Резюме профессора Артёма Р. Оганова, FRSC, MAE
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Личная информация

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Email: a.oganov@skoltech.ru
Дата рождения: 3 марта 1975 г.
Семейное положение: Женат, четверо детей (дочери Жанна и Адриана, сыновья Лев и Александр).
Языки: Родной русский, свободный английский, средний уровень французского, базовый итальянский и немецкий.

Профессиональный опыт

2026–н.в.: Научный руководитель, СберУниверситет, Россия.
2024–н.в.: Заслуженный профессор, Сколковский институт науки и технологий, Россия.
2015–2024: Профессор, Сколковский институт науки и технологий, Россия.
2021–2024: Заведующий лабораторией кристаллохимии, Институт геохимии и аналитической химии им. В.И. Вернадского РАН, Москва, Россия.
2020–2024: Профессор, Университет МИСИС, Москва, Россия (заведующий кафедрой полупроводников и диэлектриков, 2021–2024).
2017–2020: Основатель и директор, Международный центр дизайна материалов, Северо-Западный политехнический университет, Сиань, Китай.
2013–2020: Заведующий лабораторией и профессор, Московский физико-технический институт, Россия.
2008–2017: Профессор (2010–2017) и доцент (2008–2010), Факультет наук о Земле и Институт передовых вычислительных наук, Университет Стоуни-Брук, США.
2007: Хабилитация, Факультет материалов, ETH Zurich, Швейцария (признано как доктор физико-математических наук, высшая учёная степень в России, 2016).
2003–2008: Старший научный сотрудник (2003–2007) и приват-доцент (2007–2008), Факультет материалов, ETH Zurich, Швейцария.
2002–2003: Постдок, Университетский колледж Лондона, Великобритания.

Образование

2002: Ph.D. по кристаллографии, Университетский колледж Лондона, Великобритания.
1997: диплом по кристаллографии (с отличием), Геологический факультет, Московский государственный университет, Россия.

Научные публикации

Публикации: 388 статьи, включая 5 в *Nature* и 2 в *Science*, а также главы в книгах.
Цитирования:

- Google Scholar: суммарная цитируемость 46070, h-индекс = 103.
- Researchgate: суммарная цитируемость 40925, h-индекс = 96.
- Web of Science: суммарная цитируемость 33198, h-индекс = 88.

Книги: 2 коллективные монографии по вычислительному материаловедению, 1 коллективная монография по истории Земли, 1 научно-популярная книга по химии (бестселлер).
Приглашённые лекции: 585 выступления, включая 96 пленарных и ключевых докладов на международных конференциях.

Основные награды и отличия

2026:

- Почетная грамота от Президента РФ.

2025:

- Премия «Национальный эксперт» за популяризацию науки.
- Премия «Россия – страна возможностей» (в номинации «Наука и технологии»).
- Highly Cited Researcher Award (Clarivate Analytics).
- Член ученого совета, International Core Academy of Sciences and Humanities.
- Премия *Voice: Главные лица* (представитель премии *ВЫЗОВ*).

2024:

- Highly Cited Researcher Award (Clarivate Analytics).
- Избран заслуженным профессором, Сколковский институт науки и технологий.
- Премия *Тянь-Шань* для иностранных экспертов (провинция Синьцзян, Китай).
- Distinguished Scientist of the President's International Fellow Initiative (PIFI), Китайская академия наук.
- Избранный член International Core Academy of Sciences and Humanities.
- Премия *Знание* (за популяризацию науки и вклад в образование).

2023: Национальная премия за популяризацию науки (*"За верность науке"*).
2022: Highly Cited Researcher Award (Clarivate Analytics).
2020: Fellow of the American Physical Society и Royal Society of Chemistry (FRSC).

2019–н.в.: Ежегодно входит в топ-2% самых цитируемых учёных (Elsevier).
2019: Премия Дружбы правительства Китая.
2017: Премия Георгия Гамова, премия *Согласие*, член Academia Europaea (MAE).
2016: Russian Highly Cited Researcher Award (химия, Clarivate Analytics).
2015: Japan Society for the Promotion of Science Invitation Fellow.
2013: Fellow of the Mineralogical Society of America.
2007: Медаль за научные достижения, Европейское минералогическое общество.
2004: Премия European High-Pressure Research Group.
2003: Премия для молодых учёных, Европейский союз наук о Земле.
2002: Премия Президента Лондонского Геологического общества.

Профессиональная деятельность

Редактор в журналах:

- Исполнительный редактор по химии журнала *The Innovation* (IF > 25) (2024-).
- Член редколлегий: *AIMat (2026-), Crystal Science (2026-), AI Agent (2025-), Matter and Radiation and Extremes (2023-)*.
- Бывший член редколлегий: *Геохимия* (2021-2026), *Crystals* (2020-2024), *Scientific Reports* (2006–2024), *Journal of Superhard Materials* (2009–2022), ассоциированный редактор *American Mineralogist* (2006–2010).

Членство в советах:

- Ассоциированный член комиссии по вычислительной физике, Международный союз теоретической и прикладной физики (2024–н.в.).
- Член научно-технического совета корпорации *Роснано* (2021–н.в.).
- Член учёного совета Минералогического музея им. А.Е. Ферсмана РАН (2016–н.в.).
- Председатель научного комитета Национальной премии в области будущих технологий *ВЫЗОВ* (2023–2026).
- Сопредседатель жюри премии *Sustainable Development Young Scientist Award* (2024).
- Комиссия по кристаллографии материалов IUCr: консультант (2017–2023), основатель и председатель (2011–2017).
- Член Совета по науке и образованию при Президенте РФ (2017–2020).

Организация конференций:
Организовал 23 международных воркшопа по предсказанию кристаллических структур (Франция, Китай, Индия, Канада, США, Швейцария, Италия, Иран, Россия). Организовал и председательствовал на десятках симпозиумов. Сопредседатель двух панелей на Всемирном экономическом форуме (Далянь, июнь 2017).

Ключевые научные достижения

- Решение задачи предсказания кристаллических структур: создал алгоритм **USPEX**, широко используемый в материаловедении, химии, физике и науках о Земле.
- Открытие новых фаз высокого давления, включая **новые аллотропы** элементов, **экзотические соединения** и рекордные высокотемпературные **сверхпроводники**.
- Предсказание новых земле- и планетообразующих материалов: **$MgSiO_3$ пост-перовскит**, новые фазы оксидов, карбонатов, силикатов, химия системы **C-H-N-O** под давлением.
- **Предсказание вероятных молекул** с помощью эволюционной глобальной оптимизации и разработка концепции *"магических молекул"*.
- Предсказание новых **сверхтвёрдых**, **термоэлектрических**, **термобарьерных**, **нелинейно-оптических** и других материалов.
- Уточнение термохимических и спектроскопических шкал **электроотрицательности**. Расширение концепции электроотрицательности на высокие давления и определение электроотрицательностей и химической твёрдости элементов под давлением.

В масс-медиа

- Участие в документальных фильмах: *Наблюдая за полетом мысли* (реж. В. Герчиков, 2017), *Новый элемент в русской таблице* (реж. Е. Тухарели, 2019).
- Документальные фильмы об А.Р. Оганове: *Цвет кристалла* (реж. В. Герчиков, 2012), *Made by Russians* (реж. Л. Парфёнов, 2015), *Дом учёных: Артём Оганов* (реж. Н. Попова, 2018), *Крутая история: Возвращение профессора* (реж. Т. Миткова, 2018), *Дети XX века: Артем Оганов* (режиссер А. Черкасов, 2022).
- Включён в списки самых влиятельных российских учёных по версии *Russian Newsweek* (2008), *Forbes Россия* (2011), *Русский репортёр* (2014). Включен в список самых влиятельных россиян по версии *GQ* (2019).

Профессора, вышедшие из моей лаборатории:

• Yanming Ma (постдок в 2006-2008, сейчас академик Китайской академии наук и ректор Zhejiang University, Китай).
• Qiang Zhu (аспирант в 2009-2013, сейчас доцент в Univ. North Carolina Charlotte, США).
• Maribel Nunez Valdez (2015-2016, сейчас профессор в Университете Франкфурта, Германия).
• Andriy O. Lyakhov (постдок в 2007-2011, затем Research Assistant Professor в Университете Стоуни-Брук, США).

• Yu Xie (аспирант в 2007-2010, сейчас профессор в Jilin University, Китай).
• Fei Qi (постдок в 2013-2015, сейчас доцент в Xidian University, Китай).
• Qinggao Wang (постдок в 2013-2016, сейчас Professor at Henan University, Китай).
• Xiaohu Yu (постдок в 2013-2015, сейчас доцент в Henan Normal University, Китай).
• Huafeng Dong (постдок в 2013-2015, сейчас профессор в Guangdong University of Technology, Китай).
• Xiang-Feng Zhou (постдок в 2012-2015, сейчас профессор в Yanshan University, Китай).
• Dongxu Li (visiting scientist в 2013-2014, сейчас доцент, Huaqiao University, Китай).
• Qianku Hu (visiting scientist в 2013-2014, сейчас Asst. Prof. at Henan Polytechnic University, Китай).
• Xiao Dong (visiting PhD student в 2012-2014, сейчас профессор в at Nankai University, Китай).
• Qingfeng Zeng (visiting scientist в 2011-2012, сейчас доцент в Northwestern Polytechnical University, Китай).
• Chaohao Hu (visiting scientist в 2011-2012, сейчас профессор в Guilin University of Electronic Technology, Китай).
• Weiwei Zhang (visiting scientist в 2011-2013, сейчас профессор в China Agricultural University).
• Feiwu Zhang (аспирант в 2005-2008, сейчас профессор в Institute of Geochemistry, Chinese Acad. Sci.).
• Haiyang Niu (visiting PhD student в 2014, затем постдок в 2015-2016, сейчас профессор в Northwestern Polytechnical University, Китай).
• Alexander Kvashnin (постдок в 2015-2021, сейчас Full Professor at Skoltech).
• Congwei Xie (аспирант в 2015-2019, сейчас профессор в Xinjiang Technical Institute of Physics and Chemistry, Китай).

Кандидатские диссертации, защищенные под моим руководством: Alexey Maltsev (2022-2026), Majid Zeraati (2021-2025), Dmitrii Semenok (2018-2022), Tao Fan (2018-2022), Zahed Allahyari (2016-2020), Christian Tantardini (2018-2020), Valery Roizen (2015-2019), Congwei Xie (2015-2019), Oleg Feya (2014-2019), Ivan Kruglov (2014-2018), Jin Zhang (2014-2017), Mahdi Davari (2013-2017), Shengnan Wang (2013-2016), Guangrui Qian (2011-2015), Qiang Zhu (2009-2013), Yu Xie (2007-2010), Feiwu Zhang (2005-2008), Colin W. Glass (2006-2009), Donat Adams (2004-2007), Kai H. Hassdenteufel (2003-2006), Daniel Y. Jung (2004-2008).

Докторские диссертации, защищенные под моим руководством: Александр Квашнин (2021).

Профили в научных базах данных:

ORCID: https://orcid.org/0000-0001-7082-9728

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

Web of Science: https://www.webofscience.com/wos/author/record/O-8234-2019

Researchgate: https://www.researchgate.net/profile/Artem-Oganov

Scopus: https://www.scopus.com/authid/detail.uri?authorId=6701334785

SciProfiles: https://sciprofiles.com/profile/2219577

Colab.ws: https://colab.ws/researchers/R-35BD7-0CB5B-OQ30X

Список публикаций Артема Р. Оганова

КНИГИ

1. **Oganov, A.R.** (Editor). *Modern Methods of Crystal Structure Prediction*. Berlin: Wiley-VCH, 2010. ISBN: 978-3-527-40939-6.
2. **Oganov, A.R., Saleh, G., Kvashnin, A.G.** (Editors). *Computational Materials Discovery*. Royal Society of Chemistry, 2018. ISBN: 978-1-78262-961-0.
3. **Kuzmin, M.I., Yarmolyuk, V.V., Gladkochub, D.P., Goryachev, N.A., Derevyanko, A.P., Didenko, A.N., Donskaya, T.V., Kravchinsky, V.A., Oganov, A.R., Pisarevsky, S.A.** *Geological Evolution of the Earth: From Space Dust to the Home of Mankind*. Academic Publishing House "Geo", Novosibirsk, 2021. ISSN: 2686-9993. Reprinted by IKI Publishing House, 2026, ISBN 978-5-4344-1103-5 (In Russian).
4. **Oganov, A.R.** *Chemistry*. AST Publishing House, Moscow, 2022. (Popular science book, in Russian). ISBN: 978-5-17-145181-3.

ОБЗОРЫ И ГЛАВЫ В КНИГАХ

1. **Oganov, A.R., Brodholt, J.P., Price, G.D.** *Ab initio theory of thermoelasticity and phase transitions in minerals*. EMU Notes in Mineralogy, Vol. 4 ('Energy Modelling in Minerals', edited by C.M. Gramaccioli), pp. 83–170, 2002.

2. **Oganov, A.R.** *Theory of Minerals at High and Ultrahigh Pressures: Structure, Properties, Dynamics, and Phase Transitions*. In: *High-Pressure Crystallography*, NATO Science Series: II: Mathematics, Physics and Chemistry, Vol. 140, pp. 199–215 (edited by A. Katrusiak, P.F. McMillan). Kluwer Academic Publishers, Dordrecht, 2003.

3. **Oganov, A.R.** *Phase diagrams of minerals from first principles*. Proceedings of the CECAM Workshop «First-Principles Simulations: Perspectives and Challenges in Mineral Sciences» (Berichte aus Arbeitskreisen der DGK, Nr. 14, German Crystallographic Society), pp. 53–62, 2004.

4. **Adams, D.J., Oganov, A.R.** *Theory of minerals at extreme conditions: predictability of structures and properties*. EMU Notes in Mineralogy, Vol. 7 ('High-Pressure Behaviour of Minerals', edited by R. Miletich), pp. 441–457, 2005.

5. **Jung, D.Y., Oganov, A.R.** *Basics of first-principles simulation of matter under extreme conditions*. EMU Notes in Mineralogy, Vol. 7 ('High-Pressure Behaviour of Minerals', edited by R. Miletich), pp. 117–138, 2005.

6. **Oganov, A.R.** *Thermodynamics, phase transitions, equations of state and elasticity of minerals at high pressures and temperatures*. Treatise on Geophysics, Vol. 2 (Mineral Physics, edited by G.D. Price), pp. 121–152, 2007.

7. **Oganov, A.R., Ma, Y., Glass, C.W., Valle, M.** *Evolutionary crystal structure prediction: overview of the USPEX method and some of its applications*. Psi-k Newsletter, No. 84, Highlight of the Month, pp. 142–171, 2007. (Invited review).

8. **Oganov, A.R., Ma, Y., Lyakhov, A.O., Valle, M., Gatti, C.** *Evolutionary crystal structure prediction and novel high-pressure phases*. In: *High-Pressure Crystallography* (eds. E. Boldyreva, P. Dera), pp. 293–325. Springer Verlag, 2010.

9. **Oganov, A.R.** *Crystal structure prediction, a formidable problem*. In: *Modern Methods of Crystal Structure Prediction* (ed. A.R. Oganov), pp. xi–xxi. Berlin: Wiley-VCH, 2010.

10. **Lyakhov, A.O., Oganov, A.R., Valle, M.** *Crystal structure prediction using evolutionary approach*. In: *Modern Methods of Crystal Structure Prediction* (ed. A.R. Oganov), pp. 147–180. Berlin: Wiley-VCH, 2010.

11. **Oganov, A.R., Schön, J.C., Jansen, M., Woodley, S.M., Tipton, W.W., Hennig, R.G.** *First blind test of inorganic crystal structure prediction*. In: *Modern Methods of Crystal Structure Prediction* (ed. A.R. Oganov), pp. 223–231. Berlin: Wiley-VCH, 2010.

12. **Oganov, A.R.** *Boron under pressure: phase diagram and novel high-pressure phase*. In: *Boron Rich Solids*, Chapter 14 (pp. 207–215). Eds. N. Orlovskaya and M. Lugovy. Springer Verlag, Berlin, 2011.

13. **Oganov, A.R.** *Discovery of γ-B_{28}, a Novel Boron Allotrope with Partially Ionic Bonding*. In: *Boron and Boron Compounds – From Fundamentals to Applications*. Materials Research Society, ISBN 978-1-61839-514-6, Chapter 1, pp. 1–15, 2011.

14. **Oganov, A.R., Lyakhov, A.O., Zhu, Q.** *Theory of superhard materials*. In: *Comprehensive Hard Materials Review*, Elsevier, Vol. 3, pp. 59–79, 2014.

15. **Yu, X.H., Oganov, A.R., Wang, Z.H., Saleh, G., Baturin, V.S., Sharma, V., Zhu, Q., Wang, Q.G., Zhou, X.F., Popov, I.A., Boldyrev, A.I.** *Predicting the structure and chemistry of low-dimensional materials*. In: *Handbook of Solid State Chemistry*, Vol. 5, eds. R. Dronskowski, S. Kikkawa, A. Stein, pp. 527–570, 2017.

16. **Dong, X., Oganov, A.R.** *Electrides and their high-pressure chemistry*. In: *Correlations in Condensed Matter Under Extreme Conditions*, ed. G.N.N. Angilella & A. La Magna, Springer Verlag, pp. 69–84, 2017.

17. **Oganov, A.R., Kruglov, I.A., Zhang, J., Davari Esfahani, M.** *Computational materials discovery using evolutionary algorithms*. In: *Computational Materials Discovery*. Eds.: A.R. Oganov, A.G. Kvashnin, G. Saleh. Royal Society of Chemistry, pp. 15–65, 2018.

18. **Oganov, A.R., Kvashnin, A.G., Saleh, G.** *Computational materials discovery: dream or reality?* In: *Computational Materials Discovery*. Eds.: A.R. Oganov, A.G. Kvashnin, G. Saleh. Royal Society of Chemistry, pp. 1–14, 2018.

19. **Allahyari, Z., Oganov, A.R.** *Multi-objective optimization as a tool for materials design*. In: *Handbook of Materials Modeling* (ed. W. Andreoni, S. Yip). Volume 2 Applications: Current and Emerging Materials. Springer Verlag, pp. 2777–2790, 2018.

20. **Kruglov, I.A., Dolgirev, P.E., Oganov, A.R., Mazitov, A.B., Pozdnyakov, S.N., Mazhnik, E.A., Yanilkin, A.V.** *Machine learning interatomic potentials for global optimization and molecular dynamics simulation*. In: *Materials Informatics* (edited by O. Isayev, A. Tropsha, S. Curtarolo), pp. 253–288. Wiley-VCH, 2019.

21. **Oganov, A.R., Konson, G.R.** *The way the people of art and science study the world*. In: *Art History in the Context of Other Sciences in Modern World: Parallels and Interactions* (Proceedings of the international academic conference, April 21–26, 2019), pp. 278–291, 2020.

СТАТЬИ В РЕЦЕНЗИРУЕМЫХ НАУЧНЫХ ЖУРНАЛАХ

368. Kotelevskaya E.Y., Volkova E.A., Shkurskii B.B., Poletaev D.O., Oganov A.R., Krivchuk V.O. Capture of lanthanum atoms by the (111) twin boundary in fluorite: a DFT study. Submitted (2026).

367. Barma D.D., Obrubov A.S., Tudi A., Yang Z., Rybkovskiy D.V., Mikhailova A.A., Oganov A.R. Computational prediction of promising deep-UV nonlinear optical borate fluorides $BaBO_2F$ and $SrBO_2F$. Submitted (2026).

366. Min. J., Li H., Wu X., Lv Y., Li X., Guo J., Oganov A.R., Jia D. Stabilizing active cobalt sites by interstitial carbon and nitrogen co-doping in metallic cobalt for efficient alkaline oxygen evolution reaction. *J. Energy Chem.* **119**, 53-63.

365. Oganov A.R. Atomic electronegativities from electrostatic potentials. *Front. Phys.* **21**, 114200 (2026).

364. Oganov A.R. Pauling's Second Rule and Its Applications: From Inorganic Compounds to Understanding the Function of ATP. *Rep. Natl. Acad. Sci. Rep. Armenia* **126**, 1-7 (2026).

363. Ren C., Ding H., Oganov A.R., Wang Z., Cui H., Song H., Dong X. Predicting twin grain boundaries in molecular crystals using evolutionary algorithm: Application to aspirin, RDX, and HMX. *Phys. Rev.* **B113**, 134110 (2026).

362. Orang A.A., Alaei M., Oganov A.R. Predicting the Curie temperature of magnetic materials with machine learning: Descriptor engineering, graph neural networks, and the role of curated data. Comp. Mater. Sci. 269, 114663 (2026).

361. Oganov A.R. Surprises from a boron-rich semiconductor under pressure. *Nat. Sci. Rev.,* nwag137 (2026).

360. Fedyaeva M., Lepeshkin S., Oganov A.R. Systematic Study of Boron–Nitrogen Molecules: Structures, Stability, and Potential as High-Energy-Density Materials. *J. Clust. Sci.* **37**, 34 (2026).

359. Solodovnikov S.F., Zeraati M., Kuznetsov A.B., Zolotova E.S., Nasyrbaev A.R. Gulyaev I.P., Igumenov I.K., Shutilov R.A., Maksimovsky E.A., Pishchur D.P., Yudin V.N., Lukashov V.V., Korolkov I.V., Maltsev A.P., Oganov A.R. Thermal and mechanical properties of double perovskite-type Ba_2YNbO_6 ceramic. *Ceramics International*, in press (2026).

358. Cheng M., Zhang W., Jin W., Oganov A.R., Yang Z., Pan S. Hydroxyl-induced structural reconstruction: two new potassium hepta-borates with deep-UV transparency and enhanced birefringence. *Inorg. Chem. Frontiers* **13**, 1006-1012. (2026).

357. Dallakyan O.L., Maltsev A.P., Chepkasov I.V., Aghamalyan M.A., Hunanyan A.A., Petrosyan N.Z., Chobanyan M.S., Sahakyan M.T., Khachatryan L.G., Oganov A.R., Zakaryan H.A. Computational screening for novel solid-state electrolytes in Li_3MX_6 composition. *J. Energy Chem.* **112**, 495-504 (2026).

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