Rebin A. Muhammad

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RESEARCH INTERESTS
Ring Theory, Islamic Geometric Patterns, Math Circle

EDUCATION

Ohio University, Athens, OH

Ph.D., Ring Theory, Spring 2020
- Thesis Topic: *On Modules Over Infinite Dimensional Algebras*
- Advisors: Sergio Lopez-Permouth, PhD

Salahaddin University-Erbil, Erbil, Iraq

M.Sc., Mathematics, August 2008
- Topic: *On Primary Spectrum*

Salahaddin University-Erbil, Erbil, Iraq

B.S., Mathematics, May 2004
- *2nd in Department of Mathematics and 8th in College of Science*

TEACHING EXPERIENCE

- **Full teaching courses at Montgomery College**:

  - HONR265SB (Islamic Geometric Patterns)
  - Math 264 (Applications in Linear Algebra)
  - Math 130 (Elementary Topics in Mathematics II.
  - Math 181 and 182 (Calculus I, Calculus II, and Calculus for Honors students)
  - Trigonometry and Pre-Calculus

  - **Full teaching courses at Ohio University**:
    * Math 1102 Elementary Topics in Mathematics II (Fall 2019,Spring 2020).
    * Math 1102 Elementary Topics in Mathematics II (Spring 2019).
    * Math 1101 Elementary Topics in Mathematics I (Falls 2018).
    * Survey of Calculus (Spring 2017).
    * Pre-Calculus (Spring 2015).
    * Pre-Calculus (Fall 2015).
  - **BEAM (Bridge to Enter Advanced Mathematics)**
    * Faculty Instructor (Summer 2019), a summer program for underserved 8th graders from NYC. Classes titles: Islamic Geometric Pattern (Frieze and Wallpaper Pattern); Operation: Rock-paper-Scissors.
    * Faculty Instructor (Summer 2020), a summer program for underserved 8th graders from NYC or LA.
  - **Ohio University Upward Bound**
    * Faculty Instructor (Summer 2016-Summer 2018) a summer program for Upward Bound provides high school students who are potential first-generation college students from Athens County. Classes titles: Pre-Calculus; Calculus.
  - **Recitation courses at Ohio University**:

∗ Calculus I (Fall 2016, Spring 2017).
  - **Full teaching courses at Soran University**:
    ∗ Abstract Algebra (2009).
    ∗ Foundation of Mathematics (2010).
    ∗ Finite Mathematics (2011).
  - **Recitation courses at Salahaddin University Erbil-Iraq**
    ∗ Foundation of Mathematics, Linear Algebra (2006-2008).
    ∗ Calculus, Advanced Calculus, Numerical Analysis Computer Lab, (Matlab), (2005).
  - **K-12 Teaching at Qalla College for Gifted Students Erbil- Iraq**
    ∗ Algebra I,Geometry I (2006-2007).
    ∗ Algebra II,Geometry II (2007-2008).

COMMUNITY INVOLVEMENT

- Organizer Math Night at Wellston High School and Middle School, Ohio 2019.
- Co-Organizer Fun with Math, Athens Public Library, November 2018.
- Facilitator Math Night at Wellston High School and Middle School, Ohio, April 2015 and 2017.
- Co-organizer and facilitator Math Night Festival at Athens Middle School, Athens, Ohio, April 2015.
- Co-organizer and facilitator Math Night Festival at Coolville Elementary, Coolville Ohio, November 2014.
- Co-organizer Math Circle for students in Athens,Ohio
- Organizer for Math workshop for UB program.
- Co-organize math festivals for local families and students
- Collaborate with area college students and teachers to plan and organize resources, events, and create and maintain a project

SERVICE

- Advisor of **Live Positive** (Undergraduate Student Organization at Ohio University 2019-2020)   2019 – 2020
- President and Founder of AMS Graduate Student Chapter, Ohio University 2019-Present
- Member of Graduate Student Research Fund at Ohio University2018 – 2019
- Co-organizer of Mathematics Education Seminar at Ohio University 2018 – Present
- Chair of Contributed Paper Session at JMM in Baltimore   2019
- Treasure of American Kurdish Cultural Alliance   2013-2014
- Director of the Computer Units at Soran University, Iraq   2009-2012
- Member of Final Examination Committee of B.Sc. at Salahaddin University-Erbil, Iraq   2004-2006

AWARDS

Travel Awards
- MAA MathFest Cincinnati, OH   August 2019
- National Math Festival, Washington, D.C.   May 2019
- AMS Grad Student Travel Grant JMM19, MD   January 2019

- Ohio University Department of Mathematics, JMM in Baltimore, MD   Jan 2019
- KWU Graduate Students AMS seminar in Bowling Green, KY , October 2018
- OU-OSU Ring Theory Seminar in Columbus, OH   October 2018.
- JMM in San Diego, CA   January 2018
- Reed College Portland, OR   April 2018
- OU-OSU Ring Theory Seminar in Columbus, OH   December 2017.
- MAA MathFest Chicago, IL   July 2017
- OH-PKAL Annual Conference, Evidence-Based STEM Education Findlay, OH May 2017
- Workshop on IBL in Cal Poly San Luis Obispo, CA   June 2016
- MAA MathFest Columbus, OH   July 2016
- XXXIII Ohio State - Denison Mathematics Conference   May 2016
- XXXII Ohio State-Denison Mathematics Conference   May 2014
- MAA MathFest Hartford, Connecticut   July 2013

TRANSLATION, INTERPRETATION, AND WRITING EXPERIENCE

- **Translator & Interpreter, Panda Group, Erbil** (2007-2011): Provided Arabic and English language services.
- **Scientific Article Translator**: Translated English articles for "Zaniti Sardam" and Hoja into Kurdish.
- **Blogger** (https://birkary.wordpress.com/): Authored and translated accessible math-related content, bridging the gap between technical subjects and the general audience.
- **Contributor, Awene Newspaper, Iraq** (https://www.awene.com): Composed articles issue related to education in Kurdistan Region of Iraq and conducted interview.

SCHOLARSHIP AWARDS

- fellows of the Section NExT program of the Maryland-DC-Virginia section 2022-2023.
- Scholarship from Higher Committee for Education Development (HCED) Iraq 2012–2018
- Doctoral fellowship from Ohio University   2016–2019

WORKSHOP

- PreTeXt-Runestone Open Source Ecosystem (PROSE) 2023 June 12-16 at the University of South Alabama.
- Geogebra Workshop, Champaign, IL   June 26-27, 2018
- Workshop on IBL in Cal Poly San Luis Obispo, CA   June 2016
- Min-course MAA MathFest Hartford, Connecticut   July 2013

PUBLICATIONS

1. P. Aydoğdu, S.R. López-Permouth and R. Muhammad. THE ISOMORPHISM PROBLEM FOR BASIC MODULES AND THE DIVISIBILITY PROFILE OF THE ALGEBRA OF POLYNOMIALS.

2. M. Powell, R. Muhammad Teaching Advanced Mathematics to Middle School Students, Successes, Challenges, Applications to the College Classroom. MTRJ 4 FALL/WINTER 2019-2020 Vol 11 no 3-4.

3. P. Aydoğdu, S.R. López-Permouth and R. Muhammad. Infinite-dimensional algebras without simple amenable bases. Linear and Multilinear Algebra, 0(0):1–18, 2019.

4. P. Hummadi, R. Muhammad. Special Spectrum Topology. Zanco Journal for Pure and Applied Sciences, Salahaddin University, Volume 22, No.2, 124–129, 2010.

5. P. Hummadi, R. Muhammad. Primary Spectrum. International Journal of Algebra, Volume 3, No. 12, 575–588, 2009.

6. P. Aydoğdu, D. Bossaller, S.R., López-Permouth, and R. Muhammad. Symmetry of amenable basis. In preparation.

7. J. Diaz-Boils, S.R. López-Permouth and R. Muhammad. Amenable and simple bases of tensor products of infinite dimensional algebras. In preparation.

INVITED TALKS

– Hood College, Islamic Geometric Pattern.

– University Of North Carolina At Asheville , Islamic Geometric Pattern How artisans create these patterns using different mathematical approaches, 2020 Feb 20.

– WKU Graduate Students AMS seminar, **Infinite-Dimensional Algebras Without Simple Bases**, October 2018.

– OU-OSU Ring Theory Seminar, **Projective and Simple Bases of infinite dimensional Algebras**, September 2018.

– Seminar at GRCC, **Symmetries in the Alhambra**, October 2018.

– OU-OSU Ring Theory Seminar, **Amenable bases that are not properly congenial to any others**, December 2017.

PRESENTATIONS:
RING THEORY

– Joint Mathematics Meetings, AMS contributed Paper Session, ”**Graph Algebra and Basic Module**”, Baltimore, MD, Jan, 2019.

– Joint Mathematics Meetings, AMS Contributed Paper Session, **On Module over infinite-dimensional Algebras**, San Diego, CA, Jan 10-13, 2018.

– Ohio State University-Denison Conference in Ring Theory **Amenable Bases**, Columbus OH, May 18-20, 2018.

– Underrepresented students in topology and algebra research symposium April 2018, April 2019.

PRESENTATIONS:
MATH CIRCLE

• Math in Action Dots in the box, GVSU’s, 2020.
• Math in Action Islamic Geometric Pattern and Mosaics, GVSU’s, 2019.
• Grand Rapids Art Museum, **Lunch and Learn**, Grand Rapids, MI, May 22, 2018.
• Math in Action **Islamic Geometric Patterns**, GVSU’s, 2018.
• The Appalachian Ohio Mathematics and Science Teaching Research Symposium (AppO MaSTRS 9), Saturday 6 October 2018. **Creating Islamic Geometric Pattern (IGP) using Geogebra - Geometry Project for High School Students**.
• Joint Mathematics Meetings, Math Circle Paper Session, ”**Equidistant Dot on Grid**”, Baltimore, MD, Jan, 2019.
• Joint Mathematics Meetings, Math Circle Paper Session, ”**Islamic Geometric Pattern: Point-Construction Method**”, San Diego, CA, Jan 10-13, 2018. **Amenable basis and Simple Basis of infinite dimensional algebra**, research symposium , April 2018.

- The Seventh Appalachian Ohio Mathematics, Science Teaching Research Symposium, September 14, 2016. **90 min The Math League Math Circle Come Observe It in Action (K 16)**.
- Mathematical Association of America Ohio Section, October 2015. **Introducing Math Circles and Math Teachers' Circles**.
- Perfecting Pedagogical Practices Conference, 2017. **Active Learning and Mathematical Pedagogy**.

DEPARTMENT TALK

- I love Patterns, Do you too? (Frieze and Wallpaper group), undergraduate Math Seminar, November 2018.
- Using Technology in the Classroom, Math Ed Seminar, November 2018.
- Origami, Angles, and Trig, Math Ed Seminar, April 2018.
- Wallpaper Group, Math Club, 2017.

POSTER

- **π-Bases and Graph Algebras** , Pi-Day Ohio University 2018.
- **Art of the Theorem: Exploring Connections Between Visual Art and Mathematics**, with Elizabeth Story, (IART), Student Research and Creative Activity Expo, 2016.

RESEARCH REFERENCES

Sergio R. López-Permouth

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Ohio University, Department of Mathematics	Phone: (740) 593-1258
Athens, OH 45701 USA	

Tariq Rizvi

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EDUCATION REFERENCES

Kelly Bubp
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Morton Hall 554	E-mail: bubp@ohio.edu
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Robert M. Klein
Interim Dean, Associate Professor of Mathematics

Morton Hall 554	E-mail: kleinr@ohio.edu
Ohio University, Department of Mathematics	Phone: 740-699-2494
Athens, OH 45701 USA	

Erik Boczko
Assistant Professor of Instruction

Morton Hall 548	E-mail: boczko@ohio.edu
Ohio University, Department of Mathematics	Phone: 740-593-1278
Athens, OH 45701 USA	

PROFESSIONAL
MEMBERSHIPS

- American Mathematical Society (AMS)   2014-Present
- National Association of Math Circles (NAMC)   2013-Present
- Mathematical Association of America(MAA)   2014-Present
- AMS Graduate Student Chapter   2019-2020

SOFTWARE SKILLS

- Matlab, Maple, Mathematica, Processing, Geogebra. Python, Adobe Illustrator

LANGUAGES

- Kurdish, Arabic, English.