



Applicant: Alexander G. Bannov, Ph.D.

Born: 20.8.1985 in Ulan-Ude, Russian Federation

Education and academic qualification:

2012: Ph.D. in Chemical Engineering at Mendeleyev University of Chemical Technology of Russia, Moscow (Russia).
Research advisor: Prof. Gennady G. Kuvshinov.

2007: Specialist (5-year grade) in Commodity and Expertise of Goods at Novosibirsk State Technical University, Novosibirsk (Russia)

Occupation:

09/2013 – 03/2014, 03/2015 – now: Assistant professor at the Department of Chemistry and Chemical Technology, Novosibirsk State Technical University (Novosibirsk, Russia);

03/2014 – 03/2015: Researcher (postdoc) at Masaryk University (Brno, Czech Republic);

11/2013 – 03/2014, 04/2015 – 05/2015: Teacher at Novosibirsk Mendelev College of Chemical Technology (Novosibirsk, Russia);

02/2013 – 09/2013: Assistant professor at the Department of Chemical Engineering, Novosibirsk State Technical University (Novosibirsk, Russia);

02/2009 – 02/2013: Teaching assistant at the Department of Chemical Engineering, Novosibirsk State Technical University (Novosibirsk, Russia).

09/2007 – 09/2010: PhD student at the Department of Chemical Engineering, Novosibirsk State Technical University (Novosibirsk, Russia).

Teaching activity:

Courses taught: Processes and devices of chemical technology; Processes and devices of food technology; Processes and devices of technological manufacturing; Non-traditional processes and devices of chemical technology; Nanomaterials and nanotechnologies; Instrumental methods of analysis; Chemical Technology.

- Supervisorship of 6 specialist (5-year grade, engineer) students, 5 BSc students and 1 PhD student.

Research experience: synthesis and modification of carbon nanomaterials (carbon nanotubes, carbon nanotubes, graphite oxide, exfoliated graphite, graphene oxide and graphite nanoplatelets); thermal analysis of carbon materials and polymers; application of carbon nanomaterials (polymer composites, supercapacitors, gas sensors).

Project experience: Federal target program “Scientific and pedagogical cadres of innovative Russia” (2009-2011), Analytical departmental target program “Development of scientific potential of higher education” (2009-2011), The grant of the Novosibirsk region (2013, 2015, 2016), The grant of the program for strategic development of Novosibirsk State Technical University, Czech Republic grant NANO CZ.1.07/2.3.00/20.0027 (2014-2015), AURORA Erasmus Mundus (2015-2016), FP7 SYLICA (2014-2015).

Grants and awards: F.A.S.I.E. – award of the Bortnik’s fund (Russia), The award of the Novosibirsk Region for the best young scientists (Russia).

Publications: author or co-author of 26 papers in Scopus and WoS databases, h-index – 5. Highest impact factor of the journal – 7.082 (*Carbon*). **Reviewer:** Journals of Materials Science and Technology, Solid State Ionics, IEEE Sensors.

MAIN PUBLICATIONS (Author ID: 54788777600, <http://orcid.org/0000-0001-5868-9013>):

1. Synthesis dynamics of graphite oxide / A. G. Bannov, A. A. Shibaev [et al.] // *Thermochimica Acta*. - 2018. - Vol. 663. - P. 165-175. - DOI: 10.1016/j.tca.2018.03.017.

2. A.G. Bannov, N.F. Uvarov, A.V. Ukhina, I.S. Chukanov, K.D. Dyukova, G.G. Kuvshinov. Structural changes in carbon nanofibers induced by ball milling. *Carbon*. - 2012, V. 50(3) - P.1090-1098. <http://www.sciencedirect.com/science/article/pii/S0008622311008487>
3. P. Majzlikova, J. Sedlacek, J. Prasek, J. Pekarek, V. Svatos, A. G. Bannov, O. Jasek, P. Synek, M. Elias, L. Zajickova, J. Hubalek. Sensing properties of multiwalled carbon nanotubes grown in MW plasma torch: electronic and electrochemical behavior, gas sensing, field emission, IR absorption // *Sensors*. - 2015. - Vol. 15, iss. 2. - P. 2644-2661. <http://www.mdpi.com/1424-8220/15/2/2644>
4. E.Z. Karimi, J. Vahdati-Khaki, S.M. Zebarjad, I. A. Bataev, A.G. Bannov, A novel method for fabrication Fe catalyst using for synthesis of carbon nanotubes, *Bulletin of Materials Science*, Vol. 37(5), 2014, P. 1031-1038. <http://link.springer.com/article/10.1007/s12034-014-0041-2>
5. High-temperature-treated multiwall carbon nanotubes for hydrogen evolution reaction / A. G. Bannov, M. V. Popov [et al.] // *International Journal of Hydrogen Energy*. - 2018. - Vol. 43, iss. 13. - P. 6526-6531. - DOI: 10.1016/j.ijhydene.2018.02.081.
6. Karimi, E.Z., Vahdati-Khaki, J., Zebarjad, S.M., Bataev, I.A., Bannov, A.G. Nanocomposite catalysts obtaining by mechanochemical technique for synthesizing carbon nanotubes (2014) *Synthesis and Reactivity in Inorganic, Metal-Organic and Nano-Metal Chemistry*, 44 (2), pp. 212-221. DOI: 10.1080/15533174.2013.769590.
7. Electret materials based on an epoxy oligomer and multi-walled carbon nanotubes (MWNT-1020) / R. R. Burganov, E. N. Mochalova, M. F. Galikhanov, A. G. Bannov, A. A. Shibaev // *Mendeleev Communications*. - 2017. - Vol. 27, iss. 1. - P. 38-40 - DOI: 10.1016/j.mencom.2017.01.011.
8. Investigation of pristine graphite oxide as room-temperature chemiresistive ammonia gas sensing material / A. G. Bannov, P. Prasek, O. Jasek, L. Zajickova // *Sensors*. - 2017. - Vol.17, iss. 2. - Art. 320 (10 p.). DOI: 10.1109/JSEN.2017.2656122.
9. High-performance ammonia gas sensors based on plasma treated carbon nanostructures / A. G. Bannov, O. Jasek, A. Manakhov, M. Marik, D. Necas, L. Zajickova // *IEEE Sensors Journal*. - 2017. - Vol. 17, iss. 1. - P. 1964-1970. - DOI: 10.1109/JSEN.2017.2656122.
10. Studies of ultrasonication of exfoliated graphite / A. A. Shibaev, L. I. Mal'Tsev, V. M. Petrov, E. A. Maksimovskii, A. V. Ukhina, I. Y. Prosanov, M. V. Popov, A. G. Bannov // *Protection of Metals and Physical Chemistry of Surfaces*. - 2017. - Vol. 53, iss. 2. - P. 261-267.
11. Yusin S. I. Synthesis of composite electrodes for supercapacitors based on carbon materials and the metal oxide/metal hydroxide system / S. I. Yusin, A. G. Bannov // *Protection of Metals and Physical Chemistry of Surfaces*. - 2017. - Vol. 53, iss. 3. - P. 475-482. - DOI: 10.1134/S2070205117030261.
12. Synthesis of fine dispersed titanium diboride from nanofibrous carbon / Y. L. Krutskii, A. G. Bannov, E. V. Antonova, V. V. Sokolov, A. Y. Pichugin, E. A. Maksimovskii, T. M. Krutskaya, O. V. Netskina, I. A. Bataev // *Ceramics International*. - 2017. - Vol. 43, iss. 3. - P. 3212-3217. - DOI: <http://dx.doi.org/10.1016/j.ceramint.2016.11.146>.
13. Glass fiber supports modified by layers of silica and carbon nanofibers / M. V. Popov, S. V. Zazhigalov, T. V. Larina, S. V. Cherepanova, A. G. Bannov, S. A. Lopatin, A. N. Zagoruiko // *Catalysis for Sustainable Energy*. - 2017. - Vol. 4, iss. 1. - P. 1-6 - DOI: <https://doi.org/10.1515/cse-2017-0001>

14. Chemical treatment of graphite nanoplatelets and their use in supercapacitors / A. A. Shibaev, S. I. Yusin, E. A. Maksimovskii, A. V. Ukhina, A. G. Bannov // Russian Journal of Applied Chemistry. - 2016. - Vol. 89, iss. 5. - P. 739-745.
15. Effect of synthesis parameters on characteristics of expanded graphite / Y. P. Steksova, I. S. Berdyugina, A. A. Shibaev, A. V. Ukhina, E. A. Maksimovskii, M. V. Popov, A. G. Bannov // Russian Journal of Applied Chemistry. - 2016. - Vol. 89, iss. 10. - P. 1588-1595 - DOI: 10.1134/S1070427216100049
16. Investigation of ammonia gas sensing properties of graphite oxide / A. G. Bannov, J. Prasek, O. Jasek, A. A. Shibaev, L. Zajickova // Procedia Engineering. - 2016. - Vol. 168. - P. 231-234. - DOI: <http://dx.doi.org/10.1016/j.proeng.2016.11.169>.
17. Synthesis of exfoliated graphite and its use as an electrode in supercapacitors / A. G. Bannov, S. I. Yusin, A. A. Timofeeva, K. D. Dyukova, A. V. Ukhina, E. A. Maksimovskii, M. V. Popov // Protection of Metals and Physical Chemistry of Surfaces. - 2016. - Vol. 52, №4. - P. 645-652. - DOI: 10.1134/S2070205116020040.
18. Thermal degradation of epoxy composites based on thermally expanded graphite and multiwalled carbon nanotubes / I. S. Berdyugina, Y. P. Steksova, A. A. Shibaev, E. A. Maksimovskii, A. G. Bannov // Russian Journal of Applied Chemistry. - 2016. - Vol. 89, iss. 9. - P. 1447–1453.
19. Synthesis and studies of properties of graphite oxide and thermally expanded graphite / A. G. Bannov, A. A. Timofeeva, V. V. Shinkarev, K. D. Dyukova, A. V. Ukhina, E. A. Maksimovskii, S. I. Yusin // Protection of Metals and Physical Chemistry of Surfaces. - 2014. - Vol. 50, iss. 2. - P. 183-190. - DOI: 10.1134/S207020511402004X
20. Polyfunctional imide-containing oligomer as effective modifier of epoxy 4,4'-isopropylidenediphenol compounds / E. T. Krut'Ko, M. V. Zhuravleva, N. P. Ivanova, N. Prokopchuk, K. Vishnevskii, M. V. Popov, A. G. Bannov, Y. L. Krutskii // Russian Journal of Applied Chemistry. - 2014. - Vol. 87, iss. 6. - P. 824-829. - DOI: 10.1134/S1070427214060263.
21. Synthesis of highly dispersed boron carbide from nanofibrous carbon / Y. L. Krutskii, A. G. Bannov, V. V. Sokolov, K. D. Dyukova, V. V. Shinkarev, A. V. Ukhina, E. A. Maksimovskii, A. Y. Pichugin, E. A. Solov'Ev, T. M. Krutskaya, G. G. Kuvshinov // Nanotechnologies in Russia. - 2013. – Vol. 8, iss. 3–4, P. 191–198.
22. The formation of nanosized tubes and lamellar structures of tungsten oxide / D. Terentyev, A. Bataev, I. Bataev, V. Burov, A. Nikulina, A. Bannov // Advanced Science Letters. - 2013. - Vol. 19, № 12. - P. 3695-3696 - DOI: 10.1166/asl.2013.5203.
23. A.G. Bannov et al. Effect of the preparation methods on electrical properties of epoxy resin/carbon nanofiber composites // Nanotechnologies in Russia. - 2012, V. 7(3–4). - P. 169–177.