October 14, 2020

Meet the Postdoc!

University of Oldenburg

Online networking event

Molecular Basis of Sensory Biology DFG Graduiertenkolleg 1885

The concept behind the “Meet the Postdoc”-event was to create an opportunity for PhD students to get to know the postdocs of the Carl von Ossietzky University, in collaborating working groups from other universities, and former PhD students (now postdocs). At the core, were the ideas to:

1.) learn about qualities and skills they have to get into this position;
2.) get acquainted with the person behind the academic position.

Idea 1. arose in order to create an event similar to a job fair, but from the academic point of view. It should show PhD students, by way of example, what may be useful traits and skills, should they want to stick to academic research. Additionally, the event would hand PhD students a small collection of expertise, should they need some help or input on specific topics.

Idea 2. sparked to resolve the assumption that one has to work 24/7 to stay in academia and “make it”. To show the humane or private side of the postdocs. What keeps them sane? How do they unwind? Stress management is a skill everyone needs, but not everyone has.

Taking the best approaches to both sides, the RTG Orga Team comprised this one-day online event. During the event postdocs present where they come from and what brought them to where they are, from a professional, but also a personal side. Personal contact would be more ideal and more to the spirit of such an event. However, with pandemic regulations still in place, the event has to take place online, which gave us the possibility to invite externals and not break with the flow of the platform. We as the Orga team hope that postdocs, as well as PhD students enjoy and embrace this event wholeheartedly.

Stay safe and healthy,
The RTG Orga Team

CARL VON OSSIETZKY universität OLDENBURG

Molecular Basis of Sensory Biology
DFG Graduiertenkolleg 1885

Table of Contents

Meet the postdoc!

Short biographies of the postdocs which will present together with their contact information.

Timetable

		Session A https://meeting.uol.de/b/kri-ynq-ufi		Session B https://meeting.uol.de/b/kri-fy9-d2a	
9:00-9:10	**General welcome** **https://meeting.uol.de/b/kri-v59-nlj-tpm**				
9:15-10:20		**Computation & Genomics**		**Neurobiology**	
	9:15	Welcome to the sesssion			
	9:20	Genetic basis of adaptation/speciation (of fishes)	Stefan Dennenmoser	How to conduct cognitive experiments in animals: a training guideline	Julian Packheiser
	9:35	Branching out: from coral reef specialist to marine interdisciplinary scientist	Jan Dajka	Number neurons in the chicken brain	Dmitry Kobylkov
	9:50	(Academic) Life is Unpredictable	Go Ashida	How do migratory birds orient? A glimpse into a bird's brain during navigation	Dominik Heyers
	10:05	Modelling migration routes based on geomagnetic and celestial orientation	James McLaren	Neurosurgery - A tale of peripheral nerves and stroke	Patrick Dömer
10:20 - 10:40	**Coffee break**				
10:40 - 11:30		**Behaviour & Ecology**		**Vision & Hearing**	
	10:40	Welcome to the session			
	10:45	From fish to stem cells and back to fish - Investigating magnetic orientation in field and lab experiments	Lisa Spiecker	Diversity of retinal circuitry and output signals - what does the eye tell the brain?	Christian Puller
	11:00	Epiphytes in a changing world	Helena Einzmann	Finding magnetosensory information in retinal ganglion cell responses of birds	Malte Ahlers
	11:15	Phenotypic plasticity in marine model organisms.	Julia Strahl	Working my way upstream the auditory pathway.	Amarins Nieske Heeringa
11:30 - 12:30	**Lunch break**				

		Session A https://meeting.uol.de/b/kri-ynq-ufi		Session B https://meeting.uol.de/b/kri-fy9-d2a	
11:30 - 12:30	**Lunch break**				
12:30 - 13:35		**Neurogenetics & Biochemistry**		**Physics & Microscopy**	
	12:30	Welcome to the session			
	12:35	Investigating auditory dysfunction on the level of the brainstem.	Lena Ebbers	How to generate and control photons (quantum light)	Carlos Antón Solanas
	12:50	Back to basics: From basic to translational research and back again	Rabea Bartölke	Billiard systems with moving walls	Sebastian Rosmej
	13:05			Electron microscopy core facility at UOL and new possibility of liquid TEM	Vita Solovyeva
	13:20			Advance microscopy methods to tackle biological questions.	Franziska Curdt
13:40	**Closing remarks**				

*please find links and passwords to enter the sessions below in the orange box

Important links

Welcome - main room:
https://meeting.uol.de/b/kri-v59-nlj-tpm
Password: 488025

Session A:
https://meeting.uol.de/b/kri-ynq-ufi
Password: 495547

Session B:
https://meeting.uol.de/b/kri-fy9-d2a
Password: 846552

Helena Einzmann, Ecologist

Postdoc, Functional Ecology Lab

Carl-von-Ossietzky University Oldenburg

Helena.Einzmann@uol.de
Office: W4 0-049
Phone: 0441 798-3315
https://uol.de/fun-eco

Biology studies at Carl von Ossietzky University
Oct **2010 Master of Science Biology** – Thesis: Investigation of epiphyte communities of deciduous and evergreen trees in a tropical lowland forest.

2011-2016 Doctorate studies and **teaching** at Carl von Ossietzky University.

Jul 2016 Thesis defence: Epiphytes in human-modified landscapes.

Techniques used in my research:
Tree climbing, wind/water tunnel experiments, statistics with R, plant identification, tensile strength testing

Main research question:

How dangerous can wind be to epiphytes?

Bromeliad subjected to water current simulating wind pressure. Can hurricane winds dislodge it?

Carlos Anton-Solanas, Physicist

Postdoc, Institute of Physics,

Carl-von-Ossietzky University Oldenburg

carlos.anton-solanas@uol.de

Skype: carlos.anton.solanas

BSc Physics (05-10) Univ. Autónoma Madrid (UAM)

Master (10-11) Dep. of Physics of Materials, UAM

PhD on Physics (11-15) Dep. of Physics of Materials, UAM

PostDoc 1 (15-19) Centre of Nanoscience and Nanotechnology, CNRS (France)

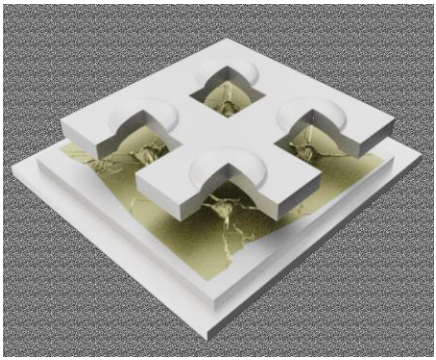
PostDoc 2 (19-20, 7 months) Technische Physik, University of Würzburg (Germany)

PostDoc 3 (from July 20) Institute of Physics, Univ. of Oldenburg

Main research question:

How to generate and control photons (quantum light)?

Techniques used in my research:
Cryogenics, lasers, spectroscopy, interferometry, photo-detectors, photon-correlation, molecular-beam epitaxy, etc.



Rabea Bartölke, Biochemist

Postdoc, Animal Navigation,

Carl-von-Ossietzky University Oldenburg

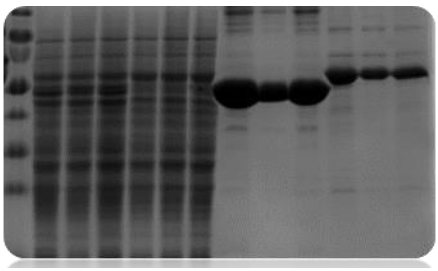
rabea.bartoelke@uol.de
0441-798-3180
UOL, IBU: W8-0-005

After my **PhD** in Osnabrueck, I received a DFG Research **Fellowship** grant and spent 3 years at the Cancer Research Center of Toulouse in France, before joining the lab of Henrik Mouritsen here in Oldenburg.

Techniques used in my research: Protein expression & purification; cloning; cell culture; microscopy, Protein-protein interaction studies, Western Blots …

Main research question:

How does the magnetic sense of migratory birds work on a molecular level?



On this SDS gel, I'm testing the expression of two proteins in insect cells. Being able to express and purify proteins is essential to studying them.

Franziska Curdt, Physicist

Postdoc in Magnetic Imaging,
AG Winklhofer,
Carl-von-Ossietzky University Oldenburg

franziska.curdt@uol.de
https://de.linkedin.com/in/franziska-curdt-62298516

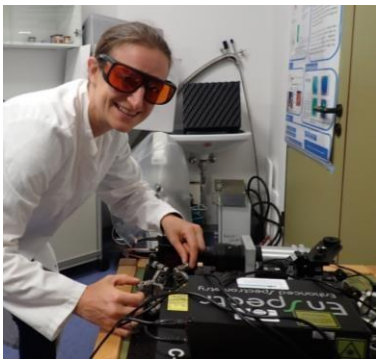
Undergraduate studies in physics at University Kiel
Graduated in physics at University Freiburg.
PhD in advanced microscopy methods at DKFZ Heidelberg
Master in Marine Environmental Science

Certified Research Diver

Techniques used in my research:
Optical detected magnetic resonance

Main research question:

Where are the sensory structures in magnetoreception located in vertebrates and can we image them with magneto-optics?



Working on an optical microscope setup.

Patrick Dömer, Neurosurgery

PostDoc, Neurosurgery (Woitzik Lab),

Carl-von-Ossietzky University Oldenburg

Faculty VI - Medicine and Health Sciences
W4-1-177
0441 798 3202

patrickdoemer@uol.de

2013 – 2016: **Master of Science** Biology, University of Oldenburg

2016 – 2019: **PhD student**, University of Oldenburg

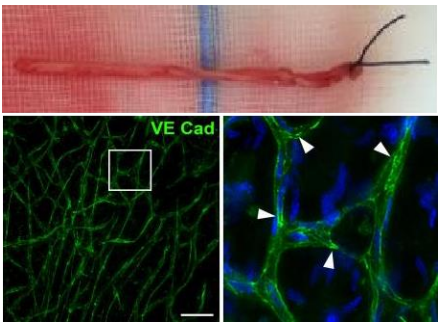
Since 2020: **PostDoc**, Neurosurgery (Woitzik Lab) University of Oldenburg

Techniques used in my research: immunhistochemisty, biochemistry, electron microscopy, cell culture, experimental surgery, electrophysiology, high-resolution ultrasound, laser speckle imaging

Main research questions:

What are the molecular and cellular mechanisms of peripheral nerve regeneration following traumatic nerve lesions?

What are the physiological effects of cortical spreading depolarizations in cerebral ischemia?



Human nerve (A) derived endothelial cells form an capillary network (B) which provides axonal guidance for regenerating axons following peripheral nerve injury.

Vita Solovyeva, Physicist

Ultrafast Nanoscale Dynamics group

Carl-von-Ossietzky University Oldenburg

UOL, Faculty 5, Institute of Physics
W1A 1-102 (every day)
Vita.solovyeva@uol.de
Phone: 3547
www.linkedin.com/in/vitasolovyeva

Bachelor and Master Degrees in Solid state physics 2004 and 2006

Graduate stay at Danish Technical University 2007

PhD in physics Goethe University, Frankfurt, Germany 2011

Postdoc 1 in USA 2011-2012

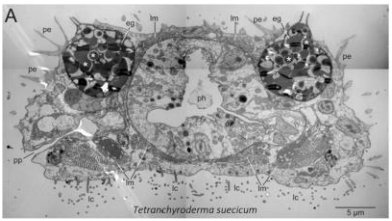
Postdoc 2 in Denmark 2013-2015

Microscope facility head in Denmark 2016-2019

Techniques used in my research: Confocal and two photon microscopy, SHG, CARS, widefield microscopy etc.; Transmission and scanning electron microscopy, focused ion beam; AFM

Main research question:

Liquid cell transmission electron microscopy measurements for the project study of ion-transport mechanism in hexacyanometallates.



Jannik Schnier, Wilko H. Ahlrichs, Alexander Gruhl, Christian Schulbert, Sebastian Teichert and Alexander Kieneke. Zoomorphology(2019) 138:443–462

Julia Strahl, Marine Ecophysiologist

Postdoc, Animal Biodiversity and Evolutionary Biology,

HIFMB & Carl-von-Ossietzky University Oldenburg

julia.strahl@hifmb.de
julia.strahl@uol.de

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+49(471)4831-2560

Twitter@HIFMB_OL

2002-2006 Studies & **diploma** thesis, University of Bremen

2007-2011 **PhD**, Alfred Wegener Institute, Bremerhaven

2011-2015 **Postdoc**, Australian Institute of Marine Science, Townsville, Australia

Since 2016 **Postdoctoral** researcher at the Helmholtz Institute for Functional Marine Biodiversity (HIFMB) & University of Oldenburg

Techniques used in my research: Aquarium and field-based experiments; Investigation of behaviour, growth, age; physiological and biochemical assays

Main research question:

Can marine invertebrates acclimatise to future environmental conditions?

Live coral branch in incubation chamber (left) and hydroid clone (right).

Stefan Dennenmoser, Ecologist

Postdoc, Ecological Genomics,

Carl-von-Ossietzky University Oldenburg

stefan.dennenmoser@uol.de
AG Ökologische Genomik
IBU, Carl von Ossietzky Universität Oldenburg
Carl von Ossietzky-Str. 9-11, 26111 Oldenburg

Diploma, Marine Biology, Kiel 2005

PhD, Evolutionary Biology, Calgary 2009-2013

PostDoc, Evolutionary Genetics, MPI Plön 2014-2016

PostDoc, Evolutionary Genetics, Oldenburg 2016-2019

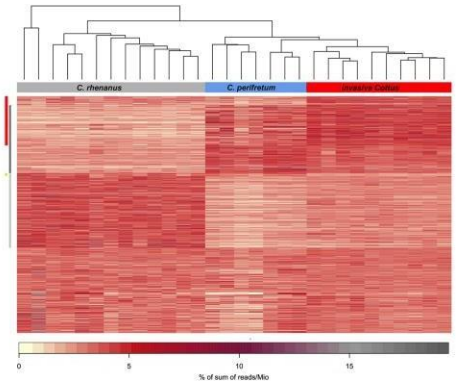
PostDoc, Evolutionary Genetics, Oldenburg 2019-2021

Techniques used in my research:

Nowadays mostly genome sequencing and bioinformatic analyses

Main research question:

Genetic basis of adaptation/ speciation (of fishes); Genome evolution; Opportunistically: Crustacean reproductive biology/sexual selection



"Jumping genes" show increased copy numbers in a hybrid fish species- but their evolutionary causes and consequences remain a puzzle.

Go Ashida, Computational Neuroscientist

Postdoc, Department of Neuroscience, Carl-von-Ossietzky University Oldenburg

go.ashida@uol.de

2002 -2005: **PhD** Student at School of Informatics, Kyoto University (Japan)

2005 -2007: **Researcher** at School of Medicine, Kyoto University (Japan)

2007 -2013: **Postdoc** at Department of Biology, University of Maryland (USA)

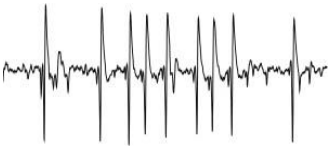
2013 -Now: **Postdoc** at Department of Neuroscience, UOL (Germany).

Techniques used in my research:

Mathematical modeling, computer simulations, analysis of physiological data

Main research question:

How is acoustic information processed and represented in the auditory system? How can we simulate the physiological functions of auditory neurons?



I study the mechanisms of neuronal information processing in the auditory system.

Dominik Heyers,
Neuroanatomist

Senior Researcher, Neurosensorics,

Carl-von-Ossietzky University Oldenburg

dominik.heyers@uol.de

https://uol.de/ibu/neurosensorik/members/dr-dominik-heyers-postdoc

since 2015: **Senior Researcher**, Institute of Biology and Environmental Sciences, University Oldenburg, Germany, AG Neurosensorics (Group leader: Prof. Dr. H. Mouritsen)

2004-2014: **Postdoc** at Department of Biology, University Oldenburg, Germany, AG Neurosensorics (Group leader: Prof. Dr. H. Mouritsen).

1999-2003: **Ph.D.** "Role of cadherins in development of the vertebrate nervous system"; Inst. of Anatomy, University Medical School Essen, Germany, AG Prof. Dr. Dr. C. Redies.

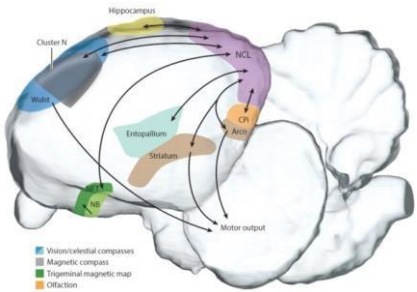
1998: Biology **diploma** "Distribution of FMRF-amide in the metathoracic ganglia of the cricket (Acheta domesticus)", Inst. of Zoology, Johann-Wolfgang-Goethe- Universität Frankfurt/Main, Germany, AG Prof. Dr. W. Gnatzy.

Techniques used in my research:
Neuroanatomy, Neurosurgery, Neuronal Tract Tracing, Histology, Behavioural Experiments, Brain Activation Pattern Analyses

Hobbies and interests:
Arts, Visual aesthetics, Cycling, Watching my son grow up!

Main research question:

- *How do find migratory birds their way?*
- *What are the neuronal correlates underlying avian magnetoreception?*



Brain pathways putatively involved in navigation in birds (taken from Mouritsen, Heyers, Güntürkün; Annual Review of Physiology, 2016)

Amarins N. Heeringa,
Neuroscience

Postdoc, AG Köppl, Dept. of Neuroscience,

Carl-von-Ossietzky University Oldenburg

amarins.nieske.heeringa@uol.de
uol.de/en/cochlea
Research gate: Amarins_Heeringa

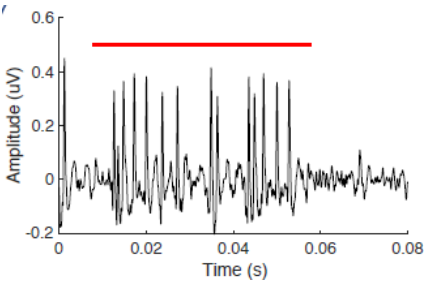
I did my **PhD** at the University of Groningen (NL), studying behavioural and neurophysiological changes following noise exposure. Then I was a **postdoc** at the University of Michigan (USA) for two years, where I looked at multisensory integration in the auditory brainstem. I started my **current position** at the University of Oldenburg in 2017. I have two children, who are two and three years old.

Techniques used in my research:

Single-unit neurophysiology, histology

Main research question:

How does cochlear aging affect auditory nerve functioning?



Here, I am showing neuronal activity recorded from an auditory nerve fibre of a gerbil, while a tone burst was being played over an in-ear speaker (red bar = duration tone).

Sebastian Rosmej, Physics

Postdoc, Physics,

Carl-von-Ossietzky University Oldenburg

Sebastian.rosmej@uol.de
0441-798-3619
UOL, IBU: W2-2-275

PhD student (10/14-04/18) and **PostDoc** (05/18-09/18) at the Uni Rostock (Quantum Theory & Many-Particle Systems);

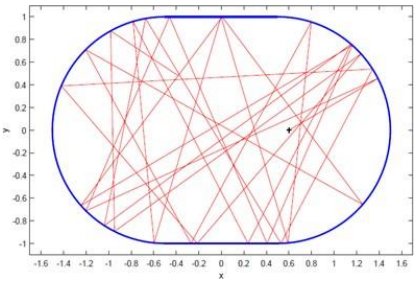
PostDoc (since 10/18) at the Uni Oldenburg (Stat istical Physics)

Techniques used in my research:

Analytical (pen and paper) and numerical methods (Matlab, Mathematica)

Main research question:

What are the differences between quantum work in regular and classical chaotic systems?



Typical trajectory in a Bunimovich billiard (chaotic system)

Lisa Spiecker, Behavior & Ecology

Postdoc, Animal Biodiversity and Evolutionary Biology

Carl-von-Ossietzky University Oldenburg

lisa.spielisa.spiecker@uol.de
+ 49 441 798 3367
FK V, IBU, room W4-2-247
https://www.researchgate.net/profile/Lisa_Spiecker

Bachelor: WG Animal Physiology, Institute of Zoology, JGU Mainz

Master: WG Structural Biology, Institute of Zoology, JGU Mainz

PhD: WG Cell and Redox Signaling, Department of Pharmacology, University Medical Center Mainz

Postdoc: WG Neurophysiology, Division of Physiology, Medical University Innsbruck, AT

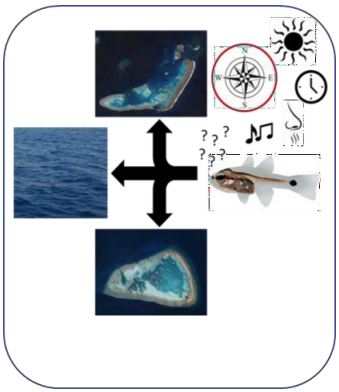
Postdoc (currently): WG Animal Biodiversity & Evolutionary Biology, CvO University Oldb.

Main research question:

- Do coral reef fish imprint on magnetic cues of their natal environment?
- What is the detection threshold of fish to changes in magnetic field strength?
- Do juvenile fish respond to magnetic displacement in the wild?

Techniques used in my research:

Behavioral experiments (in the field and in the lab)



Magnetic orientation in (coral reef) fish

Jan-Class Dajka
Computation & Genomics

Postdoc, Marine Ecologist, Helmholz Institute for Functional Marine Biodevrsity

Carl-von-Ossietzky University Oldenburg

jan-claas.dajka@hifmb.de
https://www.researchgate.net/profile/Jan_Claas_Dajka
https://scholar.google.se/citations?user=wnA-pxgAAAAJ&hl=en

Bachelor of Science: Marine Biology at James Cook University Townsville, Australia

Master of Science: Marine Biology at University of Bremen, Germany

PhD: Environmental Science at Lancaster Environment Centre, United Kingdom

Techniques used in my research:

Statistics: Structural equation modelling, Diffusion maps, many more to come

Main research question:

How changes in marine biodiversity are affecting nature's contribution to people.

Conducting fish video surveys on a coral reef in the Gulf of Thailand.

Malte Ahlers, Electrophysiologist

Postdoc, Visual Neuroscience Lab,

Carl-von-Ossietzky University Oldenburg

m.ahlers@uol.de
UOL, IBU: W4-1-184
www.malteahlers.de

Dipl. Biol., Uni Oldenburg, 2006

Hard-/ Software Developer (self-employed)

PhD, Uni Oldenburg, 2016

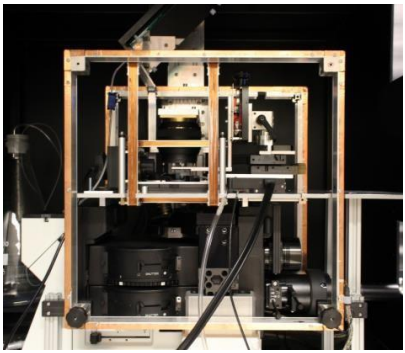
PostDoc, Uni Oldenburg, since 2017

Techniques used in my research:

Multielectrode recordings, electronic + mechanical design, programming

Main research question:

How is visual (currently also: geomagnetic) information encoded in retinal ganglion cell responses?



Multielectrode setup with magnetic stimulation system

Lena Ebbers,
Neurogenetics division

Neurogenetics Lab

Carl-von-Ossietzky University Oldenburg

Department of Neuroscience
Neurogenetics
Office: W4-2-207
E-Mail: lena.ebbers@uol.de
Phone: 2937

2007 – 2010: **Bachelor** studies (Biology) University of Göttingen

2010 – 2012: **Master** studies (Biology) University of Oldenburg

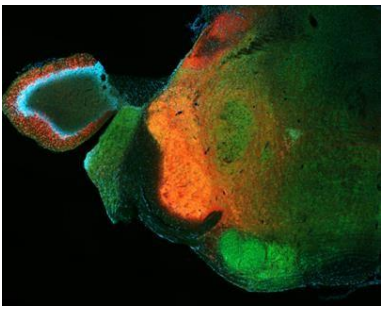
2012 – 2016: **PhD** student (Neurogenetics) University of Oldenburg

Since 2016: **PostDoc** in Neurogenetics

Techniques used in my research:
Morphometric analyses, immunohistochemistry, quantitative PCR

Main research question:

How do malformations and dysfunction of the auditory brainstem translate into auditory processing disorders?



Excitatory (green) and inhibitory (red) synaptic connections in the auditory brainstem.

Julian Packheiser, Neurophysiology

Postdoc, Biopsychology lab,

Ruhr Uni Bochum

Julian.packheiser@rub.de
Twiter: @j_packheiser

I studied Cognitive Science at the Ruhr Uni Bochum. I was very enthusiastic about interdisciplinary work between Psychology and Neuroscience, so I started a **PhD** in animal cognition and learning. I am still employed in my PhD host lab.

Techniques used in my research:

Behavior, Single-Univ Recordings, EEG

Main research question:

I want to understand the neural basis of navigation, learning and social behavior in animals and humans.

The image shows pigeons in which I study learning mechanisms and navigation as well as hugs and kisses, my second line of research in humans.

Dmitry Kobylkov, Neurobiologist

Postdoc, Vallortigara Lab, Uni Trento (Italy)

dmitry.kobylkov@unitn.it
m.kobylkov@gmail.com
https://www.facebook.com/dmitry.kobylkov/
https://www.researchgate.net/profile/Dmitry_Kobylkov2

2011 – **bachelor** in biology (St. Petersburg State Uni, Russia)

2013 – **master** in biology (St. Petersburg State Uni, Russia) + semester at the Humboldat Uni (Germany)

2009-2014 – work at the Biological Station „Rybachy“ (Russia)

2015-2020 – **PhD** at the Uni Oldenburg (Germany)

2020-current – **postdoc** at the Uni Trento (Italy)

Main research question:

Neurobiological basis of number sense

Techniques used in my research:

In vivo electrophysiology, behavioural experiments, histology

Neuronal basis of numerical abilities in chicken

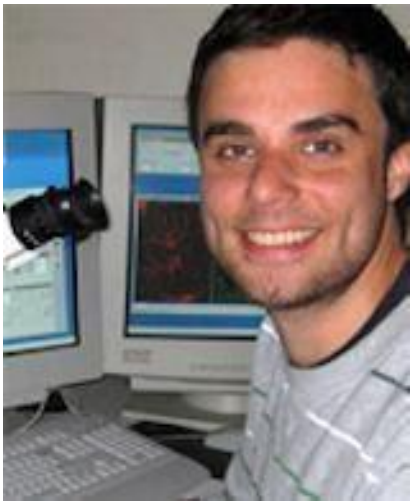
Christian Puller, Neurobiologist

Postdoc, Visual Neuroscience Lab,

Carl-von-Ossietzky University Oldenburg

Visual Neuroscience Lab, Dept. of Neuroscience, FkVI School of Medicine and Health Sciences, UOL

uol.de/retina
twitter.com/ChristianPuller



2004-2010: **Diploma, PhD, postdoc** at the Max Planck Institute for Brain Research in Frankfurt/Main

2010-2015: **Postdoc** at the University of Washington, Seattle, USA

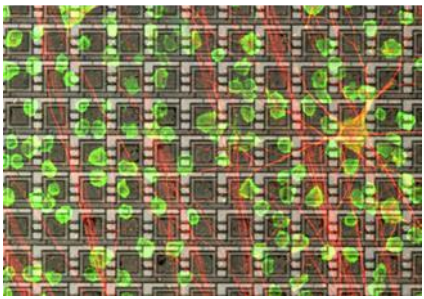
2015-today: **Research scientist**, UOL

Techniques used in my research:

Microscopy, Multi-electrode array recordings

Main research question:

What does the eye tell the brain?



Immunolabeled ganglion cells and axons (green, red) after MEA recording (array electrodes in grey)

James McLaren, Modeller

Postdoc, Mathematical Modelling,

Carl-von-Ossietzky University Oldenburg

james.mclaren@uol.de

B.Sc. in Mathematics,
M.Sc. in Physical Oceanography,
PhD focused on optimal bird migration strategies.

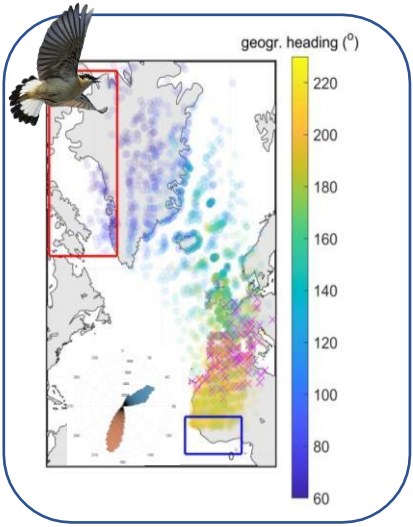
Interested in predicting and diagnosing adaptive decisions of migrating birds, especially orientation and navigation.

Techniques used in my research:
I combine computational and mathematical **techniques** (optimality, individual-based modelling, and machine-learning).

Also, a professional cellist and semi-professional procrastinator.

Main research question:

How does the magnetic sense of migratory birds work on a molecular level?



CARL VON OSSIETZKY universität OLDENBURG

Molecular Basis of Sensory Biology
DFG Graduiertenkolleg 1885

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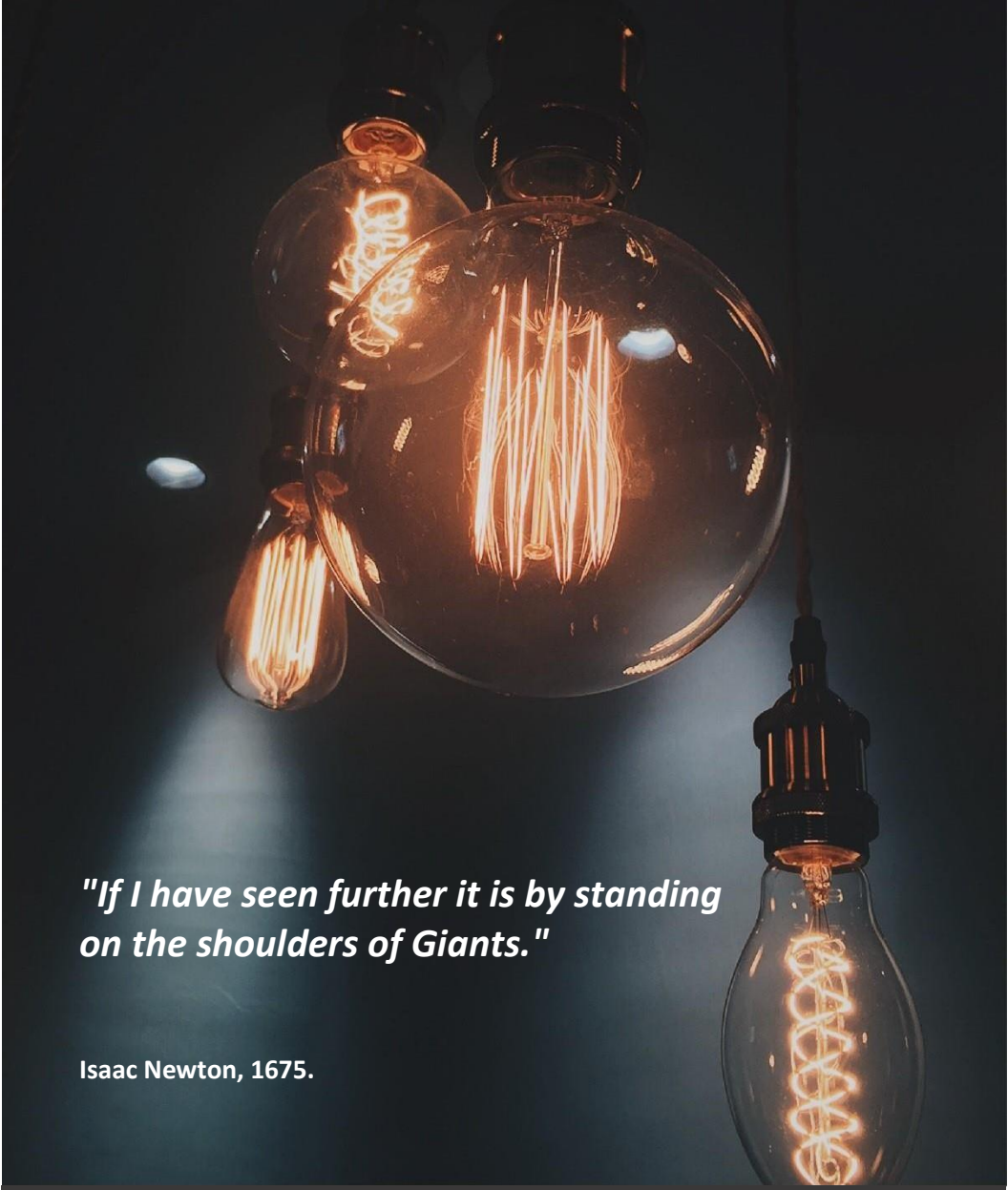

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