DR. ABHIK ROY

🎓 EDUCATION

2016

Western Michigan University
Ph.D. in Program Evaluation
📍 Kalamazoo, MI

Dissertation. Building an Evaluation Model of Academic Advising's Impact on Progression, Persistence, and Retention Within University Settings

2007

Michigan Technological University
M.S. in Mathematics
📍 Houghton, MI

Thesis. Quotient Rings of the Eisenstein Integers

2001

West Virginia Wesleyan College
B.S. in Mathematics
📍 Buckhannon, WV

Terminal Study. 4-Cell Embedding on a n-genus Torus

💼 PROFESSIONAL EXPERIENCE

Current | 2016

Assistant Professor
West Virginia University
📍 Morgantown, WV

- Advising masters and doctoral students.
- Evaluating various projects and grants.
- Submitting papers for peer review publications.
- Teaching evaluation and methods based classes with a focus on data science.
- Writing and enabling data pulls from APIs, creating visualizations, and building Shiny apps all within R.

2016 | 2014

Data Analyst
University of Kansas
📍 Lawrence, KS

- Created scripts to pull data from the organization's Oracle database.
- Prepared evaluation reports for various stakeholders.
- Led and presented findings from small and large scale qualitative, quantitative and mixed-methods studies.

📄 SELECT PUBLICATIONS

2021

There's So Much to Do and Not Enough Time to Do It! A Case for Sentiment Analysis to Derive Meaning From Open Text Using Student Reflections of Engineering Activities.
American Journal of Evaluation, 42 (4), 559–576.
Roy, A., & Rambo-Hernandez, K.E. https://doi.org/10.1177/1098214020962576

CONTACT INFORMATION

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📱 +1 269-615-8771

ⓘD 0000-0002-7085-8964

EXPERTISE

Data visualization

Content, cluster, and social network analysis

Modeling using statistics and machine learning

Text mining

Planning and conducting program evaluations

Designing and administering small- and large-scale surveys

Programming and analysis in Ⓡ **with markup using** $\LaTeX$

App development and dynamic reporting using

2020 — To design or to integrate? Instructional design versus technology integration in developing learning interventions.
Education Tech Research Dev 68, 2473–2504.
Kale, U., **Roy, A.** & Yuan, J. https://doi.org/10.1007/s11423-020-09771-8

2020 — Using Interactive Theater to Promote Inclusive Behaviors in Teams for First-year Engineering Students: A Sustainable Approach.
Development of A Holistic Cross-Disciplinary Project Course Experience as a Research Platform for the Professional Formation of Engineers.
Dey, K.C., & Rahman, M.T., & Pyrialakou, V.D., & Martinelli, D., & Rambo-Hernandez, K.E., & Fraustino, J.D., & Deskins, J., & Plein, L.C., & **Roy, A.R.** https://doi.org/10.18260/1-2--34446

2018 — General chemistry student attitudes and success with use of online homework: Traditional-Responsive versus Adaptive-Responsive.
Journal of Chemical Education, 95 (5), 691-699.
Richard-Babb, M., Curtis, R., Ratcliff, B., **Roy, A.R.**, & Mikalik, T. https://doi.org/10.1021/acs.jchemed.7b00829

2018 — To go virtual or not to go virtual, that is the question: A comparative study of face-to-face versus virtual laboratories in a physical science course.
Journal of College Science Teaching, 48 (2), 59-67.
Miller, T.A., Carver, J.S., & **Roy, A.R.** https://www.jstor.org/stable/26616271

2014 — Reasoning-and-proving in algebra: The case of two reform-oriented U.S. textbooks.
International Journal of Educational Research 64., 92-106
Davis, J.D., Smith, D.O., **Roy, A.R.**, & Bilgic, Y. K. https://doi.org/10.1016/j.ijer.2013.06.012

2012 — What's in a Scriven number?
Journal of MultiDisciplinary Evaluation, 8 (19), 41-45.
Roy, A.R., Hobson, K.A., & Coryn, C.L.S. https://journals.sfu.ca/jmde/index.php/jmde_1/article/view/372/358

📖 BOOK CHAPTERS

2014 — Social network analysis: Finding meaning in connections.
Nova Science Publishers, Inc.
Roy, A.R. 978-1-53612-734-8

📄 INVITED CONTRIBUTIONS

2012 — What is a Scriven number?
The American Evaluation Association Newsletter
Roy, A.R., Hobson, K.A., & Coryn, C.L.S.

⬤ ACTIVE GRANTS

2017

WVCTSI: West Virginia Clinical and Translational Science Institute
West Virginia University　　　　　　　　　　　　　　　　　　　　　　📍 Morgantown, WV
- Analyzing large data sets using frequentist and Bayesian methods.
- Conducting local and multi-site mutli-cluster evaluation studies.
- Developing/validating items and distributing customized Qualtrics surveys built with CSS and Javascript.
- Pulling, wrangling, and visualizing secondary data in R.
- Mentoring future graduate social data scientists.
- *$20,000,000*
- *2017-NIH 2U54GM104942-02*

⬤ INACTIVE GRANTS

2020

Appalachian Gerontology Experiences - Advancing Diversity in Aging Research
West Virginia University　　　　　　　　　　　　　　　　　　　　　　📍 Morgantown, WV
- Developing and distributing customized Qualtrics surveys built with CSS and Javascript.
- Performing various evaluative studies addressing program efficacy and engagement.
- *$678,000*
- *2020-1R25AG059558-01A1*

2020

Research Initiative: A Holistic Cross-Disciplinary Project Experience as a Platform to Advance the Professional Formation of Engineers
West Virginia University　　　　　　　　　　　　　　　　　　　　　　📍 Morgantown, WV
- Advising engineering faculty and graduate students on implementation of study methods.
- Conducting quantitative and qualitative studies on undergraduate student experiences within grant related programs.
- *$200,000*
- *2019-NSF-EEC 1927232*

2018
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2017

Stepping UP with Avenue: Progress Monitoring: A Software Suite Helping Teachers Improve Literacy Progress For Deaf/Hard Of Hearing Students
Pennsylvania State University　　　　　　　　　　　　　　　　　　　📍 State College, PA
- *$2,470,440*
- *2017-ED H327S170012*

2018
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2017

Cultivating Inclusive Identities of Engineers and Computer Scientists: Expanding Efforts to Infuse Inclusive Excellence in Undergraduate Curricula
West Virginia University　　　　　　　　　　　　　　　　　　　　　　📍 Morgantown, WV
- *$2,000,000*
- *2017-NSF 1725880*

2020
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2017

GAUSSI: Generating, Analyzing, and Understanding Sensory and Sequencing Information: A Trans-Disciplinary Graduate Training Program in Biosensing and Computational Biology
Colorado State University　　　　　　　　　　　　　　　　　　　　　📍 Fort Collins, CO
- *$3,013,779*
- *2017-NSF: NRT-DESE*

PRESENTATIONS

2022

Best of Both Worlds: Affordances of Mixing Machine Learning and Qualitative Content Analysis
American Educational Research Association Annual Meeting ◉ San Diego, CA
Roy, A.R., Ferguson, C.F., Curtis, R., & Babb-Richards, M.

2020

These Aren't Random Words Just Strung Together?: Using Machine Learning and Pretty Visualizations to Discover Topics in Articles.
American Evaluation Association Annual Conference ◉ *virtual*
Roy, A.R.

2019

Little Fish in a Big Pond, Only Fish in a Little Pond: How Roles Shape our Identities as Evaluators.
American Evaluation Association Annual Conference ◉ Minneapolis, MN
M, Loomis, D.L., Mikalik, T.L., Curtis, R., **Roy, A.R.**, & Bernstein, M.

2019

Evolving Program Logic Models to Meet Shifting Program Needs: The Case of WV Clinical Translational Science Institute.
American Evaluation Association Annual Conference ◉ Minneapolis, MN
Curtis, R., **Roy, A.R.**, Bernstein, M, Loomis, D.L., & Mikalik, T.L.

2019

The Value of External Evaluators When Building Clinical Translational Research Infrastructure.
American Evaluation Association Annual Conference ◉ Minneapolis, MN
Curtis, R., **Roy, A.R.**, Bernstein, M, Loomis, D.L., & Mikalik, T.L.

2019

Using Associated Networks to Evaluate Content within Courses.
American Evaluation Association Annual Conference ◉ Minneapolis, MN
Roy, A.R., Kale, U, & Yuan, J.

2019

Why Is It That Writers Write but Fingers Don't Fing? Using Machine Learning and Lexemes to Make Sense of Nonsense.
American Evaluation Association Annual Conference ◉ Minneapolis, MN
Roy, A.R., Curtis, R., Mikalik, T.L., Loomis, D.L., & Bernstein, M.

2019

Discovering the Underlying Meaning Behind Get Me Off Your F***ing Mailing List? and Most Other Narratives.
American Evaluation Association Annual Conference ◉ Minneapolis, MN
Roy, A.R., Curtis, R., Mikalik, T.L., Loomis, D.L., & Bernstein, M.

2019

Assessing for Improvement: The Use of Artificial Intelligence to Uncover Potential Differential Impact of Assignments.
American Evaluation Association Annual Conference ◉ Toronto, CN
Roy, A.R. & Rambo-Hernandez, K.

2018

That's a Pretty Picture of Dots and Lines but What Does it Mean?: A Q&A Session with the Social Network Analysis TIG Leaders.
American Evaluation Association Annual Conference ◉ Cleveland, OH
Roy, A.R., Durland, M.M., Woodland, R., & Phillips, G.

2018

Navigating Buy-in and Shifting Evaluation Needs Over Time in NIH Clinical Translational Research Award.
American Evaluation Association Annual Conference ◉ Cleveland, OH
Curtis, R., & **Roy, A.R.**, Mikalik, T.L.

2018 ● Using a Mixed Methods Evaluation to Discover How an Interactive Theater Based Model Stimulates Inclusive Behaviors in Engineering.
American Evaluation Association Annual Conference   ◉ Cleveland, OH
Roy, A.R., Rambo-Hernandez, K., Hensel, R.A., & Morris, M.L.

2018 ● Collaboration Evaluation: Using Social Network Analysis to Reveal an Active Undiscovered Network.
American Evaluation Association Annual Conference   ◉ Cleveland, OH
Roy, A.R., Curtis, R., & Mikalik, T.L.

2018 ● Examining the Past and Looking Forward: The Future of Evaluation Theory and Use.
American Evaluation Association Annual Conference   ◉ Cleveland, OH
Roy, A.R. & Hobson, K.A.

2017 ● Transforming Graduate STEM Education: A Theory-Driven Evaluation of the GAUSSI National Science Foundation Research Training (NRT) Program.
American Evaluation Association Annual Conference   ◉ Washington, DC
Roy, A.R., Hernandez, P.A., Chen, T., & Paguyo, C.

2017 ● Program Evaluation for Everyone! - Constructing an Online Foundational Course for Capacity Building using Theorists as a Focus.
American Evaluation Association Annual Conference   ◉ Washington, DC
Roy, A.R. & Curtis, R.P.

2017 ● Three Stages Down! Exploring the Criteria for the Next Generation of Evaluation Theorists through Social Network Analysis.
Hawaii-Pacific Evaluation Association Annual Conference   ◉ Kane'ohe, HI
Roy, A.R. & Hobson, K.A.

2017 ● Content in the Background: Using Evaluation Theorists as the Principal Motivator for Foundational Evaluation Courses.
Hawaii-Pacific Evaluation Association Annual Conference   ◉ Kane'ohe, HI
Roy, A.R. & Curtis, R.P.

2015 ● Survey Says! Students Getting Tired of Surveys.
National Academic Advising Association Annual Conference   ◉ Las Vegas, NV
Roy, A.R. & Goetz, H.L.

2013 ● Influences of Hierarchical Linear Modeling in Evaluation.
Aotearoa New Zealand Evaluation Association Annual Conference   ◉ Auckland, NZ
Roy, A.R. & Goetz, H.L.

2012 ● Survey sample methods: Evaluators' toolbox refreshment.
American Evaluation Association Annual Conference   ◉ Minneapolis, MN
Roy, A.R. & Hobson, K.A.

🖥 TEACHING EXPERIENCE IN EVALUATION AND METHODOLOGY (2016 -)

2020
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2018
● Data Visualization
West Virginia University   ◉ Morgantown, WV
2020, 2018

2017	Educational Psychology	
	West Virginia University	📍 Morgantown, WV
	2017	

2016	Educational Research	
	West Virginia University	📍 Morgantown, WV

2022 | 2016	Introduction to Research	
	West Virginia University	📍 Morgantown, WV
	2022, 2018, 2017, 2016	

2020 | 2018	Measurement/Evaluation in Educational Psychology	
	West Virginia University	📍 Morgantown, WV
	2022, 2020, 2018	

2019 | 2017	Mixing Research Methodologies	
	West Virginia University	📍 Morgantown, WV
	2022, 2019, 2018, 2017	

2022 | 2017	Program Evaluation	
	West Virginia University	📍 Morgantown, WV
	2022, 2021, 2020, 2019, 2018, 2017	

2021 | 2017	Social Network Analysis	
	West Virginia University	📍 Morgantown, WV
	2021, 2017	

2021 | 2017	Statistical Methods 1	
	West Virginia University	📍 Morgantown, WV
	2021, 2020, 2019, 2018, 2017	

2020 | 2022	Survey Design	
	West Virginia University	📍 Morgantown, WV
	2022, 2020	

🖥️ TEACHING EXPERIENCE IN MATHEMATICS (2005 - 2015)

2008	Business Calculus	
	Central Michigan University	📍 Mount Pleasant, MI

2009	College Algebra	
	Central Michigan University	📍 Mount Pleasant, MI

2012	Discrete Mathematics	
	Pittsburgh State University	📍 Pittsburgh, KS

2014	Elementary Statistics	
	Pittsburgh State University	📍 Pittsburgh, KS

2010 | 2009	Foundations of Statistics	
	Pittsburgh State University	📍 Pittsburgh, KS
	2009, 2010	

2008 | 2007	Intermediate Algebra	
	Central Michigan University	📍 Mount Pleasant, MI
	2007, 2008	
2007	Integral Calculus	
	Michigan Technological University	📍 Houghton, MI
2015 | 2014	Linear Algebra	
	University of Kansas	📍 Lawrence, KS
	2014, 2015	
2013	Mathematical Thinking Grades 6-12	
	Western Michigan University	📍 Kalamazoo, MI
2014 | 2013	Mathematics Curriculum Grades 6-12	
	Western Michigan University	📍 Kalamazoo, MI
	2013, 2014	
2005	Multivariable Calculus	
	Michigan Technological University	📍 Houghton, MI
2007 | 2006	Single Variable Calculus	
	Michigan Technological University	📍 Houghton, MI
	2006, 2007	

¶ SERVICE

2022 | 2013	Associate Editor
	Journal of MultiDisciplinary Evaluation

👥 MEMBERSHIPS

2022 | 2012	American Evaluation Association