

Ing. Daniel Bím, PhD.

Born: October 17, 1989

E-mail: Daniel.Bim@vscht.cz

ORCID: 0000-0003-3100-4293

Education

- PhD. degree** **Charles University, Faculty of Science (Prague, Czech Rep.)**
09/2015-05/2019 Study program: Modeling of Chemical Properties of Nano- and Biostructures
Thesis title: Selective Activation of C–H Bonds from Theoretical Perspective
- MSc. degree** **University of Chemistry and Technology (Prague, Czech Rep.)**
06/2012-06/2014 Study program: Organic Chemistry (passed with honor)
Thesis title: Synthesis and Properties Study of Macrocyclic Polyamines
- BSc. Degree** **University of Chemistry and Technology (Prague, Czech Rep.)**
09/2009-06/2012 Study program: Drug Synthesis and Production
Thesis title: Utilization of Dynamic Covalent Chemistry for Preparation of Large Polyazamacrocycles

Current position

- 08/2024-present **University of Chemistry and Technology (Prague, Czech Rep.)**
Assistant Professor, Department of Physical Chemistry

Previous positions

- 08/2023-07/2024 **IOCB AS CR (Prague, Czech Rep.)**
Researcher, MSCA Fellow (group of RNDr. Tomáš Slanina, PhD.)
- 08/2021-07/2023 **California Institute of Technology (Pasadena, CA, USA)**
Postdoctoral Associate, MSCA Fellow (Advisor: Prof. Ryan G. Hadt)
- 10/2019-07/2021 **University of California, Los Angeles (Los Angeles, CA, USA)**
Postdoctoral Associate (Advisor: Prof. Anastassia N. Alexandrova)
- 02/2018-09/2019 **J. Heyrovský Institute of Physical Chemistry, AS CR (Prague, Czech Rep.)**
Ph.D. in theoretical chemistry (Co-Advisor: RNDr. Martin Srnec, PhD.)
- 11/2013-09/2019 **IOCB AS CR (Prague, Czech Rep.)**
Ph.D. in theoretical chemistry (Co-Advisor: Prof. Lubomír Rulíšek, CSc. DSc.)
- 11/2010-02/2015 **University of Chemistry and Technology (Prague, Czech Rep.)**
BSc./MSc. in organic chemistry (Advisor: Ass. Prof. Dr. Ing. Jana Hodačová)

International Fellowships

Marie Skłodowska-Curie Individual Fellowship

- California Institute of Technology (Pasadena, CA, USA)
- Research project: Elucidating the mechanisms of nickel photoredox cross-coupling reactions.

Internship at the University of Washington (Seattle, WA, USA)

- Three-months internship in the research group of Prof. František Tureček funded by Bruker Daltonics GmbH
- Research project: Computational investigation of electron donors for electron transfer dissociation of multiply charged biomolecular ions

Trainings & workshops

- Cyclic Voltammetry Bootcamp (2023) **U.S.A.**
- European Summer School in Quantum Chemistry (2017) **Italy**
- COSMOtherm training organized by COSMOlogic GmbH (2015) **Germany**
- Methods in Molecular Energy Research: Theory and Spectroscopy (2015) **Germany**

Awards & stipends

- 2024 Otto Wichterle Premium
- 2021 Josef Hlávka Foundation Award
- 2020 Werner von Siemens Award
- 2019 Marie Skłodowska-Curie Individual Fellowship
- 2019 Česká Hlava – Doctorandus for Natural Sciences
- 2018 Jean-Marie Lehn Prize in Chemistry

List of publications (updated 08/2024)

Summary of publication record: Author or co-author of ~**36** scientific articles, including **5** review and **3** outreach articles. First author in **18** publications. H-index=**14** (Scopus), **570+** citations (Scopus).

Original research articles

1. Shin, A. J.; Zhao, C.; Shen, Y.; Dickerson, C. E.; Li, B.; **Bím, D.**; Atallah, T. L.; Oyala, P. H.; Alson, L. K.; Alexandrova, A. N.; Diaconescu, P. L.; Campbell, W. C.; Caram, J. R. *Science* **2024**, *385*, 651-656.
2. Fadeev, A. A.; **Bím, D.**; Císařová, I.; Katora, M. *Org. Chem. Front.* **2024**. Accepted.
3. **Bím, D.**; Luedecke, K. M.; Cagan, D. A.; Hadt, R. G. *Inorg. Chem.* **2024**, *63*, 4120-4131.
4. McNicholas, B. J.; Tong, J. Z.; **Bím, D.**; Turro, R. F.; Kazmierczak, N. P.; Chalupský, J.; Reisman, S. E.; Hadt, R. G. *Inorg. Chem.* **2023**, *62*, 14010-14027.
5. †Cagan, D. A.; †**Bím, D.**; McNicholas, B. J.; Kazmierczak, N. P.; Oyala, P. H.; Hadt, R.G. *Inorg. Chem.* **2023**, *62*, 9538-9551. †Co-first authors.
6. †Zito, A. M.; †**Bím, D.**; Vargas, S.; Alexandrova, A. N.; Yang, J. Y. *ACS Sust. Chem. Eng.* **2022**, *10*, 11387-11395. †Co-first authors.
7. Cagan, A. D.; **Bím, D.**; Silva, B.; Kazmierczak, N. P.; McNicholas, B. J.; Hadt, R. G. *J. Am. Chem. Soc.* **2022**, *144*, 6516-6531.
8. Tupec, M.; Culka, M.; Machara, A., Macháček, S.; **Bím, D.**; Svatoš, A.; Rulíšek, L.; Pichová, I. *Comput. Struct. Biotechnol. J.* **2022**, *20*, 1378-1388.
9. **Bím, D.**; Navrátil, M.; Gutten, O.; Konvalinka, J.; Kutil, Z.; Culka, M.; Navrátil, V.; Alexandrova, A. N.; Bařinka, C.; Rulíšek, L. *J. Phys. Chem. B* **2022**, *126*, 132-143.
10. **Bím, D.**; Alexandrova, A. N. *Chem. Sci.* **2021**, *12*, 11406-11413.
11. **Bím, D.**; Alexandrova, A. N. *ACS Catal.* **2021**, *11*, 6534-6546.
12. **Bím, D.**; Alonso-Gil, S.; Srnc, M. *ChemPlusChem* **2020**, *85*, 2534-2541.
13. **Bím, D.**; Chalupský, J.; Culka, M.; Solomon, E. I.; Rulíšek, L.; Srnc, M. *J. Am. Chem. Soc.* **2020**, *142*, 10412-10423.
14. †Maldonado-Domínguez, M.; †**Bím, D.**; Fučík, R.; Čurík, R.; Srnc, M. *Phys. Chem. Chem. Phys.* **2019**, *21*, 24912-24918. †Co-first authors.
15. †**Bím, D.**; †Maldonado-Domínguez, M.; Fučík, R.; Srnc, M. *J. Phys. Chem. C* **2019**, *123*, 21422-21428. †Co-first authors.
16. Kaleta, J.; Šimková, L.; Liška, A.; **Bím, D.**; Madrideo, J.; Pohl, R.; Ludvík, J.; Rulíšek, L.; Michl, J. *Electrochim. Acta* **2019**, *321*, 134659.
17. Ajenjo, J.; Klepetářová, B.; Greenhall, M.; **Bím, D.**; Culka, M.; Rulíšek, L.; Beier, P. *Chem. Eur. J.* **2019**, *25*, 11375-11382.
18. Bařinka, C.; Nováková, Z.; Hin, N.; **Bím, D.**; Ferraris, D. V. *et al. Bioorg. Med. Chem.* **2019**, *27*, 255-264.
19. **Bím, D.**; Maldonado-Domínguez, M.; Rulíšek, L.; Srnc, M. *Proc. Natl. Acad. Sci. U.S.A.* **2018**, *115*, E10287-E10294.
20. **Bím, D.**; Rulíšek, L.; Srnc, M. *J. Phys. Chem. C* **2018**, *122*, 10773-19782.
21. Řezáč, J.; **Bím, D.**; Gutten, O.; Rulíšek, L. *J. Chem. Theory Comput.* **2018**, *14*, 1254-1266.

22. Dang, A.; Shaffer, C. J.; **Bím, D.**; Lawler, J.; Lesslie, M.; Ryzhov, V.; Tureček, F. *J. Phys. Chem. A* **2018**, *122*, 2069-2078.
23. Gutten, O.; **Bím, D.**; Řezáč, J.; Rulíšek, L. *J. Chem. Inf. Model.* **2018**, *58*, 48-60.
24. Skořepová, E.; **Bím, D.**; Hušák, M.; Klimeš, J.; Chatziadi, A.; Ridvan, L.; Boleslavská, T.; Beránek, J.; Šebek, P.; Rulíšek, L. *Cryst. Growth Des.* **2017**, *17*, 5283-5294.
25. Nguyen, H. T. H.; Andrikopoulos, P. C.; **Bím, D.**; Rulíšek, L.; Dang, A.; Tureček, F. *J. Phys. Chem. B* **2017**, *121*, 6557-6569.
26. Lesslie, M.; Lawler, J. T.; Dang, A.; Korn, J. A.; **Bím, D.**; Steinmetz, V.; Maitre, P.; Tureček, F.; Ryzhov, V. *ChemPhysChem* **2017**, *18*, 1293-1301.
27. **Bím, D.**; Svobodová, E.; Eigner, V.; Rulíšek, L.; Hodačová, J. *Chem. Eur. J.* **2016**, *22*, 10426-10437
28. **Bím, D.**; Rulíšek, L.; Srnec, M. *J. Phys. Chem. Lett.* **2016**, *7*, 7-13.

Perspectives and reviews

29. Cagan, D. A.; **Bím, D.**; Kazmierczak, N. P.; Hadt, R. G.; *ACS Catal.* **2024**, *14*, 9055–9076.
30. Chaturvedi, S. S.; **Bím, D.**; Christov, C. Z.; Alexandrova, A. N. *Chem. Sci.* **2023**, *14*, 10997-11011.
31. [‡]Zito, A. M.; [‡]Clarke, L. E.; [‡]Barlow, J. M.; [‡]**Bím, D.**; Zhang, Z.; Ripley, K. M.; Li, C.; Kummeth, A.; McLaid, L. E.; Alexandrova, A. N.; Brushett, F. R.; Yang, J. Y. *Chem. Rev.* **2023**, *123*, 8069-8098.
[‡]Co-first authors.
32. Barlow, J. M.; Clarke, L. E.; Zhang, Z.; **Bím, D.**; Ripley, K. M.; Zito, A. M.; Brushett, F. R.; Alexandrova, A. N.; Yang, J. Y. *Chem. Soc. Rev.* **2022**, *51*, 8415-8433.
33. Rokob, T. A.; Chalupský, J.; **Bím, D.**; Andrikopoulos, P. C.; Srnec, M.; Rulíšek, L. *J. Biol. Inorg. Chem.* **2016**, *21*, 619-644.

Outreach articles

34. **Bím, D.**; Srnec, M. *Chemické Listy* **2018**, *112*, 648-654.
35. **Bím, D.**; Gutten, O.; Chalupský, J.; Srnec, M.; Rulíšek, L. *Chemické Listy* **2016**, *110*, 354-364.
36. **Bím, D.**; Rulíšek, L.; Hodačová, J. *Chemické Listy* **2015**, *109*, 658-665.

International conferences

Posters

- | | |
|-----------------------------------------------------------------------------|--------------------|
| ▪ Photocat24 (2024) | Italy |
| ▪ SoCal Organometallics Meeting (2023) | U.S.A. |
| ▪ SoCal Bioinorganic Meeting (2019) | U.S.A. |
| ▪ International Conference on Biological Inorganic Chemistry; ICBIC (2019) | Switzerland |
| ▪ JCS Symposium (2018) | Czech Rep. |
| ▪ Girona Seminar (2018) | Spain |
| ▪ European Summer School in Quantum Chemistry; ESQC (2017) | Italy |
| ▪ World Association of Theoretical and Computational Chemists; WATOC (2017) | Germany |
| ▪ JCS Symposium (2015) | Slovakia |
| ▪ Methods in Molecular Energy Research (2015) | Germany |
| ▪ Advances in Organic, Bioorganic and Pharmaceutical Chemistry (2014) | Czech Rep. |

Talks

- | | |
|-------------------------------------------------------------------------|-----------------------|
| ▪ Interdisciplinary meeting of young scientists; Milovy (2024) | Czech Rep. |
| ▪ ACS Spring (2023) | U.S.A. |
| ▪ International Conference on Organometallic Chemistry; ICOMC (2022) | Czech Rep. |
| ▪ University of California, Irvine; PCET Seminar; <i>Invited</i> (2020) | U.S.A. |
| ▪ ICBIC; <i>Flash Presentation</i> (2019) | Switzerland |
| ▪ Via Carolina Meeting (2019) | Germany |
| ▪ Quantum Bio-Inorganic Chemistry Conference, QBIC IV (2018) | United Kingdom |

Teaching

Teaching

Faculty of Science, Charles University

Prague, Czech Rep.

Teaching Assistant, Chemical Structure (b) (2017-2018)

University of Chemistry and Technology

Prague, Czech Rep.

Teaching Assistant, Laboratory of Organic Chemistry (2014)

Outreach & community service

Peer-reviewer for scientific journals

- Conducted peer reviews for numerous reputable chemistry journals, e.g., *J. Am. Chem. Soc.*, *J. Phys. Chem.*, and *J. Chem. Theory Comput.*

Mentor in Caltech-STEM course for San Marino High School (2021-2023)

- Guided high school students in bi-weekly hands-on practical classes and lectures to provide a real-world experience of day-to-day researcher work.

Panel moderator for UCLA undergraduate research week (2020)