

# Matthew P. Grindle

NMR/EPR spectroscopist | Inorganic Chemist | He/Him

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## Education

- 2019-Present **Doctor of Philosophy, Chemistry & Biochemistry**  
*Miami University* | Oxford, OH  
Advisor – Dr. David L. Tierney
- 2011-2016 **Bachelor of Science, Chemistry**  
*Purdue University* | West Lafayette, IN  
Research Advisor – Dr. Jeffrey Youngblood

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## Publications

- 2023 **Field- and Temperature-Dependent Paramagnetic Relaxation Enhancements in Co(II) Trispyrazolylmethanes.** Kumarage, N. D.; Marts, A. R.; Grindle, M. P.; Kaine, J. C.; Crandall, L. A.; Chen, W.-Y.; Ziegler, C. J.; Tierney, D. L. *Inorganic Chemistry* **2023**. <https://doi.org/10.1021/acs.inorgchem.3c02028>
- 2021 **Structural Communication between the E. Coli Chaperones DnaK and Hsp90.** Grindle, M. P.; Carter, B.; Alao, J. P.; Connors, K.; Tehver, R.; Kravats, A. N. *International Journal of Molecular Sciences* **2021**, 22 (4), 2200. <https://doi.org/10.3390/ijms22042200>.

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## Presentations

- Nov 2023 **Solution NMR to Measure Magnetic Axis Direction in 4/5-Coord Co Complexes**  
*Miami University Graduate Research Forum* | *Presentation*
- Apr 2023 **NMR Relaxation and Dynamics of Four-/Five-coordinate Co(II) Complexes**  
*Experimental NMR Conference (ENC)* | *Poster*
- Mar 2023 **Solution Dynamics of Four- and Five-Coordinate Cobalt Complexes**  
*ACS Spring 2023* | *Poster*
- Nov 2022 **Physical and Electronic Dynamics in Five-Coordinate Cobalt(II)**  
*Ohio Inorganic Weekend* | *Poster*
- Nov 2022 **Solution Dynamics of Four- and Five-Coordinate Co-Based Single Ionic Magnets**  
*Miami University Graduate Research Forum* | *Poster*
- Jan 2021 **Computational Modeling of the Modulation of Hsp70 by GrpE and Hsp90**  
*Midwest Stress Response and Molecular Chaperones* | *Virtual Poster*
- Nov 2020 **Modeling the Modulation of Hsp90 by Hsp70**  
*Miami University Graduate Research Forum* | *Virtual Poster*

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## Awards and Recognition

- 2022 **Miami University 3 Minute Thesis Finalist**  
2021-2022 **Outstanding Teaching Assistant**

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## Volunteer

- 2023 **Grandparents' College** – Demonstrations for alumni and their grandchildren  
2021-2023 **Talawanda Science Week** – Science outreach for elementary school students  
2023 **Lakota Science Fair** – Judged for middle school students  
2019, 2022 **New River Gorge Work Weekends** – Prepared National Park for camping season  
2018-2019 **Habitat for Humanity** – Stud installation for early building projects

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## Academic Experience

- 2019-Present **Teaching Assistant**, General Chemistry Laboratory  
*Miami University | Oxford, OH*
- Instruct 100-150 students per week, in-person and online
  - Support grading and testing for instructors
  - Establish online materials for use during and after the COVID-19 pandemic
- 2022-2023 **Graduate Student Representative**, Dept of Chemistry and Biochemistry  
*Miami University | Oxford, OH*
- Advocated for graduate students at weekly departmental faculty meetings
  - Represented Chemistry students at Graduate Student Association meetings
  - Distributed weekly meeting minutes to 80 graduate students
- 2022 **Head Teaching Assistant**, General Chemistry Laboratory  
*Miami University | Oxford, OH*
- Mentored 20 graduate students as Teaching Assistants
  - Organized office hours, grading meetings, and grad reviews for 20 TAs
  - Ensured consistent teaching of 1100 undergraduate students in coordination with TAs and instructors

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## Industry Experience

- 2017-2019 **Fermentation Associate**, DuPont Industrial Biosciences | *Wilmington, DE*
- Scale-up operation of bacterial/fungal fermentation and enzyme extractions
  - Developed SOPs for contamination tracking, data collection, and lab hygiene
  - Troubleshoot python-based Supervisory Control and Data Acquisition (SCADA)
- 2016-2017 **Analyst**, Bioanalytical Systems, Inc | *West Lafayette, IN*
- Created Standard Analytical Procedures (SAPs) for drug formulations
  - Repaired and maintained 12 Agilent HPLC systems
  - Prepared rat organs used in toxicological studies

2014-2016 **Microbiologist**, Tate & Lyle | *West Lafayette, IN*

- Inspected microbiological quality of corn starch, syrup, and dried sugar
- Tested environment for E. Coli, yeast, and Listeria
- Developed environmental control sample locations

2014-2015 **Student Co-Op Chemist**, Chemtura | *West Lafayette, IN*

- Analyzed fire retardant bromine chemicals using HPLC, GC, NMR, ICP-OES
- Developed novel conjugated bromine polymer additives

2014 **Quality Management Intern**, Cargill | *Hammond, IN*

- Performed quality control of food- and industrial-grade corn starch and sugar
- Researched filtration resin quality and syrup storage techniques