

MARTIN KONHEFR – CURRICULUM VITÆ

PERSONAL INFORMATION

born in Jindřichův Hradec, CZ, 11th June 1990
 nationality Czech
 email 379848@mail.muni.cz, martin.konhefr@ceitec.muni.cz

WORK EXPERIENCE

2019–present Research Specialist, CEITEC MU
 2017–2018 Specialist, Dept. of Biochemistry, MASARYK UNIVERSITY

EDUCATION

	2015–2021	Masaryk University, Brno	
Doctoral study	Field of study:	Biochemistry · Faculty of Science	
	Training institute:	Petr Skládal Research Group, CEITEC MU, 625 00 Brno, Kamenice 5	
	Admission:	26. 6. 2015 · Defence: 27. 1. 2021	
	Dissertation thesis:	<i>New potential applications of interactions of boronic acids with emphasis to electrochemically active derivatives</i>	
	Supervisor:	Assoc. Prof. RNDr. Petr Skládal, CSc.	
		Consultants:	MSc. Karel Lacina, Ph.D., Assoc. Prof. RNDr. Ctibor Mazal, CSc.
	2013–2015	Masaryk University, Brno	
Master's study	Field of study:	Analytical biochemistry · Faculty of Science	
	Master thesis:	<i>Synthesis and electrochemical properties of derivatives of phenylboronic acid and ferrocene</i>	
	Supervisor:	MSc. Karel Lacina, Ph.D.	
	2010–2013	Masaryk University, Brno	
Bachelor's study	Field of study:	Biochemistry · Faculty of Science	
	Bachelor thesis:	<i>Synthesis of 4-(N-ferrocenylaminomethyl)-thiophene-3-boronic acid and stabilization of its SAM on gold</i>	
	Supervisor:	MSc. Karel Lacina, Ph.D.	

LIST OF PUBLICATIONS

- Jakub VĚŽNÍK, Martin KONHEFR, Zdenka FOHLEROVÁ and Karel LACINA, Redox-dependent cytotoxicity of ferrocene derivatives and ROS-activated prodrugs based on ferrocenyliminoboronates, *Journal of Inorganic Biochemistry*, **2021**, vol. 224, a. 111561. ISSN 0162-0134. Available from: <https://doi.org/10.1016/j.jinorgbio.2021.111561>.
- Martin KONHEFR, Lenka MICHALCOVÁ, Monika SKRUTKOVÁ LANGMAJEROVÁ, Zdeněk GLATZ, Petr SKLÁDAL, Ctibor MAZAL and Karel LACINA, Unexpected reactivity of ferrocenyl-iminoboronates: Breaking

ortho-imine bonds by oxidation in the presence of non-aqueous sodium chloride, *Tetrahedron Letters*, **2020**, vol. 61, a. 151535. ISSN 0040-4039. Available from: <<https://doi.org/10.1016/j.tetlet.2019.151535>>.

- Jakub VĚŽNÍK, Martin KONHEFR, Libuše TRNKOVÁ, Petr SKLÁDAL and Karel LACINA, Elusive pK_a' of aminoferrocene determined with voltammetric methods in buffered and unbuffered systems and practical aspects of such experiments, *Electrochimica Acta*, **2019**, vol. 318, p. 534–541. ISSN 0013-4686. Available from: <<https://doi.org/10.1016/j.electacta.2019.05.113>>.
- Martin KONHEFR, Adam C. SEDGWICK, Tony D. JAMES, Karel LACINA, Petr SKLÁDAL, Budi Riza PUTRA, Christian HARITO, Dmitry V. BAVYKIN, Frank C. WALSH, Paul R. RATHBY, Gabriele KOCIOK-KÖHN and Frank MARKEN, Voltammetric characterisation of diferrocenylborinic acid in organic solution and in aqueous media when immobilised into a titanate nanosheet film, *Dalton Transactions*, **2019**, vol. 48, iss. 30, p. 11200–11207. ISSN 1477-9226. Available from: <<http://dx.doi.org/10.1039/C9DT00881K>>.
- Martin KONHEFR, Karel LACINA, Monika SKRUTKOVÁ LANGMAJEROVÁ, Zdeněk GLATZ, Petr SKLÁDAL, Ctibor MAZAL, Electrochemically Facilitated Interaction of O-Nucleophiles with Imine Group in Electroactive *ortho*-((Ferrocenylimino)methyl)phenylboronate and Comparison with Its Regioisomers *ChemistrySelect*, **2018**, vol. 3, iss. 33, p. 9641–9647. ISSN 2365-6549. Available from: <<http://dx.doi.org/10.1002/slct.201802030>>.
- Martin KONHEFR, Karel LACINA, Monika SKRUTKOVÁ LANGMAJEROVÁ, Zdeněk GLATZ, Petr SKLÁDAL, Ctibor MAZAL, The synthesis and comparative characterization of three novel electroactive iminoboronates containing ferrocene, *Monatshefte für Chemie – Chemical Monthly*, **2017**, vol. 148, iss. 11, p. 1953–1958. ISSN 1434-4475. Available from: <<http://dx.doi.org/10.1007/s00706-017-2028-3>>.
- Karel LACINA, Martin KONHEFR, Jan NOVOTNÝ, David POTĚŠIL, Zbyněk ZDRÁHAL, Petr SKLÁDAL, Combining ferrocene, thiophene and a boronic acid: a hybrid ligand for reagentless electrochemical sensing of *cis*-diols *Tetrahedron Letters*, **2014**, vol. 55, iss. 21, p. 3235–3238. ISSN 0040-4039. Available from: <<http://dx.doi.org/10.1016/j.tetlet.2014.04.036>>.

SELECTED INTERNSHIPS, SUMMER SCHOOLS AND COURSES

Internships	2019	Josai University, Department of Pharmaceutical Sciences, Sakado, Japan
		Electrochemistry of Fc-labelled worm-like micelles · Scholarship – Erasmus+ ICM · Supervisor – Assoc. Prof. Yuya Egawa · 5. 3.–5. 6. 2019
	2018	University of Bath, Department of Chemistry, Bath, UK
		Synthesis, structural characterisation and electrochemistry of diferrocenylborinic acid · Scholarship – Freemover · Supervisors – Prof. Frank Marken and Prof. Tony D. James · 15. 3.–15. 6. 2018

<i>Summer schools</i>	2019	Institute of Organic Chemistry and Biochemistry, Prague
	6th Prague-Weizmann Summer School – Advances in Drug Discovery · 1.–6. 9. 2019	
	2012	Institute of Biophysics of the CAS, v. v. i. Brno, OPVK Summer school of experimental biology; Modern biophysical methods: advanced practical education in experimental biology · 2.–8. 9. 2012
<i>Courses</i>	2015	Institute of Physiology of the CAS, v. v. i. Praha, Center of biomedical research, OPVK
	Basics of receptor neurophysiology · 13.–17. 4. 2015	

SELECTED CONFERENCES

<i>Talk</i>	2021	XXI. Workshop of Biophysical Chemists and Electrochemists, Brno, Czech Republic
	Boronic Acids and Ferrocenes – From Electroactive Molecular Probes to ROS-activated Prodrugs · 30. 9. – 1. 10. 2021	
<i>Online Talk</i>	2020	Graduate Student Symposium on Advantageous Electrochemistry, Warsaw, Poland
	Sensing Possibilities of Diferrocenylborinic Acid Immobilized in 2D-Titanate Nanosheet Host · 10.–11. 9. 2020	
<i>Online Talk</i>	2020	71st Annual Meeting ISE, Belgrade, Serbia
	Sensing Possibilities of Diferrocenylborinic Acid Immobilized in 2D-Titanate Nanosheet Host · 31. 8. – 4. 9. 2020	
<i>Poster</i>	2019	PhD Retreat IV, Kouty, Czech Republic
	Indirect B–N Interactions in Boronic Acid–Aminoferrocene System: Point of View of Electrochemistry · 25.–26. 6. 2019	
<i>Talk</i>	2018	XVII. Workshop of Physical Chemists and Electrochemists, Brno, Czech Republic
	Synthesis, Structural Characterisation and Electrochemistry of Diferrocenylborinic Acid · 12.–13. 9. 2018	
<i>Poster</i>	2018	69th Annual Meeting ISE, Bologna, Italy
	Indirect B–N Interactions in Boronic Acid–Aminoferrocene System: Point of View of Electrochemistry · 2.–8. 9. 2018	

AWARDS AND ACHIEVEMENTS

Prize for best oral presentation in Young Scientists' Competition
(XXI. Workshop of Biophysical Chemists and Electrochemists, Brno, CZ, 1. 10. 2021)

SCIENTIFIC AND RESEARCH INTERESTS

Electrochemical sensors and their applications
 Development of *reagentless* sensors with electrochemical detection
 Physicochemical characterisation of compounds
 Organic synthesis of electrochemical derivatives with ferrocene and boronic acids; NMR
 Advanced stimuli-responsive and switchable smart molecular materials

COMPUTER SKILLS

<i>Basic</i>	GIMP, HTML
<i>Advanced</i>	L ^A T _E X, Microsoft Windows, Microsoft Office, ChemSketch, Reaxys, SciFinder, Origin

OTHER INFORMATION

<i>Language skills</i>	ENGLISH	· active, level B2
	GERMAN	· passive
<i>Interests</i>	literature · flying · soaring · sailing · biking · travelling · nature · gardening · mushrooming · beer brewing · dancing · photo/video editing	

October 2, 2021