ALEKSANDR PAKHOMOV **CURRICULUM VITAE**
Postdoctoral Researcher (Marie Skłodowska-Curie Fellow)
School of Life Sciences, Keele University, UK

Email: a.pakhomov@keele.ac.uk
Web: www.magbbb.com
ORCID: 0000-0001-8092-4817

SUMMARY AND SCIENTIFIC INTERESTS

I study animal orientation and navigation, with a focus on magnetic and celestial compass mechanisms in migratory species. I have extensive experience in designing controlled behavioural experiments, developing open-science and low-cost experimental setups, and investigating multi-cue sensory integration. I have acted as Principal Investigator on multiple funded projects and lead the MagBBB (Magnetoreception in Birds, Bats and Butterflies) research group. I have a strong track record of international collaboration, student supervision, and publication in leading journals.

CURRENT AND PREVIOUS POSITIONS

07/2024 – 06/2026	**MCSA Postdoctoral Fellow** (UKRI Guarantee Scheme, 100%) School of Life Sciences, Keele University, UK
05/2022 – 06/2024	**Senior Researcher** (100%) Biological Station Rybachy, Zoological Institute of Russian Academy of Sciences, Russia
03/2017 – 05/2022	**Researcher** (100%) Biological Station Rybachy, Zoological Institute of Russian Academy of Sciences, Russia
05/2016 – 12/2020	**Researcher** (50%) Laboratory for Evolution of Sensory Organs, Sechenov Institute of Evolutionary Physiology & Biochemistry of Russian Academy of Sciences, Saint-Petersburg, Russia
05/2015 – 03/2017	**Junior Researcher** (100%) Biological Station Rybachy, Zoological Institute of Russian Academy of Sciences, Russia

EDUCATION

09/2012-11/2016

PhD in Zoology (Life Sciences)
Department of Vertebrate Zoology
Faculty of Biology, Lomonosov Moscow State University (Moscow, Russia)
Supervisor: Dr Sergey Ogurtsov, PhD
PhD thesis: Role of the magnetic compass and a magnetic map in the choice of migratory direction by songbird migrants (thesis defence: 11/2016)

09/2007 – 06/2012

Specialist's Degree in Vertebrate Zoology
Department of Vertebrate Zoology
Faculty of Biology, Lomonosov Moscow State University (Moscow, Russia)
Supervisor: Dr Irina Marova, PhD
Diploma thesis: Orientation of nocturnal migratory birds at sunset and the beginning of night.

RESEARCH FUNDING

2024-2026

Marie Skłodowska-Curie Actions Postdoctoral Fellowship (UKRI Guarantee Scheme)
Project: Magnetoreception in migratory insects: the magnetic compass and the magnetic map in European migratory Lepidoptera (EP/Y036239/1)
Amount: €200,000

2021 – 2023

Research Grant for Young Investigators, Russian Science Foundation (PI)
Project: Magnetoreception in mammals: the magnetic compass of migratory bats and its position in a hierarchy of compass systems.
Amount: €48,000

2020 – 2022

Research Grant, Russian Foundation for Basic Research (PI)
Project: Light-dependent magnetoreception in songbird migrants: true or false?
Amount: €48,000

2018 – 2020

Research Grant, Russian Foundation for Basic Research (Co-Lead)
Project: Calibration of compass systems in migratory birds.
Amount: €30,000

2019 – 2020

Publication Grant, Russian Foundation for Basic Research (PI)
Project: A hierarchy of compass systems in migratory birds.
Amount: €4,800

AWARDS, TRAVEL GRANTS AND STIPENDS

2022	**Travel Grant: International Ornithological Congress (Durban, South Africa)** Sponsor: Leventis Conservation Foundation and Oppenheimer Generations Foundation
2018	**Travel Grant: International Congress of Neuroethology (Brisbane, Australia)** Sponsor: International Society for Neuroethology
2013	**Government stipend for academic/educational excellence/performance (PhD students)** Sponsor: Ministry of High Education and Science of Russian Federation

COLLABORATIONS

- **Dmitry Kishkinev**, Keele University, UK: Orientation and navigation in migratory Lepidoptera
- **Nikita Chernetsov**, ZIN RAS: Orientation and navigation in migratory songbirds
- **Oliver Lindecke**, NaviSense Cluster of Excellence (Oldenburg University), DE: Orientation mechanisms in migratory butterflies
- **Basil el Jundi**, NaviSense Cluster of Excellence (Oldenburg University), DE: Orientation mechanisms in migratory moths

MENTORING AND TEACHING

Supervision and co-supervision of Bachelor's and Master's students

- **Maria Ershova** (Lomonosov Moscow State University)
  2018 – 2019: Effects of radio-frequency magnetic fields on migratory orientation in garden warblers, **Bachelor's thesis (2019).**
- **Fedor Cellarius** (Lomonosov Moscow State University)
  2018 – 2020: Magnetic declination in avian navigational maps, **Bachelor's thesis (2020).**
  2020 – 2022: Orientation and navigation in migratory bats, **Master's thesis (2022).**
- **Alexandra Fedorisheva** (Lomonosov Moscow State University)
  2021 – 2022: Disruption of migratory behaviour by oscillating magnetic fields**, Bachelor's thesis (2022).**
  2022 – 2024: Disruption of migratory behaviour by oscillating magnetic fields, **Master's thesis (2024).**
- **Anisia Prokshina** (Herzen State Pedagogical University, Lomonosov Moscow State University)
  2020 – 2021: Hierarchy of compass systems in migratory songbirds, **Bachelor's thesis (2021).**
  2022 – 2023: Effects of monochromatic light on magnetic orientation in birds, **Master's thesis (2023).**
- **Anastasia Grebenkova** (Lomonosov Moscow State University)
  2022-2024: Magnetic orientation after simulated geomagnetic equator crossing, **Bachelor's thesis (2024).**
- **Gleb Utvenko** (Moscow State Pedagogical University, Saint-Petersburg State University)
  2019 – 2021: Ontogeny of the stellar compass in songbird migrants, **Bachelor's thesis (2021).**
  2022 – 2023: Orientation of migratory bats in circular release experiments, **Master's thesis (2023).**
- **Nadezhda Romanova** (Moscow State Pedagogical University**)**

2021 – 2022: Light-dependent magnetoreception in migratory songbirds (replication study), **Bachelor's thesis (2022).**

Teaching

- **Practical teaching** in Vertebrate Zoology, Lomonosov Moscow State University, Moscow, Russia (2012–2013)
- **Invited lectures** on bird orientation and navigation, Immanuel Kant Baltic Federal University, Kaliningrad, Russia (2015)

ACADEMIC AND NON-ACADEMIC ACTIVITIES

- **Administrative leadership and management**
- **Acting Director**, Biological Station Rybachy (2017–2024, 1–2 months annually)
- **Head of Laboratory Department,** Biological Station Rybachy (2020–2024)

- **Organisation of conferences and panel sessions**

- **Co-organiser** (registration forms, scientific programme, website creation and maintenance), 1st and 2nd Autumn Schools for students and early-career researchers "Animal Navigation and Orientation", October 2014 and 2019, Zvenigorod Biological Station, Russia
- **Symposium Organiser** (with Kirill Kavokin), "The Mechanisms of Orientation and Navigation in Migratory Birds", February 2023, 2nd All-Russian Ornithological Congress, St. Petersburg, Russia

- **Web design and administration**

- Website of the Department of Vertebrate Zoology, Faculty of Biology, Lomonosov Moscow State University, 2011 – 2012.
- Website of the 1st and 2nd Autumn Schools for students and early career researchers "Animal navigation and orientation" (Zvenigorod biological station, MSU, Russia), 2014 and 2019.
- Website of the MagBBB Group (2023 – present).

- **Reviewer for scientific journals and funding agencies**

- Regular peer reviewer for: Journal of Comparative Physiology A, BioEssays, Biological Bulletin, BMS Zoology, Biology Open, Scientific Reports, Behavioural Ecology and Sociobiology, Current Biology, Journal of Experimental Biology, Proceedings of the Royal Society B

PUBLICATIONS

(*) – as a main/correspondence author

Preprints and manuscripts in preparation/under review

1. (*) Pakhomov A et al. The Role of Magnetic and Celestial Cues in Orientation and Navigation of Red Underwing (*Catocala nupta*), a European Migratory Moth // preprint/**under review** doi: 10.64898/2026.03.04.709557.

2. Utvenko et al., Magnetic cues and refuelling in thrush nightingales (*Luscinia luscinia*): a 25-year-old hypothesis revisited // **under review**

3. Kavokin et al. Disruption of magnetic orientation in migratory songbirds by radiofrequency magnetic fields is mediated by a specialized sensory system // **under review**

4. (*) Pakhomov A et al. Not All Butterflies Are Monarchs: Compass Systems in the Red Admiral (*Vanessa atalanta*), a European Diurnal Migrant // preprint/**under review**. doi: 10.1101/2025.05.01.651646

5. (*) Pakhomov A et al. Orientation tests and long-term movement phenology establish the red admiral Vanessa atalanta as an applicable model for navigation research in migratory butterflies // preprint/**under review.** doi: 10.1101/2023.09.09.554419

6. (*) Cellarius et al. Birds are easier to trick: an effect of magnetic field manipulation on migratory orientation of Nathusius' pipistrelle in the circular release box // **preprint.** doi: 10.1101/2023.02.20.529207

Peer-reviewed publications (16)

eLife (SCImago Q1)	(*) Pakhomov, Kishkinev, **2026**. Insect Migration: A sense of direction // doi: 10.7554/eLife.110796
Journal of Experimental Biology (WOS Q1)	Utvenko et al., **2025**. Magnetic orientation of marsh warblers (*Acrocephalus palustris*) and spotted flycatchers (*Muscicapa striata*) after simulated crossing of the magnetic equator // doi: 10.1242/jeb.248169
Behavioral Ecology and Sociobiology (WOS Q1)	Bojarinova et al**., 2023.** Oscillating magnetic field does not disrupt orientation in the presence of stellar cues in an avian migrant // doi: 10.1007/s00265-022-03282-7
Journal of Ornithology (WOS Q1)	Bojarinova et al., **2024**. Oscillating magnetic field does not disrupt orientation in the presence of stellar cues in an avian migrant // doi: 10.1007/s10336-023-02129-w
Proceedings of the Royal Society B (WOS Q1)	(*) Romanova et al., **2023**. Migratory birds are able to choose the appropriate migratory direction under dim yellow narrowband light // doi: 10.1098/rspb.2023.2499.
Journal of Experimental	(*) Pakhomov et al., **2022.** Access to the sky near the horizon and stars does not play a crucial role in compass calibration of European songbird migrants // doi: 10.1242/jeb.243631

Biology (WOS Q1)	
Journal of Experimental Biology (WOS Q1)	Zolotareva et al., **2021**. Ontogeny of the star compass in birds: pied flycatchers (*Ficedula hypoleuca*) can establish the star compass in spring // doi: 10.1242/jeb.237875
Biological Communications (SCImago Q3)	(*) Pakhomov**,** Chernetsov, **2020**. A hierarchy of compass systems in migratory birds // doi: 10.21638/spbu03.2020.306
PLOS ONE (WOS Q2)	Chernetsov et al., **2020**. No evidence for the use of magnetic declination for migratory navigation in two songbird species // doi: 10.1371/journal.pone.023213
Scientific Reports (WOS Q1)	Bojarinova et al., **2020**. Magnetic compass of garden warblers is not affected by oscillating magnetic fields applied to their eyes // doi: 10.1038/s41598-020-60383-x
Scientific Reports (WOS Q1)	**(*)** Pakhomov et al., **2018**. Magnetic map navigation requires input from the trigeminal nerve in a migratory songbird // doi: 10.1038/s41598-018-30477-8
Current Biology (WOS Q1)	Chernetsov et al., **2017**. Migratory Eurasian reed warblers can use magnetic declination to solve the longitude problem // doi: 10.1016/j.cub.2017.07.024
Journal of the Royal Society Interface (WOS Q1)	(*) Pakhomov et al., **2017**. Very weak oscillating magnetic field disrupts the magnetic compass of songbird migrants // doi: 10.1098/rsif.2017.0364
Behavioral Ecology and Sociobiology (WOS Q1)	(*) Pakhomov et al., **2017**. Further evidence of a time-independent stellar compass in a night-migrating songbird // doi: 10.1007/s00265-017-2279-3
Current Biology (WOS Q1)	Kishkinev et al., **2015**. Eurasian reed warblers compensate for virtual magnetic displacement // doi: 10.1016/j.cub.2015.08.01
Journal of Ornithology (WOS Q1)	(*) Pakhomov., Chernetsov, **2014**. Early evening activity of migratory Garden Warbler *Sylvia borin*: compass calibration activity? // doi: 10.1007/s10336-014-1044-x
Journal of the Royal Society Interface (WOS Q1)	Kavokin et al., **2014**. Magnetic orientation of garden warblers (*Sylvia borin*) under 1.4 MHz radiofrequency magnetic field // doi: 10.1098/rsif.2014.0451

SELECTED INTERNATIONAL CONFERENCES

- 12th International Animal Navigation Conference **«**Orientation & Navigation Birds, Humans & Other Animals» (RIN26), 15-17 April 2026, Egham, UK**. Oral talk:** Not All Butterflies are Monarchs: Orientation Using Daytime Celestial Cues but Not Magnetic Cues in European Migratory Red Admirals (*Vanessa atalanta*)

- ASAB Spring 2026 Conference, Bristol, UK, 23-25 March 2026. **Poster:** The Role of Magnetic and Celestial Cues in Orientation Behaviour of European Migratory Lepidoptera.

- Biologists@100 Conference (100 year of the Company of Biologists), Liverpool, UK, 24-27 March 2025. **Poster:** Not all butterflies are monarchs: Compass systems in European migratory butterflies

- 22nd International Ornithological Congress, Durban, South Africa, 15-19 August 2022. **Oral talk:** Two sensitivity peaks of the avian magnetic compass to monochromatic light: true or false?

- 12th Conference of the European Ornithologists' Union (EOU 2019), Cluj Napoca, Romania, 26-30 August 2019. **Oral talk:** No evidence for compass calibration in European songbird migrants during both migratory seasons.

- 10th International Animal Navigation Conference **«**Orientation & Navigation Birds, Humans & Other Animals» (RIN19), 10-12 April 2019, Egham, UK**. Poster:** Do songbird migrants use the magnetic field during the non-migratory season?

- International Congress of Neuroethology, Brisbane, Australia, 15-20 July 2018. **Oral talk:** Magnetic map navigation requires input from the trigeminal nerve in a migratory songbird.

- 11th Conference of the European Ornithologists' Union, Turku, Finland, 18-23 August 2017. **Oral talk**: The ophthalmic branch of the trigeminal nerve provides magnetic map information in a migratory songbird.

- 9th International Animal Navigation Conference «Orientation & Navigation Birds, Humans & Other Animals» (RIN16), 13-15 April 2016, Egham, UK**. Poster**: The magnetic compass of long-distance songbird migrant, garden warbler *Sylvia borin*, is not calibrated by celestial cues**.**

- 10th Conference of the European Ornithologists' Union, Spain, Badajoz, 24-28 August 2015. **Oral talk**: Magnetic declination provides east–west navigational map information in a migratory songbird.