

John Thomas Hird, Jr.

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EDUCATION:

- **North Carolina State University:** Ph.D. in Mathematics awarded 2012.
- **North Carolina State University:** M.S. in Mathematics awarded 2009.
- **Youngstown State University:** B.S. in Mathematics awarded 2007.

TEACHING EXPERIENCE:

- **Associate Professor** **2018-Present**
Department of Mathematics, West Virginia University, Institute of Technology
 - MATH 093 - Intermediate Algebra
 - MATH 123 - Finite Mathematics
 - MATH 124 - College Algebra with Applications
 - MATH 126 - College Algebra
 - MATH 128 - Plane Trigonometry
 - MATH 129 - Pre-Calculus Mathematics
 - MATH 155 - Calculus 1
 - MATH 156 - Calculus 2
 - MATH 251 - Multivariable Calculus
 - MATH 261 - Elementary Differential Equations
 - MATH 293D - Special Topics
 - MATH 441 - Applied Linear Algebra
 - MATH 496 - Senior Thesis
- **Assistant Professor** **2012-2018**
Department of Mathematics, West Virginia University, Institute of Technology

See list of courses above.
- **Math Lab Tutor (Individual Tutoring)** **2008-2012**
Department of Mathematics, West Virginia University, Institute of Technology

Help students with homework and course material from a wide range of courses, including financial math, algebra, trigonometry, calculus, linear algebra, differential equations, probability and statistics, physics, statics.

- **Graduate Teaching Assistant** (Instructor) **2007-2012**
Department of Mathematics, NC State University
 MA 105 - Mathematics of Finance
 MA 114 - Introduction to Finite Mathematics
 MA 131 - Calculus for Life and Management Sciences
 MA 141 - Calculus I
 MA 225 - Foundations of Advanced Mathematics
 MA 241 - Calculus II
 MA 242 - Calculus III
- **Math Lab Tutor** (Individual Tutoring) **2008-2012**
Department of Mathematics, NC State University
 Help students with homework and course material from a wide range of courses, including financial math, algebra, precalculus, calculus, linear algebra, differential equations, introductory proofs classes, abstract algebra, analysis, and probability.
- **Graduate TA/Grader** (Grading Only) **2009**
Department of Mathematics, NC State University
 MA 241 - Calculus II
 MA 305 - Introductory Linear Algebra and Matrices
- **Graduate TA/Lecture Assistant** (Grading, Office Hours) **2008**
Department of Mathematics, NC State University
 MA 341 - Differential Equations
- **Graduate TA/Recitation Leader** (Grading, Office Hours, Lead Recitation) **2007**
Department of Mathematics, NC State University
 MA 241 - Calculus II

ADVISING:

- Advise one mathematics student. 2016-Present
- Advisor for Gaming at Tech. 2018-Present
WVU Tech video game and board game club.
- Advisor for Golden Bear eSports. 2017-Present
WVU Tech competitive video game club.
- Advisor for Golden Bear Outdoor Expeditions. 2014-2017
WVU Tech outdoor activities club.

PROFESSIONAL DEVELOPMENT (TEACHING):

- **WV Higher Education Corequisite Mathematics Workshop** **May 15-16, 2017**
Higher Education Policy Commission, Charleston, WV
 Participated in the WV Higher Education Corequisite Mathematics Workshop to study ways to implement corequisite courses as a replacement for remedial courses.
- **Professorial Mentoring** **2011-2012**
Department of Mathematics, NC State University
 Working with a teaching mentor for two semesters. Observing the mentor as she teaches MA 225 - Foundations of Advanced Mathematics (introductory proof course) in the first semester. During the second semester will have full responsibility for a section of the same course.
- **Certificate of Accomplishment in Teaching (CoAT)** **2012**
The Graduate School, NC State University
 Have attended nine workshops over the last two years on various aspects of teaching, such as Teaching through Discussion and Effective Questioning Techniques, working toward the completion of a teaching portfolio.
- **Course Design** **2008**
Department of Mathematics, NC State University
 Advisor: Ernest Stitzinger
 As part of a NSF-Research Experience for Graduates (REG), designed an exploratory course designed for undergraduates with four other graduate students. This material has since been used in a special topics course and offers potential undergraduate research material. Completed *A Survey and Applications of Polynomials and Integers* (33 pages, unpublished).
- **Mathematics Teaching Assistant Workshop** **2007-2008**
Department of Mathematics, NC State University
 Participated in a series of discussion sessions and presentations both before and after first year as a graduate teaching assistant. Presented an undergraduate lesson before a panel of professors.

TEACHING AWARDS:

- **Excellence in Teaching Award** **2012-2013**
The National Society of Leadership and Success, WVU Tech
- **Certificate of Accomplishment in Teaching** **2007-2012**
The Graduate School, NC State University
- **Outstanding Teaching Assistant Award** **2010**
University Graduate Student Association, NC State University
- **Thank a Teacher Award** **2010**
Office of Faculty Development, NC State University

RESEARCH INTERESTS:

- Combinatorics, algebra, Lie algebra, Leibniz algebra, representation theory, number theory.

PUBLICATIONS:

- Bosko-Dunbar, L., J. Dunbar, J.T. Hird, K. Stagg Rovira. Minimal Nonnilpotent Leibniz Algebras. Submitted September 2017.
- Bosko-Dunbar, L., J. Dunbar, J.T. Hird, K. Stagg Rovira. Second-Maximal Subalgebras of Leibniz Algebras. Submitted August 2016.
- Bosko-Dunbar, L., M. Burke, J. Dunbar, J.T. Hird, K. Stagg Rovira. Solvable Leibniz algebras with abelian nilradicals. Rejected 2014, awaiting revision.
- Bosko-Dunbar, L., M. Burke, J. Dunbar, J.T. Hird, K. Stagg Rovira. Solvable Leibniz algebras with triangular nilradical. Submitted July 2014, rejected due to concurrent work by Karimjanov, Khudoyberdiyev, and Omirov.
- Bosko-Dunbar, L., J. Dunbar, J.T. Hird, K. Stagg. Solvable Leibniz algebras with Heisenberg nilradical, *Comm. Algebra*. 43, No. 6 (2015), 2272-2281.
- Batten Ray, C., A. Combs, N. Gin, A. Hedges, J.T. Hird, L. Zack. Nilpotent Lie and Leibniz algebras, *Comm. Algebra*. 42, No. 6 (2014), 2404-2410.
- Batten, C., L. Bosko-Dunbar, A. Hedges, J. Hird, K. Stagg, E. Stitzinger. A Frattini theory for Leibniz algebras, *Comm. Algebra*. 41, No. 4 (2013), 1547-1557.
- Hird, J., N. Jing, E. Stitzinger. Codes and shifted codes, *Internat. J. Algebra Comput.* 22, No. 6 (2012) 1250054.
- Bosko, L., A. Hedges, J. Hird, N. Schwartz, K. Stagg. Jacobson's refinement of Engel's theorem for Leibniz algebras, *Involve*. 4, No. 3 (2011), 293-296.
- Hird, J., N. Jing, E. Stitzinger. Codes and shifted codes of partitions, *Internat. J. Algebra Comput.* 21, No. 8 (2011) 1447-1462.

PRESENTATIONS:

- **Codes of Partitions and Compositions** January 7, 2012
Joint Mathematics Meetings
Hynes Convention Center, Boston, MA
- **Codes and Shifted Codes** September 24, 2011
AMS Fall Southeastern Section Meeting
Wake Forest University, Winston-Salem, NC
- **Codes and Shifted Codes of Partitions** April 4, 2011
Graduate Algebra Seminar
North Carolina State University, Raleigh, NC
- **Codes and Shifted Codes of Partitions** March 12, 2011
AMS Spring Southeastern Section Meeting
Georgia Southern University, Statesboro, GA

SELECT CONFERENCES ATTENDED:

- **AMS Southeastern Section Meeting**
North Carolina State University, Raleigh, NC November 12-13, 2016
Wake Forest University, Winston-Salem, NC September 24-25, 2011
Georgia Southern University, Statesboro, GA March 12-13, 2011
- **27th Cumberland Conference on Combinatorics, Graph Theory & Computing**
West Virginia University, Morgantown, WV May 16-17, 2014
- **Southeastern Lie Theory Workshop on Categorification of Quantum Groups and Representation Theory**
North Carolina State University, Raleigh, NC April 2012
- **Triangle Lectures In Combinatorics (TLC) Conference Series**
Duke University, Durham, NC February 11, 2012
University of North Carolina, Chapel Hill, NC November 5, 2011
NC State University, Raleigh, NC April 9, 2011
Duke University, Durham, NC September 25, 2010
NC State University, Raleigh, NC February 6, 2010
- **Joint Mathematics Meetings (JMM)**
Mathematical Association of America (MAA) and January 4-7, 2012
American Mathematical Society (AMS), Boston, MA
MAA and AMS, San Francisco, CA January 13-16, 2010
- **Second Sino-US Summer School and Workshop on Representation Theory**
South China University of Technology, Guangzhou, China June 28-July 8, 2011

- **US-China Summer School and Workshop on Representation Theory**
East China Normal University, Shanghai, China July 10-26, 2010
- **International Workshop of Quantized Algebra and Physics**
Chern Institute of Mathematics, Tianjin, China July 23-26, 2009
- **International Conference on Algebraic Groups, Quantum Groups and Related Topics**
Peking University, Beijing, China July 18-22, 2009

PROFESSIONAL ORGANIZATIONS:

- **American Mathematical Society (AMS):** member 2007-Present
- **American Society for Engineering Education (ASEE):** member 2014-Present