

# Dr. Michal Bajdich, PhD.

[ˈmaɪkəl ˈbaɪdɪtʃ]

*Curriculum Vitae*

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• *Computational expert, educator and speaker on the theory and computation of (electro)catalysis, corrosion, molecular redox and battery processes.* • *Principal Investigator in the Department of Energy's Hubs for Liquid Sunlight Alliance and Aqueous Battery Consortium and SUNCAT Center for Catalysis.* • *Reviewer for publishing, and funding agencies such as DOE and NSF and international research institutions.*

## Appointments

2013–present	<b>Stanford University and SLAC, SUNCAT Center for Catalysis</b> Department of Chemical Engineering and SLAC National Accelerator Laboratory <i>Leads:</i> Thomas F. Jaramillo and Frank Abild-Pedersen
2021–present	<b>SLAC Full Staff Scientist, Principal Investigator (PI)</b> Aqueous Battery Consortium DOE Hub(2024-) <a href="http://abc-hub.stanford.edu">abc-hub.stanford.edu</a> Liquid Sunlight Alliance DOE Hub (2020-) <a href="http://liquidsunlightalliance.org">liquidsunlightalliance.org</a> SUNCAT Center FWP (2020-), <b>SUNCAT Center for Catalysis</b> CleanTech-FOA(2022-), HTH2 EERE (2024-) Lead PI: SLAC-LDRD(2023-), WaterElectrolyzer EERE (2024-)
2016–2021	SLAC Associate Staff Scientist
2013–2016	SLAC Project Scientist
2011–2013	<b>UC Berkeley, Joint Center for Artificial Photosynthesis</b> Department of Chemical & Biomolecular Engineering and Lawrence Berkeley National Laboratory <i>Co-Advisors:</i> Prof. Alex T. Bell and Prof. Jens K. Nørskov Postdoctoral Fellow
2009–2011	<b>Oak Ridge National Laboratory, Materials Theory Group</b> <i>Advisors:</i> Dr. G. Malcolm Stocks and Dr. Fernando A. Reboredo Postdoctoral Fellow

## Education

2002–2007	<b>North Carolina State University</b> , Raleigh, NC, USA Ph.D, Physics <i>Advisor:</i> Prof. Lubos Mitas
2002–2004	M.Sc. en route, Multi-disciplinary major: Physics, Chemistry & Math
1996–2001	<b>Comenius University</b> , Bratislava, Slovakia M.Sc., Physics, specialization in Condensed Matter <i>Advisor:</i> Prof. Richard Hlubina

## Publication Metric (full listing on page 6)



Summary as of January 9, 2025 ([Google Scholar](#) & [ORCID](#) & [Web of Science](#))

Michal Bajdich

FOLLOWING

Staff Scientist at the SUNCAT Center at SLAC National Accelerator Laboratory, California

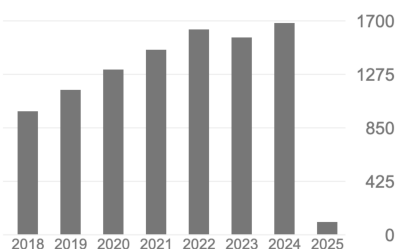
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<input type="checkbox"/>	Identification of highly active Fe sites in (Ni, Fe) OOH for electrocatalytic water splitting D Friebel, MW Louie, M Bajdich, KE Sanwald, Y Cai, AM Wise, MJ Cheng, ... Journal of the American Chemical Society 137 (3), 1305-1313	2435	2015
<input type="checkbox"/>	Homogeneously dispersed multimetal oxygen-evolving catalysts B Zhang, X Zheng, O Voznyy, R Comin, M Bajdich, M García-Melchor, ... Science 352 (6283), 333-337	2245	2016
<input type="checkbox"/>	Theoretical investigation of the activity of cobalt oxides for the electrochemical oxidation of water M Bajdich, M García-Mota, A Vojvodic, JK Nørskov, AT Bell Journal of the American chemical Society 135 (36), 13521-13530	1318	2013

## Honors and Invited Talks

2022	<b>The 100 all-time list of Slovak Scientists in the World</b>
2009	Finalist, <b>Eugene P. Wigner Fellowship</b> , Oak Ridge National Laboratory
2001	Dean's List, <b>Comenius University</b> , Slovakia
1992-1994	Honorable Mention, <b>International Physics Olympiad</b>
	<b>Invited Talks</b>
2024	In Honor of Alex Bell's Retirement, AICHE 2024, San Diego, CA
2023	Wash U. Summer of Chemical Theory, Washington University in St. Louis, MI
2022	Catalysis and Modelling Symposium, Jens Nørskov's 70th birthday, DTU, Denmark
2019	University of California, Merced, Department of Materials Science, Merced, CA
2018	North Carolina State University, Department of Chemistry, Raleigh, NC
2016	University of Ostrava, Department of Physics, Czech Republic
2016	University of Nevada, Reno, Department of Chemistry, Reno, NV
2015	University of California at Santa Cruz, Department of Chemistry, CA
2015	University of Olomouc, Regional Centre of Adv. Tech. and Materials, Czech Republic
2009	University of Georgia, Recent Developments in Computer Simulation Studies in Condensed Matter Physics, Athens, GA
2005	Cornell University, Recent Developments in Electronic Structure Methods, Ithaca, NY
2005	Pacificchem, Honolulu, HI

## Proposals and Grants

2024	<b>DOE-BES Hub for Long-Duration Storage</b> , <i>Aqueous Battery Consortium (ABC)</i> , Co-PI with Prof. Yi Cui (\$60M/5 year award)
2023	<b>DOE-EERE for Fuel-Cell H<sub>2</sub></b> , <i>Developing High-Entropy Materials as Superior Alternative Electrodes for Long-lasting Solid Oxide Electrolysis Cells</i> , Co-PI with Dr. Nick Stange (\$2.3M/3 year award)
2023	<b>DOE-EERE for Low-T H<sub>2</sub></b> , <i>Towards Scalable Manufacture of Low Iridium Loading Catalyst for Durable PEM Water Electrolyzers</i> , Co-PI with Prof. Xiaolin Zheng, (\$3M/3 year award)
2023	<b>DOE-BES Hydrogen 1-1-1 Earthshot</b> , <i>Center for Hybrid Hydrogen and Chemical Generation under Extreme Conditions (H2C-Gen)</i> , Co-PI with Prof. Xiaolin Zheng (finalist, not funded)

2022	<b>DOE-BES Field Work Proposal SUNCAT (23-25)</b> , Co-PI for Task 1&2 for (ML& Data; Electrocatalysis), (\$14M/3 year award)
2022	<b>Stanford Precourt Institute for Energy and Stanford Hydrogen Initiative seed grant</b> , Co-PI with Tyler Mefford, (\$80K, 1 year award)
2022	<b>SLAC-LDRD</b> , single PI, <i>High precision heterogeneous catalysis by QMC method</i> (\$500K, 2 year award)
2022	<b>DOE-BES Clean Tech FOA</b> , <i>Understanding interfacial phenomena for solar H<sub>2</sub> production and N<sub>2</sub> reduction</i> , Co-PI with Prof. Jaramillo (\$4.5M, 3 years)
2021	FOA pre-proposals for DE-FOA-0002481, DE-FOA-0002608, DE-FOA-0002676, not funded
2020	<b>DOE-Hub The Liquid Sunlight Alliance (LiSA) (21-25)</b> , Co-PI on Photocatalyst durability (\$60M, 5 year award)
2020	Collaborating Laboratory Scientist for the Office of Science Graduate Student Research (SCGSR) Program (awarded to Jaclyn Lunger, 6 mo. stay)
2019	DOE-BES Field Work Proposal SUNCAT (20-22), Co-PI for Task 2 for Electrocatalysis (\$10.8M 3 year award)
2018	SLAC LDRD co-PI w. Yasuyuki Hikita and Harold Y. Hwang (\$300K, 2 year award)
2015–present	<b>NERSC DOE ERCAP Supercomputing Allocations</b> , <i>Lead PI for SUNCAT FWP, LiSA and ABC DOE Hubs</i>
2013	Joint Center for Artificial Photosynthesis (Contributed)
2008	DOE INCITE Supercomputing allocation (Contributed)

## Teaching and Mentoring Experience

2023	Wash U. Summer of Chemical Theory <a href="#">Youtube Lecture (link)</a>
2022	LiSA 101 theory series
2019	<b>Guest lecturer for CHEMENG142/242</b> : Basic Principles of Heterogeneous Catalysis with Applications in Energy Trans., Stanford Engineering
1999–2001	<b>Private Tutor</b> for Math and Science College Entry Exam, Slovakia

### Students

2024–present	Kiran Hamkins, PhD student, Stanford Mech. E. w. Xiaolin Zheng
2021–present	Evan Zoltan Carlson, PhD student, Stanford Mat. E. w. Will C. Chueh
2022	Michael Craig, Summer Phd student, Trinity College Dublin w. Max. Garcia-Melchor
2024	Jihyun Baek, PhD committee member, Stanford Mech. E. w. Xiaolin Zheng
2020	Xinjian Shi, PhD committee member, Stanford Mech. E. w. Xiaolin Zheng
2019	Alaina Strickler, PhD committee member, Stanford Chem E. w. T. F. Jaramillo
2020–2021	Jaclyn Rose Lunger, SCGSR scholar, Phd candidate at MIT w. Yang Shao-Horn
2018–2021	Anjli M. Pattel, Phd candidate w. Jens K. Nørskov
2018–2021	Raul F. Flores, Phd candidate w. Jens K. Nørskov
2017–2020	Joel Gauthier, Phd candidate w. Jens K. Nørskov
2017–2019	Robert Sandberg, Phd candidate w. Jens K. Nørskov
2016–2017	Andrew Doyle, Phd candidate w. Jens K. Nørskov

### Postdoctoral Associates

2024–present	Hyeonjung Jung, Postdoctoral associate
2024–present	Ara Cho, Postdoctoral associate
2022–present	Roman Fanta, Postdoctoral associate
2022–present	Lakshay Dheer, Postdoctoral associate
2022–present	Pooja Basera, Postdoctoral associate
2022–present	Neha Bothra, Postdoctoral associate
2021–2022	Karun Kumar Rao, Postdoctoral associate
2021–2024	Md Delowar Hossain, Postdoctoral associate
2020–2023	Viswanath Pasumarthi, Postdoctoral associate
2019–2021	Jiang Li, Postdoctoral associate

2019–2021	Hongie Peng, Postdoctoral associate
2018–2019	Jose A. Garrido Torres, Postdoctoral associate
2018–2019	Philomena Schlexer, Postdoctoral associate
2017–2019	Zhenghang Zhao, Postdoctoral associate
2017–2018	Seoin Back, Postdoctoral associate
2017–2018	Pallavi Bothra, Postdoctoral associate

## Press and News Releases

Dec. 2024	New aqueous battery without electrodes... <a href="#">Stanford News</a>
June 2024	<a href="#">Feature</a> and <a href="#">Front Cover</a> : Prediction of Feasibility of Polaronic OER on the (110) Surface of Rutile TiO <sub>2</sub>
June 2022	Optimizing iridium sites <a href="#">Nature Catalysis Highlight</a>
Apr. 2022	Team creates map for production of eco-friendly metals <a href="#">MIT NEWS</a>
Aug. 2021	A new approach creates an exceptional single-atom catalyst for water splitting <a href="#">SLAC NEWS</a>
Jan. 2021	Study shows tweaking one layer of atoms on a catalyst's surface can make it work better <a href="#">SLAC NEWS</a>
Sep. 2019	New route to carbon-neutral fuels from carbon dioxide discovered <a href="#">Stanford News</a> <a href="#">Bioengineer.org</a> <a href="#">Phys.org</a> Recycling Carbon Dioxide as Fuel Could Lead to Zero-Emissions Flight Travel <a href="#">Inverse</a> Stanford Researchers Discover a New Route to Carbon-Neutral Fuels From Carbon Dioxide <a href="#">Scitechdaily.com</a> Ceria catalyst could help produce carbon-neutral fuels <a href="#">PhysicsWorld.com</a>
May 2019	Our PNAS article on molecular-like catalysts in water-splitting devices <a href="#">@SLAClab</a>

## Outreach and Professional Development

2023	<b>Organizing Committee</b> <a href="#">SUNCAT Summer Institute 2023</a>
2020–present	<b>Editor</b> <a href="#">Modelling, Theory and Computational Catalysis (Frontiers in Catalysis)</a>
2021	<b>Co-organizer</b> <a href="#">SUNCAT Session 2022</a>
2019	<b>X.com (Twitter)</b> / <a href="#">BajdichCatalysis</a> , +500 followers
2018	<b>Co-founder</b> of <a href="#">Catalysis-hub.org</a> , +10000 active users
2017–present	<b>AICHE programming committee</b> , Catalysis and Reaction Engineering Division-A20
2017–2018	<b>Guest Editor</b> for Special Issue of Materials, MDPI Journal: <a href="#">Nano-based Catalysts for Renewable Energy</a>
2009–present	<b>Reviewer (150 reviews)</b> for catalysis and chemistry journals <a href="#">orcid.org/0000-0003-1168-8616</a> of <i>ACS</i> (78 reviews), <i>Nature</i> (25 reviews), <i>Elsevier</i> (10+ reviews), <i>PNAS</i> , <i>APS</i> , <i>WILEY</i> , <i>Cell Press</i> , <i>Angewandte Chemie</i> ,
2003–present	American Physical Society member
2013–present	American Chemical Society and Materials Research Society member
2014–present	American Institute of Chemical Engineers member
2003–2005	<b>International Student Ambassador</b> North Carolina State University

## References

**Lubos Mitas**, North Carolina State University  
Distinguished University Professor of Physics and Astronomy,  
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**William C. Chueh**, Stanford University,  
Associate Professor of Materials Science and Engineering and Senior Fellow at the Precourt Institute for Energy,  
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**Charles Campbell**, University of Washington,  
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Full Professor of Mechanical Engineering  
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## Full Publication List

- (97) Carlson, E. Z.; Chueh, W.; Mefford, J. T.; **Bajdich, M.**, PH-dependent OXR Activity on alpha-MnO<sub>2</sub> *In Revisions*
- (96) Oscar Paredes Mellone, Neha Bothra, Thomas J.P. Hersbach, **Michal Bajdich**, Dimosthenis Sokaras, Size-Dependent Activation and Degradation of Iridium Oxide Electrocatalysts *In Revisions*
- (95) Pooja Basera, Chenyu Jiang, Shyama Charan Mandal, Frank Abild-Pedersen, Karthish Manthiram, and **Michal Bajdich**, Implications of Oxo-Peroxo Wall of Oxidative Electrochemical Reactions *In Revisions*
- (94) Michael T. Tang, **Michal Bajdich**, Frank Abild-Pedersen, Revamped Electrode Models for Driving Electrochemical Reactions under Alkaline Conditions *In Revisions*
- (93) Lakshay Dheer, Frank Abild-Pedersen and **Michal Bajdich**, Theoretical understanding the limitations of N<sub>2</sub>RR in the Nitrogenase System *In Revisions*
- (92) Roman Fanta, **Michal Bajdich**, The Accuracy and Feasibility of Quantum Monte Carlo Methods for CO Reduction On Cu (111) Surface, *Under Review* [10.26434/chemrxiv-2024-46ll](https://doi.org/10.26434/chemrxiv-2024-46ll)
- (91) Neha Bothra, Ara Cho, Benjamin M Comer, Kirsten T Winther and **Michal Bajdich**, Understanding the Effects of Surface Bonding in Metal-Oxides Beyond the Limit of the Active Site, *Under Review*
- (90) Pooja Basera, Yang Zhao, Anjel Garcia, Neha Bothra, Dimosthenes Sokaras, Yunko Jano, Shannon Boettcher and **Michal Bajdich**, Revising the role of Cu<sup>+3</sup> in Oxygen Evolution Activity of Copper-oxides *Under Review in JACS*
- (89) Jachim Halldin Stenlid, Mikaela Görllin, Oscar Diaz-Morales, Bernadette Davies, Vladimir Grigorev, Aleksandr Kalinko, Mia Börner, Mikhail Shipilin, Matthias Bauer, Alessandro Gallo, Frank Abild-Pedersen, **Michal Bajdich**, Anders Nilsson, Sergey Koroidov, Operando Characterization of Fe in Doped Ni<sub>x</sub>Fe<sub>(1-x)</sub>O<sub>y</sub> H<sub>x</sub> Catalysts for electrochemical oxygen evolution *Accepted in JACS (2025)*.
- (88) Yang Wang, Md Delowar Hossain, et. al., **Michal Bajdich**, and Jingyue Liu, Synergistic Role of Bismuth in Boosting the Stability and Activity of Spinel Cobalt Oxides for the Oxygen Evolution Reaction in Alkaline Conditions *Under Review*.
- (87) Pasumarthi, V; **Michal Bajdich**, Abild-Pedersen, F.; Facet-Dependent Catalytic Selectivity for Electrochemical Reduction of CO on Copper *Under Review*.
- (86) Xue, Z.; Bothra, N; Meng, D, **Michal Bajdich**, Jagjit Nanda, Xueli Zheng, Coupling Anionic Oxygen Redox with Selenium for Stable High-voltage Sodium Layered Oxide Cathodes *Adv. Func. Matter.* [10.1002/adfm.202417758](https://doi.org/10.1002/adfm.202417758) (2024).
- (85) Hassan, Md. S.; Basera, P.; Khan, B.; Portniagin, A; Vighnesh, K; Wu, Y; Rusanov, D; Babak, M; He, J; **Bajdich, Michal**; Rogach, A., Bidentate Lewis Base Ligand-Mediated Surface Stabilization and Modulation of Electronic Structure of CsPbBr<sub>3</sub> Perovskite Nanocrystals *JACS* [10.1021/jacs.4c13724](https://doi.org/10.1021/jacs.4c13724)(2024).
- (84) Y. Li, X. Zheng, E. Z. Carlson, et. al, **Michal Bajdich**, Yi Cui, In situ formation of liquid crystal interphase in electrolytes with soft templating effects for aqueous dual-electrode-free batteries, *Nature Energy* [10.1038/s41560-024-01638-z](https://doi.org/10.1038/s41560-024-01638-z) (2024).

- (83) Wei, L.; Hossain, M. D.; Chen, G.; Kamat, G. A.; Kreider, M. E.; Chen, J.; Yan, K.; Bao, Z.; **Bajdich, M.**; Stevens, M. B.; Jaramillo, T. F. Tuning Two-Dimensional Phthalocyanine Dual Site Metal–Organic Framework Catalysts for the Oxygen Reduction Reaction. *J. Am. Chem. Soc.*, 146 (19), 13377–13390. [10.1021/jacs.4c02229](https://doi.org/10.1021/jacs.4c02229) (2024).
- (82) Zoric, M. R.; Basera, P.; Palmer, L. D.; Aitbekova, A.; Powers-Riggs, N.; Lim, H.; Hu, W.; Garcia-Esparza, A. T.; Sarker, H.; Abild-Pedersen, F.; Atwater, H. A.; Cushing, S. K.; **Bajdich, M.**; Cordones, A. A. Oxidizing Role of Cu Cocatalysts in Unassisted Photocatalytic CO<sub>2</sub> Reduction Using P-GaN/Al<sub>2</sub>O<sub>3</sub>/Au/Cu Heterostructures. *ACS Nano* 18 (30), 19538–19548. [10.1021/acsnano.4c02088](https://doi.org/10.1021/acsnano.4c02088) (2024).
- (81) Comer, B. M.; Bothra, N.; Lunger, J. R.; Abild-Pedersen, F.; **Bajdich, M.**; Winther, K. T. Prediction of O and OH Adsorption on Transition Metal Oxide Surfaces from Bulk Descriptors. *ACS Catal.* 5286–5296. [10.1021/acscatal.4c00111](https://doi.org/10.1021/acscatal.4c00111) (2024).
- (80) Sarker, H. P.; Abild-Pedersen, F.; **Bajdich, M.** Prediction of Feasibility of Polaronic OER on (110) Surface of Rutile TiO<sub>2</sub>. *ChemPhysChem*, e202400060. [10.1002/cphc.202400060](https://doi.org/10.1002/cphc.202400060) (2024).
- (79) Pasumarthi, V.; Yu, H.; Akhade, S. A.; Abild-Pedersen, F.; Varley, J. B.; Bajdich, M. A Comparative Study of Electrical Double Layer Effects for CO Reduction Reaction Kinetics. *J. Phys. Chem. C* 127 (34), 16850–16860. [10.1021/acs.jpcc.3c02953](https://doi.org/10.1021/acs.jpcc.3c02953) (2023).
- (78) Craig, M. J.; Kleuker, F.; **Bajdich, M.**; Garcia-Melchor, M. FEFOS: A Method to Derive Oxide Formation Energies from Oxidation States. *Catal. Sci. Technol.* [10.1039/D3CY00107E](https://doi.org/10.1039/D3CY00107E), (2023).
- (77) Wei, L.; Hossain, Md.; Boyd, M. J.; Aviles-Acosta, J.; Kreider, M. E.; Nielander, A. C.; Stevens, M. B.; Jaramillo, T. F.; **Bajdich, M.**; Hahn, C. Insights into Active Sites and Mechanisms of Benzyl Alcohol Oxidation on Nickel–Iron Oxyhydroxide Electrodes. *ACS Catal.* 13, 4272–4282. [10.1021/ACSCATAL.2C05656](https://doi.org/10.1021/ACSCATAL.2C05656) (2023).
- (76) K. Rao, K.; Lan Zhou; Yungchieh Lai; H. Richter, M.; Xiang Li; Yubing Lu; Junko Yano; M. Gregoire, J.; **Bajdich, M.** Resolving Atomistic Structure and Oxygen Evolution Activity in Nickel Antimonates. *J. Mater. Chem. A* 11 (10), 5166–5178. [10.1039/D2TA08854A](https://doi.org/10.1039/D2TA08854A) (2023).
- (75) Baek, J.; Hossain, D.; Mukherjee, P.; Lee, J.; Winther, K.; Jiang, Y.; Chueh, W.; **Bajdich, M.**; Zheng, X. Synergistic Effects of Mixing and Strain in High Entropy Spinel Oxides for Oxygen Evolution Reaction. *Nat. Comm* 14, 5936 [10.1038/s41467-023-41359-7](https://doi.org/10.1038/s41467-023-41359-7) (2023).
- (74) Carlson, E. Z.; Chueh, W.; Mefford, J. T.; **Bajdich, M.** Selectivity of Electrochemical Ion Insertion into Manganese Dioxide Polymorphs. *ACS Appl. Mater. Interfaces* 15, 1, 1513–1524 [10.1021/acсами.2c16589](https://doi.org/10.1021/acсами.2c16589) (2022)
- (73) Koshy, D. M., Hossain, M. D., MASUDA, R., Yoda, Y., Gee, L. B., Abiose, K., Gong, H., Davis, R. C., Seto, M., Gallo, A., Hahn, C., **Bajdich, M.**, Bao, Z., Jaramillo, T. Investigation of the structure of atomically dispersed Ni<sub>Nx</sub> sites in Ni, N-doped carbon electrocatalysts by <sup>61</sup>Ni Mössbauer Spectroscopy and Simulations. *J. Am. Chem. Soc.* 144, 47, 21741–21750 [10.1021/jacs.2c09825](https://doi.org/10.1021/jacs.2c09825) (2022)
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- (71) Shi, X., Peng, H.-J., Hersbach, T. J. P., Jiang, Y., Zeng, Y., Baek, J., Winther, K. T., Sokaras, D., Zheng, X., **Bajdich, M.\***, Efficient and Stable Acidic Water Oxidation Enabled by Low-Concentration, High-Valence Iridium Sites. **\*corresponding author**, *ACS Energy Letters*, 23, 2228–2235r, [10.1021/ACSENERGYLETT.2C00578](https://doi.org/10.1021/ACSENERGYLETT.2C00578) (2022).
- (70) Comer, B. M., Li, J., Abild-Pedersen, F., **Bajdich, M.\***, M., Winther, K. T. Unraveling Electronic Trends in O and OH Surface Adsorption in the MO<sub>2</sub>Transition-Metal Oxide Series. *Journal of Physical Chemistry C*, 8. [10.1021/ACS.JPCC.2C02381](https://doi.org/10.1021/ACS.JPCC.2C02381), (2022).
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- (68) Lunger, J. R., Lutz, N., Peng, J., **Bajdich, M.**, & Shao-Horn, Y. Cation-Dependent Multielectron Kinetics of Metal Oxide Splitting. *Chemistry of Materials*, [10.1021/ACS.CHEMMATER.2C00602](https://doi.org/10.1021/ACS.CHEMMATER.2C00602) (2022).
- (67) Rao, K. K., Lai, Y., Zhou, L., Haber, J. A., **Bajdich, M.\***, Gregoire, J. M. Overcoming Hurdles in Oxygen Evolution Catalyst Discovery via Codesign. **\*corresponding author**, *Chemistry of Materials*, [10.1021/ACS.CHEMMATER.1C04120](https://doi.org/10.1021/ACS.CHEMMATER.1C04120) (2022).
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## Book Chapters and Conference Proceedings

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## Theses

- 2007 | *PhD. Thesis under supervision of L. Mitas: Generalized Pairing Wave Functions and Nodal Properties for Electronic Structure Quantum Monte Carlo*, North Carolina State University, Raleigh, NC.
- 2001 | *Diploma Thesis under supervision of R. Hlubina: Variational Study of the Stability of the Nagaoka State in the Two-Dimensional  $t$ - $t'$  Hubbard Model*, Comenius University, Bratislava, Slovakia (in Slovak).