

# FABIAN SCHUHMAN

## PERSONAL INFORMATION

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*Born in Freising, Germany, 7th May 1991*

*email*                      [fabian.schuhmann@uni-oldenburg.de](mailto:fabian.schuhmann@uni-oldenburg.de)

*website*                    [fabianschuhmann.github.io](https://fabianschuhmann.github.io)

## CURRENT EMPLOYMENT

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*PhD student*                      2020-now (expected to finish 02/2023) · Carl von Ossietzky University Oldenburg · PhD student in the group of Prof. Dr. Ilia A. Solov'yov · Thesis topic: **Development of theoretical methods to analyze and gain biophysical data**

## EDUCATION

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*Master of Science*                      2017-2019 · RUHR UNIVERSITY BOCHUM · Faculty of Mathematics  
Thesis: *Dynamics of billiards with emphasis on the length of the shortest periodic billiard trajectory*

*Bachelor of Science*                      2013-2016 · RUHR UNIVERSITY BOCHUM · Faculty of Mathematics  
Thesis: *Das Brunn-Minkowski Theorem und die isoperimetrische Ungleichung*

*Bachelor of Science*                      2011-2016 · RUHR UNIVERSITY BOCHUM · Faculty of Economics  
Thesis: *Globaler Umweltschutz als Problem der privaten Bereitstellung eines öffentlichen Gutes*

## PUBLICATIONS

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EFFECTS OF DYNAMICAL DEGREES OF FREEDOM ON MAGNETIC COMPASS SENSITIVITY: A COMPARISON OF PLANT AND AVIAN CRYPTOCHROMES  
Gesa Grüning, Siu Ying Wong, Luca Gerhards, Fabian Schuhmann, Daniel R. Kattnig, P. J. Hore, Ilia A. Solov'yov  
*Journal of the American Chemical Society* 2022, Volume 144, p. 22902-22914

ON THE ENERGETIC DIFFERENCES OF AVIAN CRYPTOCHROMES 4 FROM SELECTED SPECIES  
Maja Hanić, Anders Frederiksen, Fabian Schuhmann, Ilia A. Solov'yov  
*The European Physical Journal D* 2022, Volume 76, p. 198

THE SAME, BUT DIFFERENT, BUT STILL THE SAME: STRUCTURAL AND DYNAMICAL DIFFERENCES OF NEUTROPHIL ELASTASE AND CATHEPSIN G  
Fabian Schuhmann, Xiangyin Tan, Luca Gerhards, Heloisa N. Bordallo, Ilia A. Solov'yov  
*The European Physical Journal D* 2022, Volume 76, p. 126

COMPUTATIONAL RECONSTRUCTION AND ANALYSIS OF STRUCTURAL MODELS OF AVIAN CRYPTOCHROME 4  
Maja Hanić, Fabian Schuhmann, Anders Frederiksen, Corinna Langebrake, Georg Manthey, Miriam Liedvogel, Jingjing Xu, Henrik Mouritsen, Ilia A. Solov'yov  
*Journal of Physical Chemistry B* 2022, Volume 126, p. 4623-4635

THE TRANSITION OF PHOTORECEPTOR GUANYLATE CYCLASE TYPE 1 TO THE ACTIVE STATE  
Manisha Kumari Shahu, Fabian Schuhmann, Alexander Scholten, Ilia A. Solov'yov,

Karl-Wilhelm Koch

*International Journal of Molecular Sciences* 2022, Volume 23, p. 4030

NAVIGATION OF MIGRATORY SONGBIRDS: A QUANTUM MAGNETIC COMPASS SENSOR

Siu Ying Wong, Anders Frederiksen, Maja Hanić, Fabian Schuhmann, Gesa Grüning, P. J. Hore, Ilia A. Solov'yov

*Neuroforum* 2021, Volume 27, Issue 3, p. 141-150

EXPLORING POST-ACTIVATION CONFORMATIONAL CHANGES IN PIGEON CRYPTOCHROME 4

Fabian Schuhmann, Daniel R. Kattnig, Ilia A. Solov'yov

*The Journal of Physical Chemistry B* 2021, Volume 125, Issue 34, p. 9652-9659 (chosen for cover)

INTRODUCING PEP McCONST—A USER-FRIENDLY PEPTIDE MODELER FOR BIOPHYSICAL APPLICATIONS

Fabian Schuhmann, Vasili Korol, Ilia A. Solov'yov

*Journal of Computational Chemistry* 2021, Volume 42, Issue 8, p. 572-580

## TEACHING EXPERIENCE

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<i>Teacher</i>	2021 · Carl von Ossietzky University Oldenburg · In charge of a two-weeks mathematics crash course to bridge the gap between school mathematics and university mathematics
<i>Tutor</i>	2020 · Carl von Ossietzky University Oldenburg · Mathematical Modelling for future teachers · summer term 2020
<i>Tutor</i>	2017-2019 · Ruhr-University Bochum Mathematics for Biologists · winter term 18/19 Mathematics for Engineers II · summer term 18 Mathematics for Engineers I · winter term 17/18
<i>Assistent</i>	2016-2018 · Hochschule Bochum · 'Institut für Mathematik und Technikdidaktik'.
<i>Tutor</i>	2015-2019 · Hochschule Bochum · Mathematics for Economists

## FURTHER EXPERIENCE / FUNDING

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02/2023 · SIAM CSE 2023, Amsterdam · received SIAM Travel Award

10/2022 · Invited by Prof. Bordallo to present at the ISBUC Symposium in Copenhagen

05/2022 · Research stay at the Living Systems Institute, University of Exeter · guest of Dr. Daniel Kattnig · Funded by the German Academic Exchange Service (DAAD), Program: 57595508

## OTHER QUALIFICATIONS

*Workshops and  
additional training*

Workshop on finances and booking the public sector  
 Trainer licence C for general sports  
 Workshop to teaching mathematics by ZAB at Ruhr-University Bochum

*Voluntary work*

2021- · Doctoral representative on the board of the Research Training School  
 “GRK 1885 - Molecular Basis of Sensory Biology”  
 Carl von Ossietzky University Oldenburg  
 2015-2018 · Member of the Faculty Council Mathematics  
 Ruhr-University Bochum  
 2014-2018 · Member of the student representations Mathematics  
 Ruhr-University Bochum  
 2010-2011 · Voluntary Social Year  
 CVJM Westbund e.V. Wuppertal

*Languages*

GERMAN · Native  
 ENGLISH · Fluent

*Computer Skills*

L<sup>A</sup>T<sub>E</sub>X · Advanced  
 PYTHON · Advanced  
 LINUX · Advanced  
 GIT · Basic  
 C++ · Basic  
 SLURM · Basic  
 TCL · Basic

January 16, 2023