

Ryan T. Gordon, Ph.D.

CONTACT INFORMATION

Home Address:
2725 Crescent Dr., Yorktown Heights, NY 10598

Mobile Phone: (309)255-6871
E-mail: rtg314159@gmail.com

EDUCATION

Iowa State University, Ames, IA

August 2005 - May 2011

Ph.D., Condensed Matter Physics

- Advisor: Ruslan Prozorov, Ph.D.
- Thesis title: "London penetration depth measurements in iron-based superconductors"

Western Illinois University, Macomb, IL

August 2001 - May 2005

B.S. with Honors, Physics and Mathematics (Double Major)

- Advisor: Mark S. Boley, Ph.D.
- Awarded a 2004 Barry M. Goldwater scholarship as a result of undergraduate research work
- Awarded Phi Kappa Phi National Scholarship
- Honors thesis title: "Dependence of phonon-mediated Raman mode-softening of superconducting MgB₂ on sample preparation temperature"
- WIU Centennial Honors College Scholar (sole recipient)
- Physics Department Scholar (sole recipient)

WORK EXPERIENCE

IBM Research, Thomas J. Watson Research Center, Yorktown Heights, NY

Research Staff Member (Physicist and Software Engineer)

August 2016 - Present

- **IBM Artificial Intelligence Program**

January 2024 - Present

-AI model development for IBM's flagship large language models.

- **IBM Quantum Computing System Deployment Program**

January 2022 - December 2023

-Working to optimize IBM Quantum's state-of-the-art multi-qubit superconducting processors

-*Technical lead for Project:* Studying Performance as a Function of Repetition Rate on IBM's Large Quantum Processors

- **IBM Commercial Quantum Computing Program**

July 2019 - December 2021

-Research physicist with the IBM Commercial effort to develop superconducting qubit devices

-*Technical lead for Project:* Environmental Impact on Coherence

- **US Government Partnership with IBM**

August 2016 - June 2019

-My role was research physicist on a program to develop superconducting quantum computing technology

Western Illinois University, Macomb, IL

Assistant Professor

August 2012 - August 2016

- **Teaching and Research in the Department of Physics**

As a tenure-track faculty member, I taught coursework at all levels for undergraduate and graduate students within the Physics Department, while also conducting research in the field of condensed matter physics to sensitively measure electromagnetic properties of solids down to just a few degrees above absolute zero temperature with a high-precision, home-built oscillator known as a tunnel diode resonator (TDR) circuit

Université de Sherbrooke, Sherbrooke, Quebec, Canada *Postdoctoral Researcher*

May 2011 - June 2012

- Primarily studied electrical and thermal transport properties of unconventional superconductors and other exotic states of matter at low temperatures and in the presence of high magnetic fields

Iowa State University and Ames Laboratory, Ames, IA

Graduate Student Researcher

January 2006 - May 2011

- My thesis work focused on experimental investigation of the electronic pairing symmetry in newly discovered iron-based superconductors through London penetration depth measurements, especially concentrating on doped versions of the parent compound BaFe₂As₂. This was done through building my own sensitive oscillator, called a tunnel diode resonator, to work in a variety of different cryogenic environments to measure the temperature dependent London penetration depth, from which details about the structure of the momentum-dependent superconducting gap could be determined.

Iowa State University, Ames, IA

Graduate Teaching Assistant

August 2005 - May 2009

- Recitation and laboratory instructor for undergraduate physics courses

University of Illinois at Urbana-Champaign, Urbana, IL

Research Experience for Undergraduates (REU)

Summer 2004

- Undergraduate research internship in Physics Department looking at nanoscale fabrication of superconducting quantum interference devices (SQUIDS) with the use of a scanning electron microscope under the supervision of Professor Alexey Bezryadin

Western Illinois University, Macomb, IL

Tutor and Grader

August 2003 - May 2005

- Physics Department tutor and grader for undergraduate physics courses

Western Illinois University, Macomb, IL

Undergraduate Researcher in Physics Department

August 2002 - August 2005

- Raman spectroscopy of superconducting MgB₂

RECOGNITION
FROM IBM
RESEARCH

1) Award Title: Granite 3.0 Release

- **IBM Program Granting this Award:** Artificial Intelligence
- **Date of Award:** December 10, 2024
- **Award Rank:** O-Level (Outstanding) Accomplishment
- **Award Significance:**

The open release of Granite 3.0 family of models marks a major milestone in IBM's LLM journey. The model achieves state of the art performance in its weight class in a fiercely competitive space, while remaining true to IBM's commitment to trust and transparency, and forms a foundation upon which we are building increasing strength and differentiation in enterprise domains and tasks that matter to IBM. The release of the Granite 3.0 models (and the Granite Code models earlier this year) under an Apache 2.0 also represents a strengthening of IBM's open strategy in generative AI (which in turn has important implications for our Red Hat business) and sets a new bar for IBM's engagement with a range of open ecosystem partners. Today, Granite models are infused into a wide range of IBM products, and touch effectively every part of IBM, from internal CIO client use cases to Consulting. Critically, Granite 3.0 also marks a substantial expansion in the number contributors to Granite, through a combination of clear mission alignment and the creation of software tooling that opens the aperture for more teams to bring their expertise to bear.

2) **Award Title: A Standard Multi-Qubit Device Packaging: Sandy**

- **IBM Program Granting this Award:** Quantum Computing
- **Date of Award:** December 10, 2024
- **Award Rank:** A-Level Accomplishment
- **Award Significance:**

A standardized multi-qubit test packaging infrastructure called Sandy was developed that led the way for the packaging on Hummingbird, Eagle and other variations. This allowed for rapid development of novel devices to advance IBM Quantum's capabilities.

- **Author List:** David Abraham, Vincent Arena, **Ryan Gordon**, Shawn Hall, David Klaus, Muir Kumph, Srikanth Srinivasan, Mark Trovato, Brent Wacaser

3) **Contribution to building IBM's Bamba Model**

Link to Bamba blog on Hugging Face: <https://huggingface.co/blog/bamba>

- **Release date:** December 18, 2024

SOFTWARE
EXPERIENCE

1) **Software Engineering for Scientists Program at IBM Research**

Duration: March 2023 - December 2023

Description: Four Learning Tracks and a Capstone Project phase, together formed a training program covering topics on cutting edge techniques in computer science offered by IBM Research in the areas of cloud computing, data engineering, machine learning, and data science.

Learning Track 1 of 4: **IBM DevOps and Software Engineering** (Coursera)

Link to Coursera professional certificate for this 14-course series: [professional certificate link](#)

- Introduction to DevOps ([course certificate link](#))
- Introduction to Cloud Computing ([course certificate link](#))
- Introduction to Agile Development and Scrum ([course certificate link](#))
- Introduction to Software Engineering ([course certificate link](#))
- Hands-on Introduction to Linux Commands and Shell Scripting ([course certificate link](#))
- Getting Started with Git and Github ([course certificate link](#))
- Python for Data Science, AI, and Development ([course certificate link](#))
- Python Project for AI and Application Development ([course certificate link](#))
- Introduction to Containers with Docker, Kubernetes, and OpenShift ([course certificate link](#))
- Application Development using Microservices and Serverless ([course certificate link](#))
- Introduction to Test Driven Development (TDD) ([course certificate link](#))
- Continuous Integration and Continuous Delivery (CI/CD) ([course certificate link](#))
- Application Security and Monitoring ([course certificate link](#))
- DevOps Capstone Project ([course certificate link](#))

Additional course: Advanced Application Management with Redhat OpenShift ([course certificate link](#))

Learning Track 2 of 4: **Data Engineering with AWS** (Udacity)

Link to Udacity Nanodegree certificate for this course series: [Nanodegree certificate link](#)

- Course: Data Modeling
 - Project: Data Modeling with Apache Cassandra
 - Skills: SQL, NoSQL, ETL/ELT Pipelines, PostgreSQL, and Apache Cassandra
- Course: Cloud Data Warehouses
 - Project: Data Warehouse
 - Skills: Cloud-Based Data Warehouses, AWS Cloud Technologies, Redshift, and S3

- Course: Spark and Data Lakes
 - Project: STEDI Human Balance Analytics
 - Skills: Big Data Ecosystems, Spark, and Data Lakes
- Course: Automate Data Pipelines
 - Project: Data Pipelines
 - Skills: Airflow and DAGs

Learning Track 3 of 4: **Data Science for Scientists** (Udacity)

Link to Udacity Nanodegree certificate for this course series: [Nanodegree certificate link](#)

- Course: Introduction to Data Science
 - Project: Write a Data Science Blog Post
 - Skills: Overview of the data science process
- Course: Supervised Learning
 - Project: Finding Donors for CharityML
 - Skills: Many different types of supervised learning models and how to apply them
- Course: Unsupervised Learning
 - Project: Creating Customer Segments with Arvato
 - Skills: Many different types of unsupervised learning models and their real-world applications
- Course: Deep Learning
 - Project: Create Your Own Image Classifier 2.0
 - Skills: Neural networks, gradient decent, and PyTorch

Learning Track 4 of 4: **Machine Learning Engineering for Scientists** (Udacity and Hugging Face)

- Course: Clean Code Principles (Udacity)
 - Course certificate link
 - Project: Predict Customer Churn with Clean Code
 - Skills: Learning to write clean code for production environments
- Course: Natural Language Processing (Hugging Face)
 - Skills: Foundation models, transformers, tokenizers, training and fine-tuning models

Hackathons with IBM's Software Engineering for Scientists Program

Four Hackathon events, each approximately one week long, were held throughout this Software Engineering for Scientists Program in teams of 4-8 people.

- Hackathons 1 - 3: Our focus was to spend these first three Hackathons to work with big data in the form of fire risk data for Los Angeles County, CA (USA), preprocess this data and analyze it, then to get it into a form that can be fed into a machine learning model, and finally build a REST API to query this model.
- Hackathon 4: Our team used Watson Discovery and IBM's Big (AI) Model (BAM) to develop a retrieval augmented generation engine for running natural language processing (NLP) queries.

Capstone Project with IBM's Software Engineering for Scientists Program

September 18 - December 29, 2023

- Motivation: To apply the software skills acquired through the learning phase of this Program
- Project with IBM Artificial Intelligence group, led by Dr. Hui Wu, to build a Python SDK for interacting with IBM internal tools on foundation models for fine-tuning models and evaluating their quality. In addition, I developed a new method within that environment for doing out-of-distribution detection using softmax probabilities.

2) IBM watsonx Hackathon Participant

- I participated in a group coding challenge using the watsonx platform to solve a difficult optimization problem involving flights and taxis into a major airport
- August 4 - 13, 2023

3) Course: Deep Learning Essentials

- Certification of this IBM Cognitive Class issued by Coursera using Credly in the form of a virtual badge and certificate of completion awarded on March 8, 2023.
- Link to badge for this course
- **Course description:** This badge earner has acquired core knowledge of how the Deep Learning class of machine learning algorithms can be harnessed for more powerful and insightful data processing and pattern creation used in decision-making processes. This includes how convolutional neural networks are used to enhance the effectiveness of image recognition and classification.

4) Course: Building Cloud Native and Multicloud Applications

- Certification of this IBM Cognitive Class issued by Coursera using Credly in the form of a virtual badge and certificate of completion awarded on March 6, 2023.
- Link to badge for this course
- **Course description:** After earning this badge, the badge earner is able to make decisions about migrating existing images to cloud; modernizing applications; using cloud-native practices; leveraging best practices for continuous integration and continuous delivery; and managing multiple cloud infrastructures, applications and middleware.

5) Course: Data Analysis Using Python

- Certification of this IBM Cognitive Class issued by Coursera using Credly in the form of a virtual badge and certificate of completion awarded on February 9, 2023.
- Link to badge for this course
- **Course description:** This badge earner understands the essential steps necessary to analyze data in Python using multi-dimensional arrays, manipulating DataFrames in pandas, using SciPy library of mathematical routines and performing machine learning using scikit-learn. This includes hands-on demonstration using Jupyter notebook in JupyterLab Python tools.

6) Course: Machine Learning with Python

- Certification of this IBM Cognitive Class issued by Coursera using Credly in the form of a virtual badge and certificate of completion awarded on February 1, 2023.
- Link to badge for this course
- **Course description:** The badge earner demonstrates an understanding of Supervised vs. Un-supervised Learning, applications of different types of machine learning models, and how to build and evaluate machine learning models.

7) Audit: CS50 at Harvard University: Introduction to Computer Science

- A one semester online course offered by Harvard on computer science that was audited during March 2023.
- **Course description:** Harvard University's introduction to the intellectual enterprises of computer science and the art of programming.

Teaching as Western Illinois University Faculty

August 2012 - August 2016

Undergraduate Courses Taught

- Physics/Geography 182 - **Integrated Science II**
-Course description: Team-taught with a faculty member from the Geography Department, this is a laboratory course in interdisciplinary science with an emphasis on the Earth's place in the physical universe for future high school science educators
-Semesters taught: Spring 2015 and Spring 2016
- Physics 211 - **University Physics I** (both lecture and lab)
-Course description: The first part of a three semester calculus-based physics course for physics and engineering majors covering motion, Newton's laws, forces, momentum, energy, work, rotation, and simple harmonic motion
-Semesters taught: Fall 2012 and Fall 2013
- Physics 213 - **University Physics III** (both lecture and lab)
-Course description: The third part of a three semester calculus-based physics course for physics and engineering majors covering electrostatics, electric fields, D.C. circuits, magnetism, A.C. circuits, and introduction to basic electronic devices
-Semesters taught: Fall 2014 and Fall 2015
- Physics 311 - **Classical Mechanics**
-Course description: A one semester course covering undergraduate classical mechanics for physics and engineering majors, beyond the University Physics I-III course series
-Semesters taught: Fall 2014 and Fall 2015
- Physics 420 - **Electromagnetism**
-Course description: A course covering undergraduate electromagnetism for physics and engineering majors, beyond the University Physics I-III course series
-Semesters taught: Spring 2013
- Physics 477 - **Undergraduate Research with Faculty Mentor**
-Course description: Course hours for my mentoring of undergraduate research students while working in my low-temperature condensed matter physics research lab within the Physics Department
-Semesters taught: Summer 2013 (1 student), Summer 2014 (2 students), Fall 2014 (4 students), Spring 2015 (3 students), Summer 2015 (4 students), Fall 2015 (3 students), and Spring 2016 (3 students)
- Physics 490 - **Undergraduate Physics Seminar**
-Course description: Reading, discussion, and criticism of selected topics for physics majors; where students give oral presentations and write a formal paper on a chosen topic
-Semesters taught: Spring 2014, Spring 2015, and Spring 2016

Graduate Courses Taught

- Physics 537 - **Superconductivity and Magnetism**
-Course description: A course I created based on my research experience giving an overview of experimental and theoretical topics that have led to the development of our modern understanding of superconductivity and magnetism in solids
-Semesters taught: Spring 2014 and Spring 2016

- **Physics 555 - Statistical Mechanics**
-Course description: Study of classical and quantum mechanical distributions with Maxwell-Boltzmann, Fermi-Dirac, and Bose-Einstein statistics; topics include equations of state, electron and photon gases, liquid helium, and behavior of metals
-Semesters taught: Fall 2015
- **Physics 577 - Graduate Research with Faculty Mentor**
-Course description: Course hours for my mentoring of graduate research students while working in my low-temperature condensed matter physics research lab within the Physics Department
-Semesters taught: Fall 2012 (1 student), Spring 2013 (2 students), Summer 2013 (4 students), Fall 2013 (6 students), Fall 2014 (3 students), Spring 2015 (6 students), Summer 2015 (1 student), Fall 2015 (5 students), Spring 2016 (3 students), and Summer 2016 (1 student)

Courses as Laboratory Instructor

- **Physics 115 - Applied Physics II Lab**
-Course description: Second in a two-semester course including mechanics with hydrostatics and hydrodynamics; heat and thermodynamics; wave motion and optics; D.C. electricity, magnetic induction, and A.C. electricity
-Semesters taught: Spring 2013, Spring 2014, and Spring 2015
- **Physics 124 - General Physics I Lab**
-Course description: The first course in a two-semester introduction to basic ideas and experimental methods in such areas as mechanics and the conservation laws; wave motion and sound; heat and temperature; electricity and magnetism; light and optics; atomic and nuclear physics.
-Semesters taught: Fall 2012 and Fall 2013
- **Physics 125 - General Physics II Lab**
-Course description: The second course in a two-semester introduction to basic ideas and experimental methods in such areas as mechanics and the conservation laws; wave motion and sound; heat and temperature; electricity and magnetism; light and optics; atomic and nuclear physics.
-Semesters taught: Spring 2013 and Spring 2014

Teaching as Iowa State University Physics Graduate Student August 2005 - May 2008

Recitation and/or laboratory sections:

- Introduction to Classical Physics I (calculus-based) Fall 2005
- Introduction to Classical Physics II (calculus-based) Spring 2006
- Introduction to Classical Physics II (calculus-based) Fall 2006
- Advanced Undergraduate Laboratory for Physics Majors Spring 2007
- General Physics (algebra-based) Fall 2007
- The Physics of Common Experience (algebra-based) Spring 2009

FACULTY SERVICE Western Illinois University Faculty Service Fall 2012 - Spring 2016

- Physics Department Diplomat to the WIU Centennial Honors College
-Period of service: Spring 2013 - May 2016
- WIU College of Arts and Sciences Faculty Council Representative for Physics Department
-Period of service: Fall 2014 - Spring 2016
- Faculty Advisor for the WIU Physics and Engineering Club
-Period of service: Fall 2014 - Spring 2016
- Colloquium Coordinator for the WIU Physics Department
-Period of service: Fall 2013 - Spring 2016
- Volunteer Lab Instructor for Visiting High School Classes to the WIU Physics Department
-Period of service: Fall 2012 - Spring 2016
- Vice President of the WIU Chapter of the Honor Society of Phi Kappa Phi
-Period of service: Spring 2014 - Spring 2016

- Chairperson of the College of Arts and Sciences Faculty Council Subcommittee on Curriculum Review within the College's General Education Requirements
-Period of service: Fall 2014 - Spring 2015
- Volunteer Assistant for the WIU Science Olympiad Competition
-Date: February 7, 2015
- Volunteer Assistant for the Worldwide Youth in Science and Engineering (WYSE) Competition at WIU
-Date: January 20, 2015

PUBLICATIONS

Note: From August 2016 - June 2019, due to the confidential nature of my work with IBM Research, my publication ability was highly restricted.

- 1) "Environmental Radiation Impact on Lifetimes and Quasiparticle Tunneling Rates of Fixed-Frequency Transmon Qubits" **R. T. Gordon**, C. E. Murray, C. Kurter, M. Sandberg, S. A. Hall, K. Balakrishnan, R. Shelby, B. Wacaser, A. A. Stabile, J. W. Sleight, M. Brink, M. B. Rothwell, K. Rodbell, O. Dial, and M. Steffen, *Appl. Phys. Lett.* **120**, 074002 (2022); Selected as a featured article.
- 2) "Quasiparticle Tunneling as a Probe of Josephson Junction Quality and Capacitor Material in Superconducting Qubits" C. Kurter, C. E. Murray, **R. T. Gordon**, B. B. Wymore, M. Sandberg, R. M. Shelby, A. Eddins, V. P. Adiga, A. D. K. Finck, E. Rivera, A. A. Stabile, B. Trimm, B. Wacaser, K. Balakrishnan, A. Pyzyna, J. Sleight, M. Steffen, and K. Rodbell, *npj Quantum Information* **8**, Article number: 31 (2022).
- 3) "Thermal conductivity of the quantum spin liquid candidate $\text{EtMe}_3\text{Sb}[\text{Pd}(\text{dmit})_2]_2$: No evidence of mobile gapless excitations" P. Bourgeois-Hope, F. Laliberté, E. Lefrançois, G. Grissonnache, S. René de Cotret, **R. T. Gordon**, R. Kato, L. Taillefer, and N. Doiron-Leyraud, *Phys. Rev. X* **9**, 041051 (2019).
- 4) "Optimized Route Planning for Halloween", Michael Gordon, **Ryan T. Gordon**, James Humbell, and Tim Rumbell, IBM Research Internal Publication (April 2018).
- 5) "Coexistence of superconductivity and itinerant ferromagnetism in crystalline Y_9Co_7 " **R. T. Gordon**, M. D. Vannette, J. Strychalska, T. Klimczuk, R. J. Cava, and R. Prozorov, *Journal of Physics: Condensed Matter* **28**, Number 16 (2016).
- 6) "Isotropic multi-gap superconductivity in $\text{BaFe}_{1.9}\text{Pt}_{0.1}\text{As}_2$ from thermal transport and spectroscopic measurements" Steven Ziemak, K. Kirshenbaum, S. R. Saha, R. Hu, J.-Ph. Reid, **R. T. Gordon**, L. Taillefer, D. Evtushinsky, S. Thirupathaiah, S. V. Borisenko, A. Ignatov, D. Kolchmeyer, G. Glumber, and J. Paglione, *Supercond. Sci. Technol.* **28**, 014004 (2015).
- 7) "Conventional superconductivity and hysteretic Campbell penetration depth in single crystal MgCNi_3 " **R. T. Gordon**, N. D. Zhigadlo, S. Weyeneth, S. Katrych, and R. Prozorov, *Phys. Rev. B* **87**, 094520 (2013).
- 8) "From d-wave to s-wave pairing in the iron-pnictide superconductor $(\text{Ba},\text{K})\text{Fe}_2\text{As}_2$ " J.-Ph. Reid, A. Juneau-Fecteau, **R. T. Gordon**, S. René de Cotret, N. Doiron-Leyraud, X. G. Luo, H. Shakeripour, J. Chang, M. A. Tanatar, H. Kim, R. Prozorov, T. Saito, H. Fukuzawa, Y. Kohori, K. Kihou, C. H. Lee, A. Iyo, H. Eisaki, B. Shen, H.-H. Wen, and Louis Taillefer, *Supercond. Sci. Technol.* **25**, 084013 (2012).

- 9) “Universal Heat Conduction in the Iron-Arsenide Superconductor KFe_2As_2 : Evidence of a d -wave State” J.-Ph. Reid, M. A. Tanatar, A. Juneau-Fecteau, **R. T. Gordon**, S. René de Cotret, N. Doiron-Leyraud, T. Saito, H. Fukuzawa, Y. Kohori, K. Kihou, C. H. Lee, A. Iyo, H. Eisaki, R. Prozorov, and Louis Taillefer, *Phys. Rev. Lett.* **109**, 087001 (2012).
- 10) “Doping evolution of the absolute value of the London penetration depth and superfluid density in single crystals of $\text{Ba}(\text{Fe}_{1-x}\text{Co}_x)_2\text{As}_2$ ” **R. T. Gordon**, H. Kim, N. Salovich, R. Giannetta, R. M. Fernandes, V. Kogan, T. Prozorov, S. L. Bud’ko, P. C. Canfield, M. A. Tanatar, and R. Prozorov, *Phys. Rev. B* **82**, 054507 (2010) (Editor’s Suggestion).
- 11) “London penetration depth and strong pair-breaking in iron-based superconductors” **R. T. Gordon**, H. Kim, M. A. Tanatar, R. Prozorov, and V. G. Kogan, *Phys. Rev. B* **81**, 180501(R) (2010).
- 12) “London penetration depth in $\text{Ba}(\text{Fe}_{1-x}\text{T}_x)_2\text{As}_2$ ($\text{T}=\text{Co}, \text{Ni}$) superconductors irradiated with heavy ions” H. Kim, **R. T. Gordon**, M. A. Tanatar, J. Hua, U. Welp, W. K. Kwok, N. Ni, S. L. Bud’ko, P. C. Canfield, A. B. Vorontsov, and R. Prozorov, *Phys. Rev. B* **82**, 060518(R) (2010).
- 13) “Evidence from anisotropic penetration depth for a three-dimensional nodal superconducting gap in single-crystalline $\text{Ba}(\text{Fe}_{1-x}\text{Ni}_x)_2\text{As}_2$ ” C. Martin, H. Kim, **R. T. Gordon**, N. Ni, V. G. Kogan, S. L. Bud’ko, P. C. Canfield, M. A. Tanatar, and R. Prozorov, *Phys. Rev. B* **81**, 060505(R) (2010).
- 14) “London penetration depth and superfluid density of single-crystalline $\text{Fe}_{1+y}(\text{Te}_{1-x}\text{Se}_x)$ and $\text{Fe}_{1+y}(\text{Te}_{1-x}\text{S}_x)$ ” H. Kim, C. Martin, **R. T. Gordon**, M. A. Tanatar, J. Hu, B. Qian, Z. Q. Mao, Rongwei Hu, C. Petrovic, N. Salovich, R. Giannetta, and R. Prozorov, *Phys. Rev. B* **81**, 180503(R) (2010).
- 15) “The London penetration depth in BaFe_2As_2 superconductors at high electron doping level” C. Martin, H. Kim, **R. T. Gordon**, N. Ni, A. Thaler, V. G. Kogan, S. L. Bud’ko, P. C. Canfield, M. A. Tanatar, and R. Prozorov, *Supercond. Sci. Technol.* **23** (2010) 065022 (4pp).
- 16) “Unconventional London penetration depth in $\text{Ba}(\text{Fe}_{0.93}\text{Co}_{0.07})_2\text{As}_2$ single crystals” **R. T. Gordon**, N. Ni, C. Martin, M. A. Tanatar, M. D. Vannette, H. Kim, G. Samolyuk, J. Schmalian, S. Nandi, A. Kreyssig, A. I. Goldman, J. Q. Yan, S. L. Bud’ko, P. C. Canfield, and Ruslan Prozorov, *Phys. Rev. Lett.* **102**, 127004 (2009).
- 17) “London penetration depth in single crystals of $\text{Ba}(\text{Fe}_{1-x}\text{Co}_x)_2\text{As}_2$ spanning underdoped to overdoped compositions” **R. T. Gordon**, C. Martin, H. Kim, N. Ni, M. A. Tanatar, J. Schmalian, S. L. Bud’ko, P. C. Canfield, and R. Prozorov, *Phys. Rev. B* **79**, 100506(R) (2009).
- 18) “Non-exponential London penetration depth in $\text{RFeAsO}_{0.9}\text{F}_{0.1}$ ($\text{R}=\text{La}, \text{Nd}$) single crystals” C. Martin, M. E. Tillman, H. Kim, M. A. Tanatar, S. K. Kim, A. Kreyssig, **R. T. Gordon**, M. D. Vannette, S. Nandi, V. G. Kogan, S. L. Bud’ko, P. C. Canfield, A. I. Goldman, and R. Prozorov, *Phys. Rev. Lett.* **102**, 247002 (2009).
- 19) “Non-exponential London penetration depth in $(\text{Ba}_{1-x}\text{K}_x)\text{Fe}_2\text{As}_2$ single crystals” C. Martin, **R. T. Gordon**, M. A. Tanatar, H. Kim, N. Ni, S. L. Bud’ko, P. C. Canfield, H. Luo, H. H. Wen, Z. Wang, A. B. Vorontsov, V. G. Kogan, and R. Prozorov, *Phys. Rev. B* **80**, 020501(R) (2009).
- 20) “Coexistence of long-range magnetic order and superconductivity from Campbell penetration depth measurements” R. Prozorov, M. D. Vannette, **R. T. Gordon**, C. Martin, S. L. Bud’ko, and P. C. Canfield, *Supercond. Sci. Technol.* **22** (3), 034008 (2009).

- 21) “Anisotropy of the Optimally-Doped Iron Pnictide Superconductor $\text{Ba}(\text{Fe}_{0.926}\text{Co}_{0.074})_2\text{As}_2$ ” M. A. Tanatar, N. Ni, C. Martin, **R. T. Gordon**, H. Kim, V. G. Kogan, G. D. Samolyuk, S. L. Bud’ko, P. C. Canfield, and R. Prozorov, Phys. Rev. B **79**, 094507 (2009).
- 22) “Anisotropic London Penetration Depth and Superfluid Density in Single Crystals of Iron-based Pnictide Superconductors” R. Prozorov, M. A. Tanatar, **R. T. Gordon**, C. Martin, H. Kim, V. G. Kogan, N. Ni, M. E. Tillman, S. L. Bud’ko, P. C. Canfield, Physica C **469** (2009) 582-589.
- 23) “Doping-dependent Irreversible Magnetic Properties of $\text{Ba}(\text{Fe}_{1-x}\text{Co}_x)_2\text{As}_2$ Single Crystals” R. Prozorov, M. A. Tanatar, E. C. Blomberg, P. Prommapan, **R. T. Gordon**, N. Ni, S. L. Bud’ko, and P. C. Canfield, Physica C **469** (2009) 667-673.
- 24) “Electronic properties of iron arsenic high temperature superconductors revealed by angle resolved photoemission spectroscopy (ARPES)” Chang Liu, Takeshi Kondo, A. D. Palczewski, G. D. Samolyuk, Y. Lee, M. E. Tillman, N. Ni, E. D. Mun, **R. T. Gordon**, A. F. Santander-Syro, S. L. Bud’ko, J. L. McChesney, E. Rotenberg, A. V. Fedorov, T. Valla, O. Copie, M. A. Tanatar, C. Martin, B. N. Harmon, P. C. Canfield, R. Prozorov, J. Schmalian, A. Kaminski, Physica C **469** (2009) 491-497.
- 25) “Two gap superconductivity seen in penetration depth measurements of $\text{Lu}_2\text{Fe}_3\text{Si}_5$ single crystals” **R. T. Gordon**, M. D. Vannette, C. Martin, Y. Nakajima, T. Tamegai, and R. Prozorov, Phys. Rev. B **78**, 024514 (2008).
- 26) “Effect of C and Li doping on the rf magnetic susceptibility of MgB_2 single crystals” C. Martin, M. D. Vannette, **R. T. Gordon**, R. Prozorov, J. Karpinski, and N. D. Zhigadlo, Phys. Rev. B **78**, 144512 (2008).
- 27) “Vortex phase diagram of $\text{Ba}(\text{Fe}_{1-x}\text{Co}_x)_2\text{As}_2$ single crystals” R. Prozorov, N. Ni, M. A. Tanatar, V. G. Kogan, **R. T. Gordon**, C. Martin, E. C. Blomberg, P. Prommapan, S. L. Bud’ko, and P. C. Canfield, Phys. Rev. B **78**, 224506 (2008).

PATENTS

- 1) **Title:** “User Feedback System On Product Usage”
Inventors: James R. Kozloski, Michael S. Gordon, and **Ryan T. Gordon**
Status: Patent granted on November 11, 2024
Patent number: 12141812
- 2) **Title:** “Electroplated Metal Layer On A Niobium-titanium Substrate”
Inventors: **Ryan T. Gordon**, Shawn Hall, Yu Luo, and Robert Sandstrom
Status: Patent granted on August 21, 2023
Patent number: 11735802
- 3) **Title:** “Qubits with Ion Implant Josephson Junctions”
Inventors: **Ryan T. Gordon**, Ken Rodbell, Robert Sandstrom, and Jeffrey Sleight
Status: Patent granted December 26, 2022
Patent number: 11538977
- 4) **Title:** “Cognitive Alert System” (Patent 1 of 2 with same title)
Inventors: Maja Vukovic, Michael Gordon, Jinho Hwang, and **Ryan T. Gordon**
Status: Patent granted on November 22, 2021
Patent number: 11179539

- 5) **Title:** “Cognitive Alert System” (Patent 2 of 2 with same title)
Inventors: Maja Vukovic, Michael Gordon, Jinho Hwang, and **Ryan T. Gordon**
Status: Patent granted on November 22, 2021
Patent number: 11179540
- 6) **Title:** “Process-specific views of large frame pages with variable granularity”
Inventors: Michael Gordon, **Ryan T. Gordon**, and Maja Vukovic
Status: Patent granted September 27, 2021
Patent number: 10295983
- 7) **Title:** “Natural Language Processor For Using Speech To Cognitively Detect And Analyze Deviations From A Baseline”
Inventors: Michael Gordon, James Humble, Tim Rumbell, and **Ryan T. Gordon**
Status: Patent granted September 27, 2021
Patent number: 11133026
- 8) **Title:** “Contextual And Differentiated Augmented-Reality Worlds”
(Patent 1 of 2 with same title)
Inventors: James R. Kozloski, Michael S. Gordon, **Ryan T. Gordon**, Kevin W. Brew, and Clifford A. Pickover
Status: Patent granted on March 22, 2021
Patent number: 10953329
- 9) **Title:** “Autonomous Operation Of An Electrical Power Outlet Device”
Inventors: Michael Gordon, **Ryan T. Gordon**, and Maja Vukovic
Status: Patent granted on March 1, 2021
Patent number: 10935951
- 10) **Title:** “Superconducting Switch Thermometer Array”
Inventors: **Ryan T. Gordon** and Michael Gordon
Status: Patent granted on June 8, 2020
Patent number: 10677659
- 11) **Title:** “Contextual And Differentiated Augmented-Reality Worlds”
(Patent 2 of 2 with same title)
Inventors: James R. Kozloski, Michael S. Gordon, **Ryan T. Gordon**, Kevin W. Brew, and Clifford A. Pickover
Status: Patent granted on March 16, 2020
Patent number: 10589173

INVITED TALKS

- 1) “Exploration of Pairing Symmetry in Unconventional Superconductors”
Physics Department Colloquium at St. Louis University
February 16, 2023
St. Louis, MO, USA
- 2) “Sensitive Materials Measurements with a Tunnel Diode Resonator Circuit”
Physics Department Colloquium at Illinois Wesleyan University
January 12, 2023
Bloomington, IL, USA

- 3) “Quantum Computing with Superconducting Circuits”
Materials Research Society (MRS) Fall Meeting
 December 4, 2020
 Boston, MA, USA (Held virtually due to COVID-19)
- 4) “Quasiparticle Tunneling Measurements in Transmon Qubits”
Workshop on Quantum Matters in Materials Science
 NIST, Gaithersburg, MD (Held virtually due to COVID-19)
 October 16, 2020
- 5) “Introduction to the Physics of Superconductors”
Research Seminar at IBM Thomas J. Watson Research Center
 October 25, 2017
 Yorktown Heights, NY, USA
- 6) “Gap Structure Studies of Iron-Based Superconductors from London Penetration Depth and Thermal Conductivity Measurements”
Research Seminar at IBM Thomas J. Watson Research Center
 May 12, 2016
 Yorktown Heights, NY, USA
- 7) “The Importance of Research for Future Success”
Keynote Speaker at the First Annual WIU-QCs Student Research Conference
 May 8, 2015
 Moline, IL, USA
Undergraduate Research Day at WIU
 April 15, 2015
 Macomb, IL, USA
- 8) “What can I do now to prepare for my future after high school?”
Keynote Speaker at the Rushville Rotary Club’s All As Banquet
 February 12, 2015
 Rushville, IL, USA
- 9) “Study of the Electronic Pairing Symmetry in Iron-Based Superconductors”
Knox College Physics Department Colloquium
 February 26, 2015
 Knox College, Galesburg, IL, USA
- 10) “London Penetration Depth Measurements in Iron-Based Superconductors Utilizing a Tunnel Diode Resonator Circuit”
American Physical Society Prairie Section Meeting November 22, 2014
 Monmouth College, Monmouth, IL, USA
- 11) “Superconducting gap symmetry measurements in iron-based superconductors”
Western Illinois University Mathematics Department February 13, 2014
 Macomb, IL, USA

- 12) "The importance of student research for shaping your future"
Keynote speaker at the 41st Annual Initiation Banquet for the WIU Chapter of the Honor Society of Phi Kappa Phi
Western Illinois University
 Macomb, IL, USA
 April 14, 2013

- 13) "Study of the electronic pairing in iron-based superconductors"
Truman State University Physics Department
 Kirksville, MO, USA
 March 6, 2013

- 14) "Superconducting gap studies in iron-based superconductors from London penetration depth measurements"
Condensed Matter Physics Colloquium
University of Illinois at Urbana-Champaign
 Urbana, IL, USA
 February 22, 2013

- 15) "Superconducting gap studies in iron-based superconductors from London penetration depth and thermal conductivity measurements"
Western Illinois University Physics Department
 Macomb, IL, USA
 February 15, 2013

- 16) "Tunnel diode resonator measurements of the London penetration depth in superconductors"
Western Illinois University Physics Department
 Macomb, IL, USA
 April 25, 2012

- 17) "London penetration depth measurements in iron-based superconductors"
CIFAR Summer School, University of British Columbia
 Vancouver, B.C., Canada
 May 25, 2011

- 18) "London penetration depth as a sensitive tool for determining the superconducting gap structure in iron-pnictide superconductors"
APS 2011 March Meeting
 Dallas, TX, USA
 March 22, 2011

- 19) "The absolute value of the London penetration depth in iron-based superconductors"
Johns Hopkins University
 Baltimore, MD, USA
 December 8, 2010

- 20) "Evolution of the superfluid density as a function of doping level in $\text{Ba}(\text{Fe}_{1-x}\text{Co}_x)_2\text{As}_2$ "
University of Maryland
 College Park, MD, USA
 December 9, 2010

- 21) "London penetration depth measurements in the $\text{Ba}(\text{Fe}_{1-x}\text{Co}_x)_2\text{As}_2$ series"
Université de Sherbrooke
 Sherbrooke, Québec, Canada
 November 30, 2010

- 22) "The importance of undergraduate research for graduate school"
Undergraduate Research Day at Western Illinois University
 Macomb, IL, USA
 April 18, 2007

CONFERENCES AND
CONTRIBUTED
PRESENTATIONS

- 1) **2020 Materials Research Society (MRS) Fall Meeting**
Boston, MA November 29 - December 4, 2020
 - Attended conference to give invited talk for IBM Quantum Computing Program
- 2) **2017 American Physical Society March Meeting**
New Orleans, LA March 13-17, 2017
 - Attended conference for IBM Quantum Computing Program
- 3) **2015 American Physical Society March Meeting**
San Antonio, TX March 2-6, 2014
 - Contributed oral presentation: “Tunnel Diode Resonator Studies of Superconducting and Magnetic Materials”
- 4) **2014 Central State Universities Inc. Research Conference for Graduate Students and Faculty**
Argonne National Laboratory, Batavia, IL November 7, 2014
 - Contributed oral presentation: “Studying Superconductivity and Magnetism in Y_9Co_7 with a Tunnel Diode Resonator Circuit”
- 5) **Central State Universities Inc.**
Argonne National Laboratory, Batavia, IL November 1, 2013
 - Contributed oral presentation: “Tunnel Diode Resonator Studies of Superconducting and Magnetic Materials”
- 6) **New Physics and Astronomy Faculty Workshop**
American Center for Physics, College Park, MD June 17-20, 2013
- 7) **APS 2012 March Meeting**
Boston, MA February 28, 2012
 - Contributed oral presentation: “Doping induced line nodes in the superconducting gap of the iron arsenide $(\text{Ba}_{1-x}\text{K}_x)\text{Fe}_2\text{As}_2$ from thermal conductivity”
- 8) **APS 2011 March Meeting**
Dallas, TX March 23, 2011
 - Contributed oral presentation: “London penetration depth measurements in $\text{Ba}(\text{Fe}_{1-x}\text{TM}_x)_2\text{As}_2$ (TM=Co,Ni,Ru,Rh,Pd,Pt,Co/Cu) single crystals”
- 9) **Workshop on Principles and Design of Strongly Correlated Electronic Systems**
ICTP, Trieste, Italy August 2 - 13, 2010
 - Oral presentation: “London penetration depth measurements of $\text{Ba}(\text{Fe}_{1-x}\text{Co}_x)_2\text{As}_2$ ”
 - Poster presentation: “London penetration depth measurements of $\text{Ba}(\text{Fe}_{1-x}\text{M}_x)_2\text{As}_2$ (M=Co, Ni, Pd, Pt, Co+Cu)”
- 10) **International Conference on Strongly Correlated Electron Systems**
Santa Fe, NM June 27 - July 2, 2010
 - Poster presentation: “Measurements of the in-plane London penetration depth and superfluid density as a function of doping level in the $\text{Ba}(\text{Fe}_{1-x}\text{Co}_x)_2\text{As}_2$ series”

11) **Gordon Research Conference**

Mount Holyoke College, South Hadley, MA

June 13 - 18, 2010

- Poster presentation: “The absolute value of the in-plane London penetration depth as a function of doping level in $\text{Ba}(\text{Fe}_{1-x}\text{Co}_x)_2\text{As}_2$ and the corresponding superfluid density”

12) **APS 2010 March Meeting**

Portland, OR

March 15 - 19, 2010

- Contributed oral presentation: “Evolution of the absolute value of the London penetration depth in single crystals of $\text{Ba}(\text{Fe}_{1-x}\text{Co}_x)_2\text{As}_2$ upon cobalt doping”

13) **Prairie Section of the American Physical Society (PSAPS) Inaugural Meeting**

University of Iowa, Iowa City, IA

November 12 - 14, 2009

- Poster presentation: “The Determination of $\lambda_{ab}(0)$ in $\text{Ba}(\text{Fe}_{1-x}\text{Co}_x)_2\text{As}_2$ from Tunnel Diode Resonator Measurements”

14) **International Center for Materials Research (ICMR) Summer School on Novel Superconductors**

University of California, Santa Barbara, CA

August 2 - 15, 2009

- Poster presentation: “The London penetration depth in single crystals of iron-based pnictide superconductors”

15) **International Workshop on the Search for New Superconductors-Frontier and Future**

Shonan Village Center, Kanagawa, Japan

May 12 - 16, 2009

- Poster presentation: “Precision Measurements of the London Penetration Depth in Single Crystals of $\text{Ba}(\text{Fe}_{1-x}\text{Co}_x)_2\text{As}_2$ and $(\text{Ba}_{1-x}\text{K}_x)\text{Fe}_2\text{As}_2$ ”

16) **APS 2009 March Meeting**

Pittsburgh, PA

March 16 - 20, 2009

- Contributed oral presentation: “Co-concentration dependence of the London penetration depth in single crystals of $\text{Ba}(\text{Fe}_{1-x}\text{Co}_x)_2\text{As}_2$ ”

17) **APS 2008 March Meeting**

New Orleans, LA

March 10 - 14, 2008

- Contributed oral presentation: “Unconventional superconductivity in $\text{Lu}_2\text{Fe}_3\text{Si}_5$ ”

18) **APS 2005 March Meeting**

Los Angeles, CA

March 21 - 25, 2005

- Poster presentation: “Raman mode softening of superconducting MgB_2 ”

19) **APS 2003 March Meeting**

Austin, TX

March 3 - 7, 2003

- Poster presentation: “Axial and circumferential hysteresis of magnetic torque transducers”

GRANTS

1) Research Grant from Western Illinois University Physics Alumnus, Frank Rodeffer

- Amount: \$10,000
- Spring 2015
- Purpose: Funding for my research lab in the Physics Department

- 2) University Research Council Award from Western Illinois University
 - Amount: \$4,953
 - Spring 2015
 - Purpose: Funding for my research lab in the Physics Department
- 3) College of Arts and Sciences Research Award from Western Illinois University
 - Amount: \$600
 - Spring 2015
 - Purpose: Funding for my research lab in the Physics Department
- 4) Physics Department Research Award at Western Illinois University
 - Amount: \$1,887
 - Spring 2015
 - Purpose: Funding for my research lab in the Physics Department
- 5) Kimball Physics Two-Stage Roughing Vacuum Pump
 - Received from Kimball upon submission of research proposal regarding how this equipment would be used to further student research
 - Fall 2014
 - Purpose: Funding for my research lab in the Physics Department
- 6) Summer Research Stipend for Western Illinois University Faculty Member (Only 10 awarded)
 - Amount: \$3,000
 - Spring 2015
 - Purpose: Funding for my research in the Physics Department
- 7) Top Rated Proposal for Professional Research and Creative activities at the Annual Western Illinois University Symposium on Teaching, Research and Creative Activities, sponsored by the Center for Innovation in Teaching and Research
 - Amount: \$500
 - Spring 2013
 - Purpose: Funding for my research in the Physics Department
- 8) Best Proposal given by a New Faculty Member at the Annual Western Illinois University Symposium on Teaching, Research and Creative Activities, sponsored by the Center for Innovation in Teaching and Research
 - Amount: \$500
 - Spring 2013
 - Purpose: Funding for my research in the Physics Department

PRESENTATIONS
FROM RESEARCH
STUDENTS AS
FACULTY MENTOR

- 1) **Undergraduate Research Day**
 Western Illinois University April 15, 2015
 - Poster presentation by Justin Gonzales: “Measuring Material Properties with Parts-Per-Billion Sensitivity by Utilizing a Tunnel Diode Resonator Circuit”
- 2) **107th Illinois State Academy of Science (ISAS) Annual Meeting**
 Western Illinois University April 10, 2015
 - Oral presentation by Jerold Young: “Coexistence of superconductivity and itinerant magnetism in single crystalline Y_9Co_7 ”
 - Poster presentation by Justin Gonzales: “Measuring Material Properties with Parts-Per-Billion Sensitivity by Utilizing a Tunnel Diode Resonator Circuit”

3) Physics Research Day

Western Illinois University

April 1, 2015

- Poster presentation by Alhulw Alshammari: “Construction of a Capacitive Tunnel Diode Resonator Circuit”
- Poster presentation by Hala A. Siddiq: “Construction of an Inductive Tunnel Diode Resonator Circuit”
- Poster presentation by Hasan Alkhateeb: “Construction of a Sample Holder for a Capacitive Tunnel Diode Resonator Circuit”
- Poster presentation by Tahani S. Alkureda: “Radio Frequency Signal Analysis of the Tunnel Diode Resonator Circuit”
- Poster presentation by Wafa Alismail: “Construction of an Inductive Tunnel Diode Resonator Sample Holder
- Poster presentation by Jerold Young: “Coexistence of Superconductivity and Itinerant Ferromagnetism in Single Crystalline Y_9Co_7 ”
- Poster presentation by Justin Gonzales: “Measuring Material Properties with Parts-Per-Billion Sensitivity Utilizing a Tunnel Diode Resonator Circuit”

4) Second Annual Graduate Research Conference

Western Illinois University

March 6, 2015

- Oral presentation by Jerold Young: “Coexistence of Superconductivity and Itinerant Ferromagnetism in Single Crystalline Y_9Co_7 ”
- Poster presentation by Alexander Blanton: “Ultra-Sensitive Radio Frequency Measurements of Material Properties Utilizing a Tunnel Diode Resonator Circuit (**Awarded first place overall**)”

5) 24th Argonne National Laboratory Undergraduate Symposium

Argonne National Laboratory

November 7, 2014

- Oral presentation by Justin Gonzales: “Ultra-Sensitive Radio Frequency Measurements of Material Properties Utilizing a Tunnel Diode Resonator Circuit”
- Poster presentation by Jerold Young: “Ultra-Sensitive Radio Frequency Measurements of Material Properties Utilizing a Tunnel Diode Resonator Circuit”

6) Louis Stoke’s Midwest Center for Excellence Conference for Minorities in Science

Chicago, IL

October 24, 2014

- Poster presentation by Justin Gonzales: “Ultra-Sensitive Radio Frequency Measurements of Material Properties Utilizing a Tunnel Diode Resonator Circuit”

7) Physics Research Day

Western Illinois University

April 2, 2014

- Poster presentation by Saleh Altarifi: “Studying the superconducting state in $\text{Ba}(\text{Fe}_{1-x}\text{Co}_x)_2\text{As}_2$ ”
- Poster presentation by Aysh Madkhli: “Tunnel diode resonator studies of superconducting and magnetic materials”
- Poster presentation by Awwad Alotaibi: “Doping evolution of the absolute value of the London penetration depth and superfluid density in single crystals of $\text{Ba}(\text{Fe}_{1-x}\text{Co}_x)_2\text{As}_2$ ”
- Poster presentation by Saleh Almansour: “Evidence from anisotropic penetration depth for a three dimensional nodal superconducting gap in single-crystalline $\text{Ba}(\text{Fe}_{1-x}\text{Ni}_x)_2\text{As}_2$ ”

8) **First Annual Graduate Research Conference**

Western Illinois University

February 7, 2014

- Oral presentation by Saleh Altarifi: “Studying the superconducting state in $\text{Ba}(\text{Fe}_{1-x}\text{Co}_x)_2\text{As}_2$ ”
- Poster presentation by Aysh Madkhli: “Tunnel diode resonator studies of superconducting and magnetic materials”

9) **Central State Universities Inc. Research Conference**

Argonne National Laboratory

November 1, 2013

- Oral presentation by Saleh Altarifi: “Studying the superconducting state of $\text{Ba}(\text{Fe}_{1-x}\text{Co}_x)_2\text{As}_2$ with a tunnel diode resonator circuit”
- Oral presentation by Andrew Onaghise: “Measuring the London penetration depth in $(\text{Ba}_{1-x}\text{K}_x)\text{Fe}_2\text{As}_2$ using a tunnel diode resonator circuit”

10) **Illinois Student Research Conference**

Western Illinois University

March 22, 2013

- Poster presentation by Saleh Altarifi: “Studying the superconducting state in $\text{Ba}(\text{Fe}_{1-x}\text{Co}_x)_2\text{As}_2$ ”
- Poster presentation by Andrew Onaghise: “London penetration depth measurements in $(\text{Ba}_{1-x}\text{K}_x)\text{Fe}_2\text{As}_2$ ”

11) **Physics Research Day**

Western Illinois University

April 3, 2013

- Poster presentation by Saleh Altarifi: “Studying the superconducting state in $\text{Ba}(\text{Fe}_{1-x}\text{Co}_x)_2\text{As}_2$ ”
- Poster presentation by Andrew Onaghise: “London penetration depth measurements in $(\text{Ba}_{1-x}\text{K}_x)\text{Fe}_2\text{As}_2$ ”

SELECTED AWARDS 2007 Iowa State University Graduate Student Teaching Award

2005 Western Illinois University Honors College Scholar (only 1 awarded)

2005 Western Illinois University Physics Departmental Scholar (only 1 awarded)

2005 Phi Kappa Phi Award of Excellence Recipient (while attending Western Illinois University)

2004 Barry M. Goldwater Scholar (only 310 awarded in 2004, recipient of \$7,500)

STUDENT
INTERNSHIPS AS
FACULTY MENTOR

1) **Research Experience for Undergraduates (REU) Internship**

University of Illinois at Urbana-Champaign

Summer 2016

- Internship for my undergraduate research student in the Physics Department at the University of Illinois at Urbana-Champaign
- Student: Owen Huff

2) **Student University Laboratory Internship (SULI) at the Ames National Laboratory**

Ames National Laboratory, Ames Iowa

Summer 2016

- Internship for my undergraduate research student at the Ames National Laboratory
- Student: Raymond Sullivan

3) **Student University Laboratory Internship (SULI) at the Ames National Laboratory**

Ames National Laboratory, Ames Iowa

Summer 2015

- Internship for my undergraduate research student at the Ames National Laboratory
- Student: Justin Gonzales

4) **Student University Laboratory Internship (SULI) at the Ames National Laboratory**

Ames National Laboratory, Ames Iowa

Summer 2015

- Internship for my undergraduate research student at the Ames National Laboratory
- Student: Nicholas Breslin

AWARDS RECEIVED
BY MY STUDENTS
AS THEIR FACULTY
MENTOR

1) **2015 Research Inspiring Student Excellence (RISE) Graduate Fellowship**

Western Illinois University

Summer 2015

- A \$1,000 scholarship was awarded to WIU Physics graduate student, Alexander Blanton, while working as a Research Inspiring Student Excellence (RISE) summer research intern in my condensed matter physics research laboratory.

2) **2015 Frank Rodeffer Summer Undergraduate Research Experience**

Western Illinois University

Summer 2015

- A \$2,500 scholarship was awarded to WIU Physics undergraduate student, Nicholas Breslin, while working as a Research Inspiring Student Excellence (RISE) summer research intern in my condensed matter physics laboratory.

3) **Norman and Carmelita Teeter Undergraduate Research Award**

Western Illinois University

Spring 2015

- Received by WIU Physics undergraduate student, Jerold Young, for his work in my condensed matter research lab

4) **First Place Poster Award at Graduate Research Day**

Western Illinois University

Spring 2015

- Received by WIU Physics graduate student, Alex Blanton, for his work in my condensed matter research lab

5) **College of Arts and Sciences Undergraduate Research Grant**

Western Illinois University

Fall 2014

- A \$400 award received by WIU Physics undergraduate student, Matthew Tammen, to support his work in my condensed matter research lab

6) **College of Arts and Sciences Undergraduate Research Grant**

Western Illinois University

Fall 2014

- A \$400 award received by WIU Physics undergraduate student, Jerold Young, to support his work in my condensed matter research lab

7) **College of Arts and Sciences Undergraduate Research Grant**

Western Illinois University

Fall 2014

- A \$400 award received by WIU Physics undergraduate student, Justin Gonzales, to support his work in my condensed matter research lab

8) **College of Arts and Sciences Undergraduate Research Grant**

Western Illinois University

Fall 2014

- A \$400 award received by WIU Physics undergraduate student, Greg Proue, to support his work in my condensed matter research lab

COMMUNITY
INVOLVEMENT

1) **Westchester Symphonic Winds**

Tarrytown, NY

April 2018 - Present

- Bassoonist for 60 piece community ensemble

2) **Rushville Community Theater**

Rushville, IL

December 2012 - March 2015

- Bassoonist for pit orchestra to accompany community theater productions