reactions in Ionic Liquids by Nuclear Magnetic Resonance Spectroscopy", *Chem. Rev.*, **2011**, 111, 418-454.

Complete publications list: <http://ananikovlab.ru/publications>

COVER PICTURES



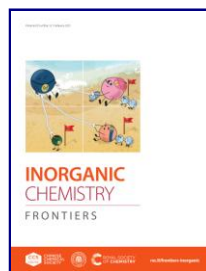
[Angew. Chem. Int. Ed., 61/2022](#)



[Green Chemistry, 23/2021](#)



[Chemical Science, 37/2020](#)



[Inorg. Chemistry Frontiers, 8/2021](#)



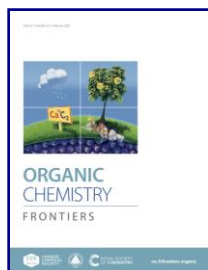
[Nature Reviews Chemistry, 11/2019](#)



[Chemistry - A European Journal, 39/2020](#)



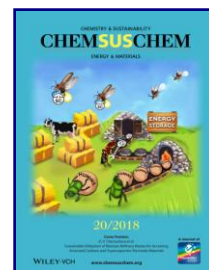
[Cat. Sci. Tech., 5/2020](#)



[Org. Chem. Front., 4/2020](#)



[Chem. Eur. J., 25/2019](#)



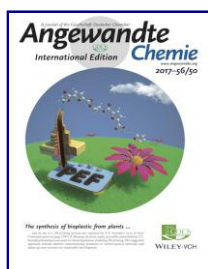
[ChemSusChem, 20/2018](#)



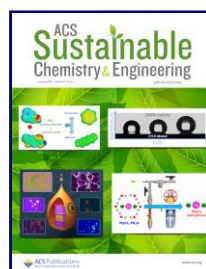
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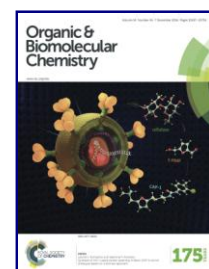
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[Chem. Sci. 6/2015](#)



[Organometallics, 21/2015](#)



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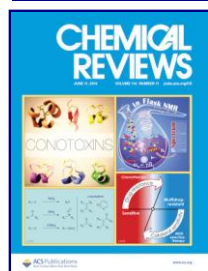
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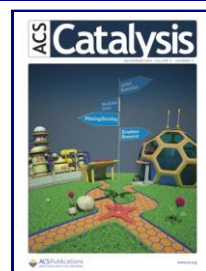
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[Russ. Chem. Rev. 10/2014](#)



[Chem. Rev. 11/2014](#)



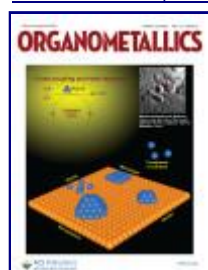
[ACS Catal. 11/2014](#)



[Chem. Rev. 2/2011](#)



[J. Am. Chem. Soc. 9/2013](#)



[Organometallics 5/2012](#)



[Chem. Rev. 3/2011](#)



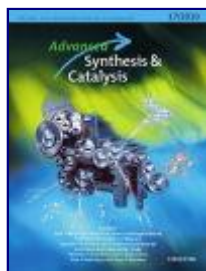
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[Mendeleev Commun. 3/2010](#)



[Eur. J. Inorg. Chem. 9/2009](#)