Kuzmin V. **Alexey**

Date of Birth: 1991.02.14
Marital Status: Single
Current Address: 1b/14 Shkolnyiy bulvar, Chernogolovka, Moskovskaya oblast, 142432, Russian Federation
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EDUCATION

University / Department	Period	Major	Degree
Institute of Solid State Physics Russian Academy of Sciences Chernogolovka, Moscow District, Russia	2013.08 – 2016.07	Solid State Physics	Ph.D. student
Lomonosov Moscow State University, Moscow, Russia Faculty of fundamental physical and chemical engineering	2008.09 – 2013.05	Physics (Solid State Physics)	Specialist (diploma with distinction)
Bryansk Pushkin Lyceum №1, Bryansk, Russia	2004.09 – 2008.05		Certificate
Municipal Secondary school of Zhiryatino, Zhiryatino, Bryansk region, Russia	1998.09 – 2004.05		

EXPERIENCE

1. *The Institute of Solid State Physics*
Russian Academy of Sciences
Chernogolovka, Russia
Research associate
2013.02 – Present

Solid state physics: X-ray diffraction (powder, single-crystal) (working on Oxford Diffraction and Siemens diffractometers). Study of structure and properties (conductivity, superconductivity, magnetic behaviour) of ionic fullerene complexes.

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2. *Research Center for Low Temperature and Materials Sciences*
Kyoto University, Sakyo-ku, Kyoto 606-85, Japan
Internship
2015.02 – 2015.04

Atomic structure, magnetic and conductive properties of organic metals based on fullerene phthalocyanines ionic complexes.

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3. *Research Center for Low Temperature and Materials Sciences*
Kyoto University, Sakyo-ku, Kyoto 606-85, Japan
Internship
2014.04 – 2014.06

Atomic structure, magnetic and conductive properties of organic metals based on fullerene phthalocyanines ionic complexes.

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4. *The Institute of Solid State Physics*
Russian Academy of Sciences
Chernogolovka, Russia
Research engineer
2010.02 – 2013.08

Solid state physics: X-ray diffraction (powder, single-crystal), working on Oxford Diffraction and Siemens diffractometers. Study of structure and properties (conductivity, superconductivity, magnetic behaviour) of ionic fullerene complexes.

SKILLS

Research methods: General X-ray single-crystal and powder diffraction analysis – using Rigaku-Oxford Diffraction (Gemini R with 4-circle κ-goniometer and 2D CCD detector), Bruker (Apex II with CCD detector), Enraf Nonius (CAD4 with single-point NaI detector) and Siemens powder diffractometers (Siemens-D500). High pressure structure study – using diamond-anvil cell (Diacell Bragg-(S) Plus, Boehler type anvills). Low temperature structure study – using Oxford CryoJet stream cooler and helium/nitrogen cryostat. Also have experience with EPR spectroscopy and SQUID magnetometry.

Programming: Python, Java, C++.

PC: Scientific software for data processing – OriginPro. Symbolic mathematics – Maxima, Mathcad. Text processing and publishing – TEX (LATEX, XETEX), MS Office 2010-16, Scibus. Graphics editors: GIMP v2, Adobe Photoshop CC, Adobe Flash (Animate) CC.

Specific software: Crystallography – SHELX (the suite of programs for crystal's structure solution and refinement); WinGX (famous crystallographic programs shell), Match! v.3 (X-ray powder analysis); SIR2015, Olex2 (modern software for structure solution and refinement); Mercury, Ortep, Jmol (crystal structure visualisation and publishing). Quantum chemistry programs – Gaussian, HyperChem.

Other: Driving licence (B, C categories).

HONORS & AWARDS

Title	Date	Details
grant: Design of new types of molecular systems based on phthalocyanine anions possessing high conductivity and different types of magnetic interactions. №13-03-00769	2013 2015	*organisation:* Russian Foundation for Basic Research (RFBR) (performer)
grant: Structural aspects of P-T phase diagram of the organic superconductors. №14-02-01150	2014 2016	*organisation:* Russian Foundation for Basic Research (RFBR) (performer)
grant: Phase transitions and photoinduced transformations at high pressure in molecular donor-acceptor complexes of fullerene №15-02-01495	2015 2017	*organisation:* Russian Foundation for Basic Research (RFBR) (performer)
grant: X-ray structural study of phase transitions in functional molecular crystals: low-dimensional organic conductors and high-spin magnets	2012 2014	*organisation:* Russian Foundation for Basic Research (RFBR) (performer)
grant: Structural transitions in molecular machines, dielectrics and multiferroics	2012.03	*organisation:* Russian Foundation for Basic Research (RFBR) (performer)
competition: "Conquer the Sparrow Hills-2008"	2008.08	*organisation:* Lomonosov Moscow State University (winner)
competition: "Lomonosov-2008"	2008.08	*organisation:* Lomonosov Moscow State University (winner)

PUBLICATIONS

1. Structure and properties of ionic fullerene complex $Co^{+}(dppe)_2 \cdot (C_{60}{}^{n-}) \cdot (C_6H_4Cl_2)_2$: distortion of the ordered fullerene cage of $C_{60}{}^{\bullet -}$ - radical anions / D. V. Konarev, A. V. Kuźmin, S. V. Simonov, S. S. Khasanov, E. I. Yudanova, R. N. Lyubovskaya // Dalton Transactions. — 2011. — Vol. 40, no. 17. — Pp. 4453–4458.
2. Ionic compound containing iron phthalocyanine $(Fe^{I}Pc)^{-}$ anions and $(C_{70}{}^{-})_2$ dimers. Optical and magnetic properties of $(Fe^{I}Pc)^{-}$ in the solid state / D. V. Konarev, A. V. Kuzmin, S. V. Simonov, S. S. Khasanov, A. Otsuka, H. Yamochi, G. Saito, R. N. Lyubovskaya // Dalton Transactions. — 2012. — Vol. 41, no. 45. — Pp. 13841–13847.

3. Experimental observation of C_{60} LUMO splitting in the C_{60}^{2-} dianions due to the Jahn–Teller effect. Comparison with the $C_{60}^{\bullet-}$ radical anions / D. V. Konarev, A. V. Kuzmin, S. V. Simonov, E. I. Yudanova, S. S. Khasanov, G. Saito, R. N. Lyubovskaya // Physical Chemistry Chemical Physics. — 2013. — Vol. 15, no. 23. — Pp. 9136–9144.
4. Structure and magnetic properties of the ionic fullerene salt $(TMP^{+}) \cdot (C_{60}^{\bullet-}) \cdot C_6H_5CN$ containing layers of monomeric $C_{60}^{\bullet-}$ radical anions / D. V. Konarev, A. V. Kuzmin, S. S. Khasanov, M. Ishikawa, A. Otsuka, H. Yamochi, G. Saito, R. N. Lyubovskaya // New Journal of Chemistry. — 2013. — Vol. 37, no. 8. — Pp. 2521–2527.
5. Zwitterionic $\{Fe^{I}Pc(2\text{-})^{-}\} \cdot (TMP^{+})$ assemblies comprising anionic iron (I) phthalocyanines and coordinating N, N, N′-trimethylpiperazinium cations / D. V. Konarev, A. V. Kuzmin, S. S. Khasanov, R. N. Lyubovskaya // Dalton Transactions. — 2013. — Vol. 42, no. 27. — Pp. 9870–9876.
6. Design, crystal structures and magnetic properties of anionic salts containing fullerene C_{60} and indium (III) bromide phthalocyanine radical anions / D. V. Konarev, A. V. Kuzmin, S. S. Khasanov, A. Otsuka, H. Yamochi, G. Saito, R. N. Lyubovskaya // Dalton Transactions. — 2014. — Vol. 43, no. 34. — Pp. 13061–13069.
7. Layered Salts with Iron Hexadecachlorophthalocyanine Anions–The Formation of $[\{FeCl_{16}Pc(2\text{-})\}_2]^{3-}$ Dimers Containing $[Fe^{I}Cl_{16}Pc(2\text{-})]^{2-}$ and Diamagnetic $[Fe^{0}Cl_{16}Pc(2\text{-})]^{2-}$ / D. V. Konarev, A. V. Kuzmin, M. Ishikawa, Y. Nakano, M. A. Faraonov, S. S. Khasanov, A. Otsuka, H. Yamochi, G. Saito, R. N. Lyubovskaya // European Journal of Inorganic Chemistry. — 2014. — Vol. 2014, no. 24. — Pp. 3863–3870.
8. The molecular structure of high-spin ($S = 5/2$) manganese (II) phthalocyanine in tetrabutylammonium bromido (phthalocyaninato) manganese (II) / D. V. Konarev, A. V. Kuzmin, S. S. Khasanov, R. Lyubovskaya // Acta Crystallographica Section C: Structural Chemistry. — 2014. — Vol. 70, no. 5. — Pp. 449–451.
9. Structure and optical properties of fullerene C_{60} complex with dipyridinated iron (II) phthalocyanine $[Fe^{II}Pc(C_5H_5N)_2] \cdot C_{60} \cdot 4\,(C_6H_4Cl_2)$: First structure of bisaxially coordinated iron (II) phthalocyanine complex with acetonitrile $Fe^{II}Pc(CH_3CN)_2$ / D. V. Konarev, A. V. Kuzmin, S. V. Simonov, S. S. Khasanov, R. N. Lyubovskaya // Journal of Porphyrins and Phthalocyanines. — 2014. — Vol. 18, 01n02. — Pp. 87–93.
10. Anionic coordination complexes of C_{60} and C_{70} with cyclopentadienyl and pentamethylcyclopentadienyl molybdenum dicarbonyl / D. V. Konarev, A. V. Kuzmin, S. I. Troyanov, Y. Nakano, S. S. Khasanov, A. Otsuka, H. Yamochi, G. Saito, R. N. Lyubovskaya // Dalton Transactions. — 2015. — Vol. 44, no. 20. — Pp. 9672–9681.
11. Coordination Complexes of Pentamethylcyclopentadienyl Iridium (III) Diiodide with Tin (II) Phthalocyanine and Pentamethylcyclopentadienyl Iridium (II) Halide with Fullerene C_{60}^{-} Anions / D. V. Konarev, S. I. Troyanov, A. V. Kuzmin, Y. Nakano, S. S. Khasanov, A. Otsuka, H. Yamochi, G. Saito, R. N. Lyubovskaya // Organometallics. — 2015. — Vol. 34, no. 5. — Pp. 879–889.
12. Synthesis, Structures, and Properties of Crystalline Salts with Radical Anions of Metal-Containing and Metal-Free Phthalocyanines / D. V. Konarev, A. V. Kuzmin, M. A. Faraonov, M. Ishikawa, S. S. Khasanov, Y. Nakano, A. Otsuka, H. Yamochi, G. Saito, R. N. Lyubovskaya // Chemistry–A European Journal. — 2015. — Vol. 21, no. 3. — Pp. 1014–1028.
13. Effective magnetic coupling with strong spin frustration in $(Ph_3MeP^{+}) \cdot (C_{60}^{\bullet-})$ and reversible $C_{60}^{\bullet-}$ dimerization in $(Ph_3MeP^{+}) \cdot (C_{60}^{\bullet-}) \cdot C_6H_5CN$. Effect of solvent on structure and properties / D. V. Konarev, S. S. Khasanov, A. V. Kuzmin, A. Otsuka, H. Yamochi, G. Saito, R. N. Lyubovskaya // New Journal of Chemistry. — 2016. — Vol. 40, no. 3. — Pp. 2792–2798.
14. Coordination Complexes of Transition Metals (M = Mo, Fe, Rh, and Ru) with Tin(II) Phthalocyanine in Neutral, Monoanionic, and Dianionic States / D. V. Konarev, A. V. Kuzmin, Y. Nakano, M. A. Faraonov, S. S. Khasanov, A. Otsuka, H. Yamochi, G. Saito, R. N. Lyubovskaya // Inorganic Chemistry. — 2016. — Feb. — Vol. 55, no. 4. — Pp. 1390–1402.
15. Synthesis, Structure, and Properties of the Fullerene C60Salt of Crystal Violet, $(CV^{+})(C_{60}^{\bullet-})0.5C_6H_4Cl_2$, which Contained Closely Packed Zigzagged $C_{60}^{\bullet-}$ Chains / D. V. Konarev, A. V. Kuzmin, S. S. Khasanov, M. Ishikawa, A. Otsuka, H. Yamochi, G. Saito, R. N. Lyubovskaya // Chemistry - An Asian Journal. — 2016. — May. — Vol. 11, no. 11. — Pp. 1705–1710.
16. SnPhPc phthalocyanines with dianion Pc(2-) and radical trianion $Pc^{\bullet}(3\text{-})$ macrocycles: syntheses, structures, and properties / D. V. Konarev, A. V. Kuzmin, Y. Nakano, S. S. Khasanov, M. Ishikawa, A. Otsuka, H. Yamochi, G. Saito, R. N. Lyubovskaya // Dalton Trans. — 2016. — Vol. 45, no. 26. — Pp. 10780–10788.
17. Bis(*N*-methylimidazole)-Substituted Neutral Phthalocyanines $\{M^{III}(MeIm)_2(Pc)^{\bullet 3-}\}^{0}$ (M = Al, Ga) Containing Radical Trianionic Phthalocyanine Macrocycles / D. V. Konarev, A. V. Kuzmin, S. S. Khasanov, A. Otsuka, H. Yamochi, G. Saito, R. N. Lyubovskaya // European Journal of Inorganic Chemistry. — 2016. — Aug. — Vol. 2016, no. 25. — Pp. 4099–4103.
18. *Konarev, D.V. and Shestakov, A.F.and Lyubovskaya, R.N.and Khasanov, S.S.and Kuzmin, A.V.and Otsuka, A.and Yamochi, H. and Saito, G.* Cis-Conformation of indigo in the coordination complex (*indigo* – O, O)($Cp \cdot Cr^{II}Cl$). — 2016.

CONFERENCES

1. Magnetic properties of salts with iron(I) phthalocyanine and iron(I) hexadecachlorophthalocyanine anions. / D. V. Konarev, M. A. Faraonov, A. V. Kuzmin, S. S. Khasanov, M. Ishikawa, R. N. Lyubovskaya // Book of abstracts of the 14th International Conference on Molecule-Based Magnets, Saint Petersburg, Russia, July 5-9. — 2014.
2. Magnetic properties of crystalline salts with radical anions of metal-containing and metal-free phthalocyanines. / D. V. Konarev, M. A. Faraonov, R. Lyubovskaya, A. V. Kuzmin // 5th Europian Conference on Molecular Magnets, Zaragoza (Spain). — 2015.
3. Crystalline Salts with Radical Anions of Metal-containing and Metal-free Phthalocyanines: Synthesis, Crystal Structures, Optical and Magnetic Properties. / D. V. Konarev, M. A. Faraonov, R. Lyubovskaya, A. V. Kuzmin // 6th EuCheMS Conference on nitrogen ligands. Beaune (France). — 2015.
4. *Kuzmin A.*, *Khasanov S.*, *Shibaeva P.* Pressure and temperature dependence of charge transfer behaviour of the κ-$(BEDT-TTF)_2Cu_2(CN)_3$ organic conductor. // Acta Cryst. A71. — 2015. — s331.
5. Синтез, структура и свойства анион-радикальных солей фталоцианинов металлов и координационных комплексов переходных металлов с фталоцианином олова(II). / Д. Конарев, М. Фаранов, А. Кузьмин, С. Хасанов, Р. Любовская // XII Международная конференция «Синтез и применение порфиринов и их аналогов» (ICPC-12) X Школа молодых ученых стран СНГ по химии порфиринов и родственных соединений. Иваново, Россия. — 2016.
6. Анион-радикальные соли и координационные комплексы фталоцианинов и их производных. синтез, структура и свойства. / М. Фараонов, Д. Конарев, А. Кузьмин, С. Хасанов, Р. Любовская // III Всероссийская молодежная конференция «УСПЕХИ ХИМИЧЕСКОЙ ФИЗИКИ» Черноголовка. — 2016.
7. *Фараонов М.*, *Кузьмин А.* Анион-радикальные соли и координационные комплексы фталоцианинов металлов. Синтез, структура и свойства. // Ломоносов-2016, Москва. — 2016.
8. Кристаллическая структура молекулярного комплекса $[\{Cd(Et_2dtc)\}_2DABCO] \cdot C_{60} \cdot (DABCO)_2$ при высоком давлении. / А. Кузьмин, Д. Конарев, С. Хасанов, К. Мелетов // VIII Национальная кристаллохимическая конференция, Суздаль. — 2016.
9. *Кузьмин А.В.and Хасанов С.*, *Шибаева Р.* Структурные превращения в кристаллах органического сверхпроводника β-$(ET)_2I_3$ при низких температурах и высоких давлениях. // VIII Национальная кристаллохимическая конференция, Суздаль. — 2016.

INTERNATIONAL SCIENTIFIC SCHOOL
"COMBINED TOPOLOGICAL AND DFT METHODS
FOR PREDICTION OF NEW MATERIALS II"

Samara, Russian Federation

July 4-10, 2016

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Награждается

Кузьмин Алексей Васильевич

за высокие результаты в научной деятельности в 2016 году

Председатель Президиума НЦЧ РАН
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Благодарственное письмо

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БЛАГОДАРИТ

младшего научного сотрудника ИФТТ РАН,

Кузьмина

Алексея Васильевича,

за добросовестный, самоотверженный и творческий вклад в реализацию программы профильного лагеря «Равновесие-2016».

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Желаем Вам успехов в поиске новых талантов, здоровья, мира и согласия в душе, радости от общения с детьми и коллегами.

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