

Gizem Karaali

Professor of Mathematics

February 9, 2024

## EDUCATION

**Ph.D. in Mathematics**, University of California at Berkeley 2004  
Dissertation: “ $r$ -matrices on Lie superalgebras” MR2706455  
(advisors: Nicolai Reshetikhin and Vera Serganova)  
**B.Sc. in Electrical Engineering** (with honors), Boğaziçi University, TURKEY 1997  
**B.Sc. in Mathematics** (with honors), Boğaziçi University, TURKEY 1997

## EMPLOYMENT

**Professor of Mathematics**, Pomona College 2019 – present  
**Associate Professor of Mathematics**, Pomona College 2012 – 2019  
**Assistant Professor of Mathematics**, Pomona College 2006 – 2012  
**Member, Extended Graduate Faculty**, Claremont Graduate University on and off since 2009  
**Visiting Scholar**, University of California at Santa Barbara 2004 – 2006  
**Graduate Student Instructor**, U.C. Berkeley 1998 – 2003

## FELLOWSHIPS AND GRANTS

*(internal grants not included)*

**Claremont Center for Teaching & Learning Faculty Fellow** 2023-2024  
Theme: “Generative AI”  
**SLMath Summer Research in Mathematics Program** Summer 2023  
**Humanities Studio 2022-2023 Faculty Fellow** 2022-2023  
Theme: “Human/Nature”  
**Intercollegiate Avery Faculty Exchange Program** 2019-2020  
Claremont Graduate University Avery Fellow 2019-2020  
School of Educational Studies - **NOT USED**  
**Humanities Studio 2018-2019 Faculty Fellow** 2018-2019  
Inaugural Theme: “Fail Better”  
**Wikipedia Fellow: General Academic Topics Cohort** Summer 2018  
Association for Women in Mathematics

- American Institute of Mathematics (AIM) Travel Grant and Honorarium** 2018  
 AIM / ICERM Workshop on Research Experiences for Undergraduate Faculty  
 Team leader  
 San Jose, CA
- Consortium on High Achievement and Success (CHAS) Faculty Grant** 2017  
 “Whose Math and For What Purpose?”  
 A Community Seminar on Identity, Culture, and Mathematics (Spring 2018)
- Director’s Mathematician in Residence (DMiR)** Summer 2017  
 Budapest Semesters in Mathematics  
 Budapest, Hungary
- Banff International Research Station (BIRS) Conference Grant** 2017  
 Algebraic Combinatorixx II Workshop  
 Banff, Alberta, Canada
- Association for Women in Mathematics (AWM) Travel Grant** 2017  
 BIRS Workshop on Algebraic Combinatorixx II  
 Banff, Alberta, Canada
- Institute for Pure and Applied Mathematics (IPAM) Core Program Membership** 2016  
 Spring 2016 Program in Cultural Analytics  
 Los Angeles, CA
- Banff International Research Station (BIRS) Conference Grant** 2016  
 Workshop on Creative Writing in Mathematics and Science  
 Banff, Alberta, Canada
- American Mathematical Society Child Care Grant** 2016  
 Joint Mathematics Meeting  
 Seattle, WA
- National Endowment for the Humanities (NEH) Enduring Questions Grant** 2014-2016  
*NEH Enduring Questions Course on the Aims and Value of Education*  
 Project Director
- American Mathematical Society / National Science Foundation Travel Grant** 2014  
 International Congress of Mathematicians  
 Seoul, South Korea
- Banff International Research Station (BIRS) Conference Grant** 2013  
 Workshop on Creative Writing in Mathematics and Science  
 Banff, Alberta, Canada

- American Institute of Mathematics** (AIM) Travel Grant and Honorarium 2013  
AIM / ICERM Workshop on Research Experiences for Undergraduate Faculty  
Team leader  
Providence, RI
- National Security Agency** (NSA) Young Investigator Award 2011-2013  
*Yang-Baxter equations, super quantum groups and generalized Hopf algebras*  
Principal Investigator
- Banff International Research Station** (BIRS) Conference Grant 2011  
Algebraic Combinatorixx Workshop  
Banff, Alberta, Canada
- American Institute of Mathematics** (AIM) Travel Grant 2010  
Workshop on Supercharacters and combinatorial Hopf algebras  
Palo Alto, CA
- Banff International Research Station** (BIRS) Conference Grant 2010  
Workshop on Creative Writing in Mathematics and Science  
Banff, Alberta, Canada
- Mathematical Sciences Research Institute** (MSRI) Research Membership 2009  
Fall 2009 Program in Tropical Geometry  
Berkeley, CA
- Mathematical Sciences Research Institute** (MSRI) Travel Grant 2009  
*Connections for Women* Workshop - Introduction to Fall 2009 program  
(Tropical Geometry)  
Berkeley, CA
- American Institute of Mathematics** (AIM) Conference & Travel Grant 2009  
Workshop on Research Experiences for Undergraduate Faculty  
Palo Alto, CA
- National Science Foundation** (NSF) Grant DMS-0755540 2008-2011  
Claremont Colleges Mathematics REU site  
Senior Personnel
- Institute for Mathematics and Education** (IME) Travel Grant 2008  
Workshop for Mathematicians in Mathematics Education (MIME)  
Tucson, AZ
- Mathematical Sciences Research Institute** (MSRI) Travel Grant 2008  
Workshop on Topics in Combinatorial Representation Theory  
Berkeley, CA

<b>Mathematical Sciences Research Institute</b> (MSRI) Travel Grant <i>Connections for Women</i> Workshop - Introduction to Spring 2008 programs (Combinatorial Representation Theory and Representations of Finite Groups) Berkeley, CA	2008
<b>BLAIS</b> Collaborative Grant <i>exploration / development of an Institute for Math and Science Education</i> Claremont, CA	2007–2008
<b>Centre de recherches mathématiques</b> (CRM) Travel Grant Workshop on Combinatorial Hopf Algebras and Macdonald Polynomials Montreal, Canada	2007
<b>American Institute of Mathematics</b> (AIM) Travel Grant Workshop on Buildings and Combinatorial Representation theory Palo Alto, CA	2007
<b>Association for Women in Mathematics</b> (AWM) Travel Grant Workshop for Women Graduate Students and Recent Ph.D.'s Joint Mathematics Meetings 2006, San Antonio, TX	2006
<b>Association for Women in Mathematics</b> (AWM) Travel Grant Workshop for Women Graduate Students and Recent Ph.D.'s Joint Mathematics Meetings 2004, Phoenix, AZ	2004
<b>Earle C. Anthony Fund</b> Partial Fellowship University of California, Berkeley	2002-2003
<b>NATO A-1</b> Doctoral Scholarship Sponsored by <b>TÜBİTAK</b> , Turkey	1997-2002
<b>Rafael Rodriguez Golden Age Scholarship</b> University of California, Berkeley	1997-1998

#### HONORS AND AWARDS

Women's History Month Honoree <b>Joint Committee on Women in the Mathematical Sciences</b>	March 2019
<b>American Mathematical Society</b> (AMS) Project NExT Fellow	2006-2007
Southern California-Nevada MAA Section Project NExT Fellow	2006-2007
<b>Mathematical Association of America</b> (MAA)	
Outstanding Graduate Student Instructor Award (campus-wide award) <b>U.C. Berkeley</b>	2001-2002

**Erdős Number:** 2 (Karaali — Diaconis — Erdős).

## PUBLICATIONS

COAUTHOR CONTRIBUTIONS EQUAL IF IN ALPHABETICAL ORDER.

### Book-length Manuscripts (authored or (co-)edited)

Karaali, G., Khadjavi, L., editors; *Mathematics for Social Justice: Focusing on Quantitative Reasoning and Statistics*, Classroom Resource Materials Volume **66**, MAA Press – an imprint of the American Mathematical Society, Washington DC, 2021. MR4390800

Book website: <https://bookstore.ams.org/clrm-66>

Karaali, G., Khadjavi, L., editors; *Mathematics for Social Justice: Resources for the College Classroom*, Classroom Resource Materials Volume **60**, MAA Press – an imprint of the American Mathematical Society, Washington DC, 2019. MR3967051

Book website: <https://bookstore.ams.org/clrm-60>

Barcelo, H., Karaali, G., Orellana, R., editors; *Recent Trends in Algebraic Combinatorics*, Association for Women in Mathematics Series Volume **16**, Springer Nature, Cham, 2019. MR3969569

Book website: <https://www.springer.com/gp/book/9783030051402>

Tunstall, L., Karaali, G., Piercey, V., editors; *Shifting Contexts, Stable Core: Advancing Quantitative Literacy in Higher Education*, MAA Notes **#88**, MAA Press – an imprint of the American Mathematical Society, Washington DC, 2019.

Book website: <http://maa.org/ebooks/NTE88>

### Book-length Manuscripts in Preparation

Karaali, G.; “Representation Theory: A Capstone Course”, textbook manuscript, in progress.

Karaali, G.; “Methods of Modern Mathematics: A Narrative Introduction to Analysis”, textbook manuscript, in progress.

### Theses and Dissertations

Karaali, G., *r-matrices on Lie superalgebras*, doctoral dissertation, University of California Berkeley 2004. MR2706455

Karaali, G.; *Detecting Surface Defects*, research paper (undergraduate thesis in Electrical Engineering), Boğaziçi University, 1996.

**Preprints and Articles Submitted for Peer Review**

Karaali, G., Senturia, I., Taşkin, M.; *A New Partial Order on SYT*, submitted for publication. arXiv version at: <https://arxiv.org/abs/2102.00116>

Aksoy, S., Azzam, A., Coppersmith, C., Glass, J., Karaali, G., Zhao, X., Zhu, X.; *School Choice as a One-Sided Matching Problem: Cardinal Utilities and Optimization*, preprint. Available on the electronic archives at <http://arxiv.org/abs/1304.7413>.

**Peer Reviewed Articles (published or accepted for publication)**

Karaali, G., *Whose Math and For What Purpose? A Community Seminar on Identity, Culture, and Mathematics*, PRIMUS: Problems, Resources, and Issues in Mathematics Undergraduate Studies, Volume **33** Issue 5 (2023), pages 569-601.

Alayont, F., Karaali, G., Pehlivan, L.; *Analysis of Calculus Textbook Problems via Bloom's Taxonomy*, PRIMUS: Problems, Resources, and Issues in Mathematics Undergraduate Studies, Volume **33** Issue 3 (2023), pages 203-218.

Garcia, S.R., Karaali, G., Katz, D.J.; *On Chebotarëv's nonvanishing minors theorem and the Biró–Meshulam–Tao discrete uncertainty principle*, Journal of Algebra, Volume **586**, 15 November 2021, pages 899-934. doi:10.1016/j.jalgebra.2021.07.017 MR4295967

Davis, T., Grimley, L., İnce, K., Karaali, G., Kostadinov, B., Soto, R.; *From Puzzles to Proof-writing: Exploring Rich Mathematical Ideas through Mechanical Puzzles, Teaching Mathematics Through Games*, edited by Mindy Capaldi (Classroom Resource Materials Volume **65**, MAA Press, American Mathematical Society, 2021), pages 97–112.

Bäck, P., Karaali, G.; *The Algebra Detective: If Snape Is a Snake, Then  $P = K!$* , Frontiers for Young Minds, 8: 524026 (2020). Available at <https://kids.frontiersin.org/article/10.3389/frym.2020.524026>.

Karaali, G., Uehara, S.; *Beauty Beyond Perfection: Aesthetic Values in Japanese Art Resonant with Mathematics*, in *Proceedings of Bridges 2020: Mathematics, Music, Art, Architecture, Culture*. edited by Carolyn Yackel, Eve Torrence, Kristóf Fenyvesi, Robert Bosch and Craig S. Kaplan (Tessellations Publishing, Phoenix, 2020), pages 467-470. Available at <http://archive.bridgesmathart.org/2020/bridges2020-467.html>.

Karaali, G., Yih, S.; *The Magic of the Number Three: Three Explanatory Proofs in Abstract Algebra*, PRIMUS: Problems, Resources, and Issues in Mathematics Undergraduate Studies, Volume **30** Issue 7 (July 2020), pages 762-776.

Karaali, G., Vacher, H.L.; *On “Animals”, QL Converts, and Transfer: An Interview*,<sup>1</sup> *Journal of Humanistic Mathematics*, Volume **10** Issue 1 (January 2020), pages 431–457. Available at <https://scholarship.claremont.edu/jhm/vol10/iss1/24>. MR4060616

Karaali, G.; “Emotional Labor in Mathematics: Reflections on Mathematical Communities, Mentoring Structures, and EDGE”, in *A Celebration of the EDGE Program’s Impact on the Mathematics Community and Beyond*, edited by Sarah Bryant, Amy Buchmann, Susan D’Agostino, Michelle Craddock Guinn, Leona Harris (Association for Women in Mathematics Series Volume **18**, Springer Nature, Cham, 2019), pages 129–145. MR4061886

Glass, J., Karaali, G.; *Matching Kids to Schools: The School Choice Problem*, in *Mathematics for Social Justice: Resources for the College Classroom*, edited by Karaali, G., Khadjavi, L. (Classroom Resource Materials Volume **60**, MAA Press, American Mathematical Society, 2019), pages 155–170.

Tunstall, S.L., Karaali, G., Piercey, V.; *Introducing MAA Notes #88: Shifting Contexts, Stable Core: Advancing Quantitative Literacy in Higher Education*, Numeracy (Journal of the National Numeracy Network), Volume **12** Issue 2 (July 2019), Article 13. doi:10.5038/1936-4660.12.2.13

Karaali, G., Khadjavi, L.; *Unnatural Disasters: Two Calculus Projects for Instructors Teaching Mathematics for Social Justice*, PRIMUS: Problems, Resources, and Issues in Mathematics Undergraduate Studies, Volume **29** Issue 3-4 (June 2019), pages 312–327. Republished as Chapter 7 (pages 107–122) of *Mathematics for Social Justice*, edited By Catherine A. Buell and Bonnie Shulman (Routledge, 2021).

Karaali, G.; *On Animals, QL Converts, and Transfer: An Interview with Len Vacher*, in *Shifting Contexts, Stable Core: Advancing Quantitative Literacy in Higher Education*, edited by Tunstall, L., Karaali, G., Piercey, V. (MAA Notes #88, MAA Press – an imprint of the American Mathematical Society, Washington DC, 2019), pages 225–237.

Gangl, H., Karaali, G., Lee, W.; *Homophonic Quotients of Linguistic Free Groups: German, Korean, and Turkish*, *Involve, A Journal of Mathematics*, Volume **12** Issue 3 (2019), pages 463–474. doi:10.2140/involve.2019.12.463 MR3905341

Karaali, G.; *On Grades and Instructor Identity: How Formative Assessment Saved me from a Midlife Crisis*, PRIMUS: Problems, Resources, and Issues in Mathematics Undergraduate Studies, Volume **28** Issue 9 (December 2018), pages 848–874.

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<sup>1</sup> This is a revised and updated version of *On Animals, QL Converts, and Transfer: An Interview with Len Vacher*, published in *Shifting Contexts, Stable Core: Advancing Quantitative Literacy in Higher Education*, edited by L. Tunstall, G. Karaali, and V. Piercey (MAA Notes #88, MAA Press – an imprint of the American Mathematical Society, Washington DC, 2019), pages 225–237.

Karaali, G.; *An “Unreasonable” Component to a Reasonable Course: Readings for a Transitional Class*, in *Using the Philosophy of Mathematics in Teaching Undergraduate Mathematics*, edited by Bonnie Gold, Carl Behrens, and Roger Simons (Mathematical Association of America, Washington DC, 2017), pages 107–118.

Karaali, G., Villafane Hernandez, Edwin H., and Taylor, Jeremy A.; *What’s in a Name? A Critical Review of Quantitative Literacy, Numeracy, and Quantitative Reasoning*, Numeracy (Journal of the National Numeracy Network), Volume **9** Issue 1 (January 2016), Article 6. doi:10.5038/1936-4660.9.1.2

Karaali, G.; *A Humanistic Reading Component for an Introduction-to-Proofs Course*, in *Beyond Lecture: Techniques to Improve Student Proof-Writing Across the Curriculum*, edited by Rachel Schwell, Aliza Steurer, and Jennifer Franko Vasquez (Mathematical Association of America, Washington DC, 2016), pages 123-133.

Aksoy, S., Azzam, A., Coppersmith, C., Glass, J., Karaali, G., Zhao, X., Zhu, X.; *Coalitions and Cliques in the School Choice Problem*, *Involve, A Journal of Mathematics*, Volume **8** Issue 5 (October 2015), pages 801–823. MR3404659

Karaali, G.; *Metacognition in the Classroom: Motivation and Self-Awareness of Mathematics Learners*, PRIMUS: Problems, Resources, and Issues in Mathematics Undergraduate Studies, Volume **25** Issue 5 (May 2015), pages 439–452.

Brumbaugh, J.L., Bulkow, M., Fleming, P.S., Garcia, L.A., Garcia, S.R., Karaali, G., Michal, M., Turner, A.P., Suh, H.; *Supercharacters, exponential sums, and the uncertainty principle*, *Journal of Number Theory*, Volume **144** (November 2014), pages 151–175. MR3239156

Fowler, C.F., Garcia, S.R., Karaali, G.; *Ramanujan sums as supercharacters*, *Ramanujan Journal*, Volume **35** Issue 2 (November 2014), pages 205–241. MR3266478

Karaali, G.; *Can Zombies Write Mathematical Poetry? Mathematical poetry as a model for humanistic mathematics*, *Journal of Mathematics and the Arts*, Volume **8** Issue 1-2 (2014), pages 38–45.

Karaali, G.; *The Genius as a Characterization of the Creative Spirit in Mathematics and the Arts*, in *Proceedings of Bridges 2014: Mathematics, Music, Art, Architecture, Culture*, edited by Gary Greenfield, George Hart, and Reza Sarhangi (Tessellations Publishing, Phoenix, 2014), pages 413–416. Available at <http://archive.bridgesmathart.org/2014/bridges2014-413.html>.



Karaali, G.; *The Brave New World of Open Access & Creative Commons: a Humanistic Experiment in Mathematical Publishing*, Proceedings of the 2013 AMS Special Session on Topics and Issues in Electronic Publishing, EMIS Collections and Conference Proceedings FIZ KARLSRUHE, pages 11–31. Available at <https://www.emis.de/proceedings/TIEP2013/02karaali.pdf>.

Aguiar, M., André, C., Benedetti, C., Bergeron, N., Chen, Z., Diaconis, P., Hendrickson, A., Hsiao, S. K., Isaacs, I. M., Jedwab, A., Johnson, K., Karaali, G., Lauve, A., Le, T., Lewis, S., Li, H., Magaard, K., Marberg, E., Novelli, J-C., Pang, A., Saliola, F., Tevlin, L., Thibon, J-Y., Thiem, N., Venkateswaran, V., Vinroot, C. R., Yan, N., Zabrocki, M.; *Supercharacters, symmetric functions in noncommuting variables, and related Hopf algebras*, Advances in Mathematics, Volume **229** Issue 4 (1 March 2012), pages 2310–2337. MR2880223

Aksoy, S., Azzam, A., Coppersmith, C., Glass, J., Karaali, G., Zhao, X., Zhu, X.; *A Cost-Minimizing Algorithm for School Choice*, ISAIM 2012 (International Symposium on Artificial Intelligence and Mathematics, Fort Lauderdale, Florida, USA, January 9-11, 2012) Proceedings, 2012. Available at <https://www.cs.uic.edu/bin/view/Isaim2012/AcceptedPapers>.

Karaali, G.; *On the quantization of zero-weight super dynamical  $r$ -matrices*, Proceedings of the American Mathematical Society, Volume **140** Issue 1 (January 2012), pages 7–20. MR2833513

Hsiao, S.K., Karaali, G.; *Multigraded combinatorial Hopf algebras and refinements of odd and even subalgebras*, Journal of Algebraic Combinatorics, Volume **34** Number 3 (November 2011), pages 451–506. MR2836370

Karaali, G.; *An Evaluative Calculus Project: Applying Bloom’s Taxonomy to the Calculus Classroom*, PRIMUS: Problems, Resources, and Issues in Mathematics Undergraduate Studies, Volume **21** Issue 8 (November 2011), pages 719–731.

Aguiar, M., André, C., Benedetti, C., Bergeron, N., Chen, Z., Diaconis, P., Hendrickson, A., Hsiao, S. K., Isaacs, I. M., Jedwab, A., Johnson, K., Karaali, G., Lauve, A., Le, T., Lewis, S., Li, H., Magaard, K., Marberg, E., Novelli, J-C., Pang, A., Saliola, F., Tevlin, L., Thibon, J-Y., Thiem, N., Venkateswaran, V., Vinroot, C. R., Yan, N., Zabrocki, M.; “Supercharacters, symmetric functions in noncommuting variables (extended abstract)” DMTCS Proceedings (FPSAC 2011 Reykjavik, Iceland), **AO**, 2011, 3–14.

Fleming, P.S., Garcia, S.R., Karaali, G.; *Classical Kloosterman sums: representation theory, magic squares, and Ramanujan multigraphs*, Journal of Number Theory, Volume **131** Issue 4 (April 2011), pages 661–680. MR2753270

Karaali, G., Choi, P. I., Owsley Sood, S., Grosfils. E. B.; *Envisioning a Quantitative Studies Center: A Liberal Arts Perspective*, Numeracy (Journal of the National Numeracy Network), Volume **3** Issue 1 (January 2010), Article 4. Available online at <http://services.bepress.com/numeracy/vol3/iss1/art4>

Karaali, G., Yoshiwara, B.; *Life After Wolfram|Alpha: What You (and Your Students) Need to Know*, Loci, Volume **2** (January 2010). doi:10.4169/loci003365

Buhl, G., Karaali, G.; *Spanning sets for Moebius vertex algebras satisfying arbitrary difference conditions*, Journal of Algebra, Volume **320** Number 8 (15 October 2008), pages 3345–3364. MR2450731

Karaali, G.; *On Hopf Algebras and Their Generalizations*, Communications in Algebra, Volume **36** Number 12 (December 2008), pages 4341–4367. MR2473333

Karaali, G.; *Word problems: Reflections on embedding quantitative literacy in a calculus course*, Numeracy (Journal of the National Numeracy Network), Volume **1** Issue 2 (July 2008), Article 6. Available at <http://services.bepress.com/numeracy/vol1/iss2/art6>

Karaali, G.; *Dynamical Quantum Groups - The Super Story*, in *Hopf algebras and generalizations*, edited by Louis H. Kauffman, David E. Radford, and Fernando J. O. Souza (Contemporary Mathematics **441**, American Mathematical Society, Providence, RI, 2007), pages 19–52. MR2381534

Karaali, G.; *Super Solutions of the Dynamical Yang-Baxter Equation*, Proceedings of the American Mathematical Society, Volume **134** Number 9 (September 2006), pages 2521–2531. MR2213729

Karaali, G.; *A New Lie Bialgebra Structure on  $sl(2, 1)$* , in *Representations of algebraic groups, quantum groups, and Lie algebras*, edited by Georgia Benkart, Jens C. Jantzen, Zongzhu Lin, Daniel K. Nakano, and Brian J. Parshall (Contemporary Mathematics **413**, American Mathematical Society, Providence, RI, 2006), pages 101–122. MR2262367

Karaali, G.; *Constructing  $r$ -matrices on Simple Lie Superalgebras*, Journal of Algebra, Volume **282** Number 1 (1 December 2004), pages 83–102. MR2095573

## Editorials

Huber, M., Karaali, G.; *Our Histories, Our Values, Our Mathematics*, editorial, Journal of Humanistic Mathematics, Volume **14** Issue 1 (January 2024), pages 1–3. Available at <http://scholarship.claremont.edu/jhm/vol14/iss1/2/>.

Huber, M., Karaali, G.; *Mathematics and Society*, editorial, *Journal of Humanistic Mathematics*, Volume **13** Issue 2 (July 2023), pages 1–3. Available at <http://scholarship.claremont.edu/jhm/vol13/iss2/2/>.

Huber, M., Karaali, G.; *Where Does Mathematics Come From? Really, Where?*, editorial, *Journal of Humanistic Mathematics*, Volume **13** Issue 1 (January 2023), pages 1–3. Available at <http://scholarship.claremont.edu/jhm/vol13/iss1/2/>.

Karaali, G.; *Artificial Intelligence, Basic Skills, and Quantitative Literacy*, editorial, *Numeracy*, Volume **16** Issue 1 (January 2023), Article 9. Available at <http://scholarcommons.usf.edu/numeracy/vol16/iss1/art9>.

Huber, M., Karaali, G.; *Doughnuts and Ice Cream Cones: Sweet Mathematics*, editorial, *Journal of Humanistic Mathematics*, Volume **12** Issue 2 (July 2022), pages 1–2. Available at <http://scholarship.claremont.edu/jhm/vol12/iss2/2/>.

Grawe, N.D., Karaali, G.; *Talking About Statistical Significance in Numeracy*, editorial, *Numeracy*, Volume **15** Issue 2 (July 2022), Article 8. Available at <http://scholarcommons.usf.edu/numeracy/vol15/iss2/art8>.

Huber, M., Karaali, G.; *Seeing Mathematics and Seeing Mathematicians*, editorial, *Journal of Humanistic Mathematics*, Volume **12** Issue 1 (January 2022), pages 1–3. Available at <http://scholarship.claremont.edu/jhm/vol12/iss1/2/>.

Huber, M., Karaali, G.; *Seeing Mathematics in the World*, editorial, *Journal of Humanistic Mathematics*, Volume **11** Issue 2 (July 2021), pages 1–4. Available at <http://scholarship.claremont.edu/jhm/vol11/iss2/2/>.

Karaali, G., Sriraman, B.; “Mathematics, Humanities and the Language Arts: An Introduction”, editorial introduction to the section on Mathematics, Humanities and the Language Arts, pages 961-964 in *Handbook of the Mathematics of the Arts and Sciences*, edited by Bharath Sriraman, Springer, Cham, 2021. Available at [https://link.springer.com/referenceworkentry/10.1007/978-3-319-70658-0\\_144-1](https://link.springer.com/referenceworkentry/10.1007/978-3-319-70658-0_144-1).

Huber, M., Karaali, G.; *You Can Always Count on Word Problems*, editorial, *Journal of Humanistic Mathematics*, Volume **11** Issue 1 (January 2021), pages 1–3. Available at <http://scholarship.claremont.edu/jhm/vol11/iss1/2/>.

Huber, M., Karaali, G.; *A World of Creativity*, editorial, *Journal of Humanistic Mathematics*, Volume **10** Issue 2 (July 2020), pages 1–2. Available at <http://scholarship.claremont.edu/jhm/vol10/iss2/2/>.

Karaali, G.; *Quantitative Literacy: A Tool for Survival*, editorial, *Numeracy*, Volume **13** Issue 2 (July 2020), Article 5. Available at <http://scholarcommons.usf.edu/numeracy/vol13/iss2/art5>.

Huber, M., Karaali, G.; *Starting Our Decennial*, editorial, *Journal of Humanistic Mathematics*, Volume **10** Issue 1 (January 2020), pages 1–3. Available at <http://scholarship.claremont.edu/jhm/vol10/iss1/2/>.

Karaali, G., Khadjavi, L.S.; *An Invitation to Mathematics for Social Justice*, editorial introduction to *Mathematics for Social Justice: Resources for the College Classroom*, edited by G. Karaali and L.S. Khadjavi (Classroom Resource Materials Volume **60**, MAA Press – an imprint of the American Mathematical Society, Washington DC, 2019), pages 3–12. Available at <https://www.ams.org/bookstore/pspdf/clrm-60-prev.pdf>

Huber, M., Karaali, G.; *Anschaulich: Visualization, Imagination, Mathematics*, editorial, *Journal of Humanistic Mathematics*, Volume **9** Issue 2 (July 2019), pages 1–3. Available at <http://scholarship.claremont.edu/jhm/vol9/iss2/2/>.

Tunstall, L. Karaali, G., Piercey, V.; *Opening Remarks*, editorial introduction to *Shifting Contexts, Stable Core: Advancing Quantitative Literacy in Higher Education*, edited by L. Tunstall, G. Karaali, and V. Piercey (MAA Notes #**88**, MAA Press – an imprint of the American Mathematical Society, Washington DC, 2019), pages xv–xviii.

Huber, M., Karaali, G.; *Finding Direction, Finding Inspiration*, editorial, *Journal of Humanistic Mathematics*, Volume **9** Issue 1 (January 2019), pages 1–2. Available at <http://scholarship.claremont.edu/jhm/vol9/iss1/2/>.

Huber, M., Karaali, G.; *How to Wear More than One Hat Well*, editorial, *Journal of Humanistic Mathematics*, Volume **8** Issue 2 (July 2018), page 1. Available at <http://scholarship.claremont.edu/jhm/vol8/iss2/2/>.

Huber, M., Karaali, G.; *Communicating Mathematics Across Time*, editorial, *Journal of Humanistic Mathematics*, Volume **8** Issue 1 (January 2018), pages 1–2. Available at <http://scholarship.claremont.edu/jhm/vol8/iss1/2/>.

Huber, M., Karaali, G.; *Words, Words, Words*, editorial, *Journal of Humanistic Mathematics*, Volume **7** Issue 2 (July 2017), pages 1–3. Available at <http://scholarship.claremont.edu/jhm/vol7/iss2/2/>.

Huber, M., Karaali, G.; *Mathematical Identities*, editorial, *Journal of Humanistic Mathematics*, Volume **7** Issue 1 (January 2017), pages 1–2. Available at <http://scholarship.claremont.edu/jhm/vol7/iss1/2/>.

Huber, M., Karaali, G.; *Connections*, editorial, Journal of Humanistic Mathematics, Volume 6 Issue 2 (July 2016), pages 1–2. Available at <http://scholarship.claremont.edu/jhm/vol6/iss2/2/>.

Huber, M., Karaali, G.; *Not just in the eye of the beholder*, editorial, Journal of Humanistic Mathematics, Volume 6 Issue 1 (January 2016), pages 1–2. Available at <http://scholarship.claremont.edu/jhm/vol6/iss1/2/>.

Huber, M., Karaali, G.; *Inspiring Mathematical Experiences*, editorial, Journal of Humanistic Mathematics, Volume 5 Issue 2 (July 2015), pages 1–2. Available at <http://scholarship.claremont.edu/jhm/vol5/iss2/2/>.

Huber, M., Karaali, G.; *A Mathematician's Choice*, editorial, Journal of Humanistic Mathematics, Volume 5 Issue 1 (January 2015), pages 1–2. Available at <http://scholarship.claremont.edu/jhm/vol5/iss1/2/>.

Huber, M., Karaali, G.; *Mathematical Perspectives*, editorial, Journal of Humanistic Mathematics, Volume 4 Issue 2 (July 2014), pages 1–2. Available at <http://scholarship.claremont.edu/jhm/vol4/iss2/2/>.

Huber, M., Karaali, G.; *Turn! Turn! Turn!*, editorial, Journal of Humanistic Mathematics, Volume 4 Issue 1 (January 2014), page 1. Available at <http://scholarship.claremont.edu/jhm/vol4/iss1/2/>.

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*Elements of the Representation Theory of Associative Algebras 3: Representation-Infinite Tilted Algebras* by Daniel Simson and Andrzej Skowronski (September 2008)

*Geometric Algebra for Physicists* by Chris Doran and Anthony Lasenby (July 2008)

*Elements of the Representation Theory of Associative Algebras II: Tubes and Concealed Algebras of Euclidean Type* by Daniel Simson and Andrej Skowronski (April 2008)

*A (Terse) Introduction to Linear Algebra* by Yitzhak Katznelson and Yonatan R. Katznelson (March 2008)

*Vector Calculus, Linear Algebra, and Differential Forms: A Unified Approach* by John H. Hubbard and Barbara Burke Hubbard (December 2007)

*Projective and Cayley-Klein Geometries* by Arkady L. Onishchik and Rolf Sulanke (November 2007)

*Modern Geometric Structures and Fields* by Sergei P. Novikov and Iskander A. Taimanov (August 2007)

*Mathematics and Culture IV and V* edited by Michele Emmer (May 2007)

*Spaces of Constant Curvature* by Joseph A. Wolf (March 2007)

*Invariant Subspaces of Matrices with Applications* by Israel Gohberg, Peter Lancaster and Leiba Rodman (January 2007)

*Elements of the Representation Theory of Associative Algebras I: Techniques of Representation Theory* by Ibrahim Assem, Daniel Simson and Andrej Skowonski (December 2006)

*Calculus: Single Variable* by Brian E. Blank and Steven G. Krantz (October 2006)

*Calculus: Multivariable* by Brian E. Blank and Steven G. Krantz (July 2006)

*Actions and Invariants of Algebraic Groups* by Walter Ferrer Santos and Alvaro Rittatore (May, 2006)

*Signal Processing: A Mathematical Approach* by Charles L. Byrne (April, 2006)

*Lie Groups, Lie Algebras, and Representations: An Elementary Introduction* by Brian C. Hall (January 2006)

*The Nuts and Bolts of Proofs* by Antonella Cupillari (November 2005)

*Using Algebraic Geometry* by David A. Cox, John Little, and Donald O’Shea (September 2005)

*Visual Linear Algebra: With Maple and Mathematica Tutorials* by Eugene A. Herman and Michael D. Pepe (August 2005)

*Computers, Rigidity, and Moduli: The Large-Scale Fractal Geometry of Riemannian Moduli Space* by Shmuel Weinberger (May 2005)

*The Nature and Power of Mathematics* by Donald M. Davis (March 2005)

## PROFESSIONAL PRESENTATIONS

### SEMINAR, COLLOQUIUM, CONFERENCE, AND WORKSHOP TALKS<sup>3</sup>

UPCOMING: “*Can Zombies Do Math? OR Humanism as a Philosophy of Mathematics*”; Mathematics Department Colloquium, Ferris State University; Big Rapids, MI (02/2024)

“*Languages, Alphabets, and Group Theory*”, The 23<sup>rd</sup> Annual Kenneth C. Schraut Memorial Lecture, Undergraduate Mathematics Day 2023, Dayton, OH; (11/2023)

“*Math . . . with a Conscience?*”, San Marcos Informal Mathematics In-person Colloquium, San Marcos, CA; (4/2023)

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<sup>3</sup>This list excludes seminar, colloquium, conference, and workshop talks that focus on pedagogy and mathematics education; those are listed separately in what follows.

“*A Quick Introduction to Quantum Groups*”, Lie Algebras with Applications to Mathematical Physics (LAAMP) Seminar, Claremont, CA; (2/2023)

“*Partial Orders on Standard Young Tableaux*”, virtual talk at the Claremont Center for the Mathematical Sciences (CCMS) Algebra-Number Theory-Combinatorics Seminar, Claremont, CA; (11/2022)

“*The Making of a Mathematician: Personal and Professional Growth Through Writing*”, virtual talk at the AWM Special Session on Mathematics in the Literary Arts and Pedagogy in Creative Settings, (Joint Mathematics Meeting JMM 2022), Seattle, WA; (04/2022)

“*Explanatory Proofs in Abstract Algebra: Explaining the Magic of the Number 3*”, virtual talk at the AMS Special Session on Research in Mathematics by Undergraduates, 2021 Fall Southeastern Sectional Meeting (formerly at the University of South Alabama); (11/2021)

“*The Magic of the Number Three: Three Explanatory Proofs in Abstract Algebra*”, virtual talk at the Claremont Center for the Mathematical Sciences (CCMS) Algebra-Number Theory-Combinatorics Seminar, Claremont, CA; (09/2021)

“*Languages, Alphabets, and Group Theory*”, virtual talk at the Algebra / Number Theory / Discrete Math Seminar, California State University Northridge, CA; (04/2021)

“*What Did Ada Do? Digging into the Mathematical Work of Augusta Ada Byron King Lovelace*”, Claremont Center for the Mathematical Sciences (CCMS) Algebra-Number Theory-Combinatorics Seminar, Claremont, CA; (04/2019)

“*Toward a Theory of Super Quantum Groups: Classical Yang Baxter Equations in the Super Context*”, AMS Special Session on Representations of Lie Algebras, Algebraic Groups, and Quantum Groups, AMS Spring Southeastern Sectional Meeting, Auburn, AL; (03/2019)

“*Defining Ada: On The Legacy of Augusta Ada Byron King Lovelace*”; Claremont Center for the Mathematical Sciences Colloquium; Claremont, CA (12/2018)

“*Lights Out! and Other Mechanical Puzzles: Fun Ways to Enter Research With Students*”, Research Experiences for Undergraduate Faculty (REUF 2018), American Institute for Mathematics (AIM), San Jose, CA; (06/2018)

“*Humanistic Mathematics*”, Research Experiences for Undergraduate Faculty (REUF 2018), American Institute for Mathematics (AIM), San Jose, CA; (06/2018)

“*Defining Ada: On The Legacy of Augusta Ada Byron King Lovelace*”; Claremont History and Philosophy of Mathematics Seminar; Claremont, CA (04/2018)

“*Languages, Alphabets, and Group Theory (OR a Group-Theoretic Example of the Unreasonable Effectiveness of Mathematics)*”; Undergraduate Mathematics Colloquium, University of North Texas; Denton, TX (02/2018)

“*Can Zombies Do Math? OR Humanism as a Philosophy of Mathematics*”; Millican Colloquium, University of North Texas; Denton, TX (02/2018)

“*Ada’s Poetic Science: Correspondences of Ada Lovelace and Charles Babbage*”; AMS Special Session on History of Mathematics, (Joint Mathematics Meeting JMM 2018), San Diego, CA; (01/2018)

“*Can Zombies Do Math? OR Humanism as a Philosophy of Mathematics*”; Budapest Semesters in Mathematics Colloquium; Budapest, HUNGARY (06/2017)

“*Can Zombies Do Math? OR Humanism as a Philosophy of Mathematics*”; California Polytechnic University San Luis Obispo Colloquium and AWM Student Chapter Talk; San Luis Obispo, CA (05/2017)

“*Can Zombies Do Math? OR Humanism as a Philosophy of Mathematics*”; CMC<sup>3</sup> Recreational Math Conference; Lake Tahoe, CA (04/2017)

“*Supercharacters and their Superpowers*”; Discrete Mathematics Seminar, University of British Columbia; Vancouver, BC; (10/2016)

“*Languages, Alphabets, and Group Theory*”; Claremont Center for the Mathematical Sciences (CCMS) Algebra-Number Theory-Combinatorics Seminar, Claremont, CA; (04/2016)

“*Can Zombies Do Math? OR Humanism as a Philosophy of Mathematics*”; California State University San Bernardino Mathematics Colloquium; (02/2016)

“*Can Zombies Write Mathematical Poetry? Mathematical poetry as a model for humanistic mathematics*”; AMS Special Session on Humanistic Mathematics, AMS Fall Western Sectional Meeting, Fullerton, CA; (10/2015)

“*Can Zombies Write Mathematical Poetry? Mathematical poetry as a model for humanistic mathematics*”; Bridges 2015 Mathematics and the Arts Conference, Baltimore, MD; (08/2015)

“*Can Zombies Do Math? OR Humanism as a Philosophy of Mathematics*”; University of California Irvine Undergraduate Mathematics Colloquium; (05/2015)

“*Can Zombies Do Math? OR Humanism as a Philosophy of Mathematics*”; University of California Riverside AWM Chapter & Math Club Colloquium; (05/2015)

“*Can Zombies Do Math? OR Humanism as a Philosophy of Mathematics*”; Claremont Center for the Mathematical Sciences Colloquium; (02/2015)

“*School Choice as a One-Sided Matching Problem: Cardinal Utilities and Optimization*”; AMS Special Session on Graphs, matrices, and other related problems, (Joint Mathematics Meeting JMM 2015), San Antonio, TX; (01/2015)

“*Quantization and superization: Making new stars from old moons*”; International Congress for Mathematicians, Seoul, South Korea; (08/2014)

“*Supercharacters and their Superpowers*”; 6<sup>TH</sup> Annual Women in Mathematics Symposium, Riverside, CA; (10/2013)

“*Supercharacters and Exponential Sums*”; AMS Special Session on Combinatorial Avenues in Representation Theory, (Spring Western Sectional Meeting of the American Mathematical Society #1089), Boulder, CO; (04/2013)

“*How HOT is your geometry? A Tropical Excursion*”; Claremont Center for the Mathematical Sciences Algebra-Number Theory-Combinatorics Seminar; (02/2013)

“*Quantization and Superization*”; AWM (Association of Women in Mathematics) Speaker Series, University of California San Diego; La Jolla, CA; (05/2012)

“*Supercharacters and their Superpowers*”, Claremont Center for the Mathematical Sciences (CCMS) Algebra-Number Theory-Combinatorics Seminar, Claremont, CA; (04/2012)

“*A Cost-Minimizing Algorithm for School Choice*”, Special Session on Computational Social Choice, International Symposium on Artificial Intelligence and Mathematics (ISAIM 2012), January 9-11, 2012, Fort Lauderdale, FL; (01/2012)

“*Constructing Integrable Systems From Graded Classical  $r$ -Matrices*”, AMS Special Session on Mathematical Principles and Theories of Integrable Systems, (Joint Mathematics Meeting JMM 2012), Boston, MA; (01/2012)

“*Coalitions and Cliques in the School Choice Problem*”, AMS Special Session on the Mathematics of Decisions, Elections, and Games, (Joint Mathematics Meeting JMM 2012), Boston, MA; (01/2012)

“*Quantization and Superization*”; California State University San Bernardino Mathematics Colloquium; (10/2011)

“*Quantization and Superization*”; Claremont Center for the Mathematical Sciences Colloquium; (09/2011)

“*Solving the Yang-Baxter equations over Lie superalgebras*”, Seventh International Conference on Quantum Theory and Symmetries (QTS-7), Prague, Czech Republic; (08/2011)

“*Quantization and Superization*”; California State University Dominguez Hills Mathematics Colloquium; (04/2011)

“*How HOT is your geometry? A Tropical Excursion*”; Fullerton College Mathematics Colloquium; (03/2011)

“*Classical Kloosterman sums: Representation theory, magic squares, and Ramanujan multigraphs*”; Claremont Center for the Mathematical Sciences Algebra-Number Theory-Combinatorics Seminar, Claremont, CA; (02/2011)

“*On Multigraded combinatorial Hopf algebras*”; AMS Special Session on Hopf algebras and their representations (Joint Mathematics Meeting JMM 2011), New Orleans, LA; (01/2011)

“*So what is a combinatorial Hopf algebra and what can you do with it?*”; 3<sup>RD</sup> Annual Women in Mathematics Symposium, Claremont, CA; (11/2010)

“*Combinatorial Hopf algebras: A Common Playground for Algebra and Combinatorics*”; Claremont Center for the Mathematical Sciences Algebra-Number Theory-Combinatorics Seminar, Claremont, CA; (09/2010)

“*Quantization and Superization*”; Boğaziçi University Mathematics Colloquium, Istanbul, Turkey; (03/2010)

“*On the quantization of zero-weight super dynamical  $r$ -matrices*” AMS Special Session on Algebraic Structures in Knot Theory (Fall Western Sectional Meeting of the American Mathematical Society #1054), Riverside, CA; (11/2009)

“*Yang-Baxter equations and quantum groups*”; California State Polytechnic University Pomona, Spring Mathematics Colloquium; (05/2008)

“*On Hopf algebras and their generalizations*” International Workshop on Lie Theory and Its Applications in Physics, Varna, Bulgaria; (06/2007)

“*Algebra for the quantum world*”; California State University San Bernardino Mathematics Colloquium; (05/2007)

“*A Beginner’s Guide to Hopf Algebras*”; Southeastern Louisiana University Algebra Seminar; (04/2007)

“*Algebra for the quantum world*”; Southeastern Louisiana University Mathematics Colloquium; (04/2007)

“*Algebra for the quantum world*”; California State University Dominguez Hills Mathematics Colloquium; (03/2007)

“*A Beginner’s Guide to Hopf Algebras*”; Claremont Colleges Algebra / Combinatorics Seminar; (02/2007)

“*Algebra for the quantum world*”; California State University Los Angeles Mathematics Colloquium; (01/2007)

“*On Generalizations of Hopf algebras*” Workshop on Representation Theory and Geometry, Berkeley, CA; (05/2006)

“*Yang-Baxter equations and quantum groups*”; University of Southern California Math Talks for Women in Mathematics; (04/2006)

“*Super solutions of the Yang-Baxter equations*”; University of California Riverside Lie Theory Seminar; (02/2006)

“*Yang-Baxter equations and their super solutions*”; University of Arkansas Mathematics Colloquium; (02/2006)

“*Yang-Baxter equations and their super solutions*”; University of Hawaii Mathematics Colloquium; (02/2006)

“*Algebra for the quantum world*”; Pomona College Special Mathematics Talk; Claremont, CA; (02/2006)

“*Algebra for the quantum world*”; Vassar College Mathematics Colloquium; Poughkeepsie, NY; (02/2006)

“*Yang-Baxter equations and their super solutions*”; North Dakota State Mathematics Colloquium; (01/2006)

“*The road to super quantum groups*”; AWM Workshop for Women Graduate Students and Recent Ph.D.’s, San Antonio, TX; (01/2006)

“*Algebra for the quantum world*”; Colby College Mathematics Colloquium; Waterville, ME; (12/2005)

“*Yang-Baxter equations and their super solutions*”; Georgia Tech (Georgia Institute of Technology) Algebra-Geometry-Topology Seminar; (11/2005)

- “*What should a dynamical super quantum group be?*”; Southern California Algebra Conference; (11/2005)
- “*Algebra for the quantum world - A basic introduction to quantum groups*”; California State University Channel Islands Mathematics Graduate Seminar; (09/2005)
- “*The road to super quantum groups*”; Boğaziçi University Mathematics Colloquium, Istanbul, Turkey; (07/2005)
- “*Dynamical quantum groups—The super story*”; Antalya Algebra Days VII (18–22 May 2005), Antalya, Turkey; (05/2005)
- “*Symmetries and matrices - An elementary introduction to representation theory*”; University of California Santa Barbara Undergraduate Linear Algebra Seminar; (05/2005)
- “*Super solutions of the dynamical Yang-Baxter equation*”; Geometric Representation Theory, Tucson, AZ; (03/2005)
- “*On the classification of finite-type cluster algebras*”; University of California Santa Barbara Algebra Seminar; (02/2005)
- “*Combinatorics in representation theory II*”; University of California Santa Barbara Combinatorics and Discrete Geometry Seminar; (02/2005)
- “*Combinatorics in representation theory I*”; University of California Santa Barbara Combinatorics and Discrete Geometry Seminar; (12/2004)
- “*Super Lie bialgebra structures*”; University of California Santa Barbara (UCSB) Algebra Seminar; (11/2004)
- “*A new Lie bialgebra structure on  $sl(2, 1)$* ”; AMS Special Session on Hopf Algebras at the Crossroads of Algebra, Category Theory, and Topology (Fall Central Sectional Meeting of the American Mathematical Society #1001), Evanston, IL; (10/2004)
- “*How to construct an  $r$ -matrix on a Lie superalgebra*”; AMS-IMS-SIAM Summer Research Conference on Representations of Algebraic Groups, Quantum Groups and Lie Algebras, Snowbird, UT; (07/2004)
- “*Constructing  $r$ -matrices on Lie superalgebras*”; University of California Santa Barbara (UCSB) Algebra Seminar; (02/2004)
- “ *$r$ -matrices on Lie superalgebras*”; University of Southern California (USC) Algebra Seminar; (10/2003)



“*Constructing  $r$ -matrices on Lie superalgebras*”; Workshop on Lie Groups, Lie Algebras and Their Representations, Santa Barbara, CA; (10/2003)

(with Milen Yakimov): “*A Short course on Poisson-Lie groups*”; a short course / series of four lectures; University of California Berkeley Seminar on Representations of Lie Groups; (04/2001)

“*Basic Facts on Weakly Symmetric Spaces*”; University of California Berkeley Seminar on Representations of Lie Groups; (10/2000)

#### EXPOSITION FOR GENERAL AUDIENCES

“*Weird Geometry: On Doughnuts and Coffee Mugs*”; Claremont Gateway to Exploring the Mathematical Sciences (GEMS) Program, Claremont Math Circle workshop for local high school students; (12/2014)

“*Strange Geometry: On Doughnuts and Coffee Mugs*”; A Workshop with Math Olympians (outreach / enrichment activity for grades 3-8); Alta Loma Christian School; Rancho Cucamonga, CA; 03/2013

“*How HOT is your geometry? A Tropical Excursion*”; Claremont Gateway to Exploring the Mathematical Sciences (GEMS) Program, Claremont Math Circle workshop for local high school students; (04/2011)

“*How HOT is your geometry? A Tropical Excursion*”; an interactive presentation for Üsküdar Amerikan Lisesi (Üsküdar American High School) Mathematics Club, Istanbul, Turkey; (04/2010)

“*How HOT is your geometry? A Tropical Excursion*”; an interactive presentation for Pomona College alumni/ae, University of California Berkeley Faculty Club; (12/2009)

#### POSTER PRESENTATIONS

“*Whose Math and For What Purpose? A Community Seminar on Identity, Culture, and Mathematics*”, 2018 Southern California PKAL Regional Network Annual Meeting, Los Angeles, CA; (03/2018)

“*All The Math You Need: An Investigation into the Curricular Boundaries of Mathematical Literacy*”,<sup>4</sup> 20<sup>th</sup> Annual Conference on Research on Undergraduate Mathematics Education (RUME 2017), San Diego, CA; (02/2017)

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<sup>4</sup>This poster was previously accepted for ICME 2016, the 13<sup>th</sup> International Congress on Mathematical Education, July 24-July 30, 2016, Hamburg, Germany. I was unable to attend due to lack of sufficient funding.

“*Purpose and humanism in mathematics education research*”, International Congress for Mathematicians, Seoul, South Korea; (08/2014)

“*On Hopf Algebras and Their Generalizations*”; CRM Workshop on Combinatorial Hopf Algebras and Macdonald Polynomials, Montreal, Quebec; (05/2007)

“*On Generalizations of Hopf algebras*”; Project NExT/Young Mathematician’s Network Poster Session, Joint Mathematics Meetings, New Orleans, LA; (01/2007)

“*r-matrices on Lie superalgebras*”; AWM Workshop for Women Graduate Students and Recent Ph.D.’s, Phoenix, AZ; (01/2004)

#### PRESENTATIONS ON PEDAGOGY AND MATHEMATICS EDUCATION

UPCOMING: “*ChatGPT and New Ethical Considerations for the Mathematics Classroom*”, WiMSoCal 2024 Conference, Claremont, CA; (02/2024)

“*Using ChatGPT for Fun and for Profit*”, Claremont Center for Teaching and Learning Teaching Tune-Up session on Introduction to Generative AI: Informed Approaches to Teaching, Claremont, CA; (01/2024)

“*Oblique Strategies for Classroom Poetry*”, AWM Special Session on Mathematics in the Literary Arts and Pedagogy in Creative Settings, JMM 2024, San Francisco, CA; (01/2024)

“*From Growth Mindset to (Re)humanizing Mathematics*”, Project NExT Session on Fostering a Growth Mindset in the Classroom, JMM 2024, San Francisco, CA; (01/2024)

“*ChatGPT and New Ethical Considerations for the Mathematics Classroom*”, AMS Special Session on Ethics in the Mathematics Classroom, JMM 2024, San Francisco, CA; (01/2024)

“*Developing A Social Justice Curriculum: First Steps*”, 2023 Transforming STEM Higher Education Conference, Arlington, VA; (11/2023)

“*nsancl Matematik Eitimi (Teaching Mathematics Humanistically)*” (in Turkish), 6<sup>th</sup> International Symposium of Turkish Computer and Mathematics Education (TURCOMAT-6 / TÜRKBLMAT-6) Ankara, TURKEY;<sup>5</sup> (10/2023)

“*Hot Off The Press: Quantitative Literacy Work Inspired By The COVID-19 Pandemic*”, MAA Contributed Paper Session on Insights into Quantitative Literacy and Reasoning from the COVID-19 Pandemic, MathFEST 2021, virtual; (08/2021)

<sup>5</sup> The recording of this talk is available at <https://youtu.be/ZnKe4pgUYc4>.

“*Whose Math and For What Purpose? A Community Seminar on Identity, Culture, and Mathematics*”; AMS Special Session on Mathematics of Social Justice, Joint Mathematics Meetings, Denver, CO; (01/2020)

(with Artemis Karaali): “*Delicious Mathematics: Contexts for Mathematical Exercises from the Science and Engineering of Food*”; MAA Contributed Paper Session on Incorporating Realistic Applications of Mathematics Through Interdisciplinary Collaborations, Joint Mathematics Meetings, Denver, CO; (01/2020)

(with Mary Hatcher-Skeers, Sadie Otte, and Cory Kohn, in absentia): “*Wicked Course Design*”, Claremont Center for Teaching and Learning Workshop, Claremont, CA (01/2020)<sup>6</sup>

“*Teaching Mathematics with a Conscience*”; Cal Poly Pomona California Mathematics Project (CMP) Summer Institute for K-12 mathematics teachers; Pomona, CA (06/2019)

“*Whose Math and For What Purpose? A Community Seminar on Identity, Culture, and Mathematics*”; Minisymposium on Mathematics and Social Justice in the Classroom, SIAM Conference on Applied Mathematics Education (ED18); Portland, OR (07/2018)

“*Creating, Scaffolding, and Teaching Writing: The Teacherless Writing Class*”, Pomona College ID1 (First-Year Critical Inquiry Seminar) Workshop, Claremont, CA; (05/2018)

“*On Zombies, The Republic, and Mathematics: Teaching First-Year Seminars That Humanize Mathematics*”, MAA Contributed Paper Session on Mathematical Themes in a First-Year Seminar, Joint Mathematics Meetings, San Diego, CA; (01/2018)

“*On Utilitarian and Aesthetic Goals of Mathematics Education: Quantitative Literacy and Humanistic Mathematics*”, MAA Invited Paper Session on New Directions in Quantitative Literacy for General Education, in honor of Lynn Steen, Joint Mathematics Meetings 2017, Atlanta, GA; (01/2017)

“*Formative Assessment with a Purpose: From Philosophical Considerations to Pragmatic Implementation*”, MAA Contributed Paper Session on Formative Assessment Techniques for Undergraduate Math Courses, MathFest, Columbus, OH; (08/2016)

“*Why Should Mathematicians Care?*”; Conference on Research in Undergraduate Mathematics Education, Equity Working Group; Pittsburgh, PA; (02/2016)

“*Defining Quantitative Literacy Through College-Level Textbooks—A Preliminary Report*”, MAA Contributed Paper Session on Research in Undergraduate Mathematics Education, Joint Mathematics Meetings, Seattle, WA; (01/2016)

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<sup>6</sup> SO and CK then offered this workshop for a second time at the 2020 SoCAL PKAL Regional Network Meeting: Cultivating Diverse Leadership in STEM, held in LaVerne, CA, in March 2020.

(with Lily Khadjavi): “*Mathematics and Social Justice: Perspectives and Resources for the College Classroom*”, MAA Contributed Paper Session on Democratizing Access to Authentic Mathematical Activity, MathFest, Washington DC; (08/2015)

(with Travis Brown): “*Writing with Numbers*”, Pomona College ID1 (First-Year Critical Inquiry Seminar) Workshop, Claremont, CA; (05/2015)

“*Build Your Own Fractal*”, Hands On Learning Workshop in honor of Katherine Hagedorn, Pomona College, Claremont, CA; (02/2014)

“*Math with a Conscience?*” 2013 Annual Meeting and Exposition of the National Council of Teachers of Mathematics, Denver, CO; (04/2013)

“*A Humanistic Reading Component For An Introduction to Proofs Course*”; MAA Contributed Paper Session on Bridging The Gap: Designing an Introduction to Proofs Course, Joint Mathematics Meetings, San Diego, CA; (01/2013)

“*A Humanistic Reading Component in a Transitional Mathematics Course*”, Scholar Session, International Institute for SoTL Scholars and Mentors (IISSAM), Loyola MaryMount University, Los Angeles, CA; (06/2012)

“*Purpose and Humanism in Mathematics Education Research 1968-1996*”, History and Pedagogy of Mathematics (HPM) Americas West Coast Section Meeting October 1-2, 2011, San Diego, CA; (10/2011)

“*Bloom Takes Calculus: Higher-Level Tasks for Your Calculus Courses*”, 2011 Annual Meeting and Exposition of the National Council of Teachers of Mathematics, Indianapolis, IN; (04/2011)

“*Bloom’n Calculus: Higher Level Tasks for Your Calculus Class*”, Workshop aimed for K-12 mathematics teachers, 51st Annual Meeting of the California Mathematics Council-South, Palm Springs, CA; (11/2010)

“*An Evaluative Calculus Project: Applying Bloom’s Taxonomy to the Calculus Classroom*”; MAA General Contributed Paper Session, Joint Mathematics Meetings, San Francisco, CA; (01/2010)

(with Robert Baker): “*Math Digital Library Workshop*”; Workshop aimed for K-12 mathematics teachers, 49th Annual Meeting of the California Mathematics Council-South, Palm Springs, CA; (11/2008)

“*An ‘Unreasonable’ Reading Component to a Reasonable Course: Readings for a Transitional Class*”; MAA Contributed Paper Session on Incorporating the Humanities and the

Arts into the Mathematics Classroom (and Vice Versa), MathFEST 2008, Madison, WI; (08/2008)

(with Robert Baker): “*Math Digital Library Workshop*”; MAA Southern California/Nevada Section Spring 2007 Meeting, Claremont, CA; (03/2007)

“*What does that mean? Helping Upper Division Students Understand Concepts*”; 3<sup>rd</sup> International Conference on the Teaching of Mathematics (ICTM3), Istanbul, Turkey; (06/2006)

“*Word problems and quantitative literacy*”; General Contributed Paper Session, MathFEST 2005, Albuquerque, NM; (08/2005)

#### PANEL PRESENTATIONS

Pomona College Faculty Panel Discussion on ID1, Claremont, CA; (11/2023)

Panelist at the AMS/MAA panel titled “The Future of the Undergraduate Textbook”, MathFEST 2021, virtual; (08/2021)

Panelist at the Project NEXT panel titled “Productive failure: What can we learn from our teaching mistakes?”, Joint Mathematics Meeting 2019, Baltimore, MD; (01/2019)

Panelist at the PIMS-Math Job Forum for Postdoctoral Fellows and Graduate Students, University of British Columbia, Vancouver, BC; (10/2018)

Panelist at the MAA panel titled “*Ethics, Morality and Politics in the Quantitative Literacy Classroom*,” Joint Mathematics Meeting 2018, San Diego, CA; (01/2018)

Panelist at the Budapest Semesters in Mathematics Summer 2017 panel on Women in Mathematics, Budapest, HUNGARY; (06/2017)

Panelist at the Budapest Semesters in Mathematics Summer 2017 panel on Graduate School, Budapest, HUNGARY; (06/2017)

Panelist at the AMS / MAA panel titled “*Women and Scholarly Publishing*,” Joint Mathematics Meeting 2017, Atlanta, GA; (01/2017)

Panelist at the MAA panel titled “*Refocusing Your Career: Making Time and Space*,” Joint Mathematics Meeting 2017, Atlanta, GA; (01/2017)

Panelist at the PIMS-Math Job Forum for Postdoctoral Fellows and Graduate Students, University of British Columbia, Vancouver, BC; (10/2016)

Panelist at the Project NExT panel titled “*Teaching Introductory Proofs Courses*,” MathFest 2015, Washington DC; (08/2015)

Panelist at the MAA panel titled “*Mathematicians Write: Publishing Options and Outlets Beyond the Standard Research Journal*,” Joint Mathematics Meeting 2015, San Antonio, TX; (01/2015)

Panelist at the MAA panel titled “*Open Access Publishing in Mathematics: Who?, What?, Where?, Why?, and How?*,” MathFest 2014, Portland, OR; (08/2014)

Panelist at the Project NExT panel titled “*Independent Study Courses*,” MathFest 2014, Portland, OR; (08/2014)

Panelist at the AMS panel titled “*Proving Hardy Wrong: Math Research with Social Justice Applications*”; Joint Mathematics Meetings 2011, New Orleans, LA; (01/2011)

Panelist at the MAA panel titled “*Mathematical culture and mathematical life*”; Joint Mathematics Meetings 2011, New Orleans, LA; (01/2011)

Panelist at the U.C. Berkeley Mathematics Career Talks seminar titled “*A mathematical career at a liberal arts college*”; Berkeley, CA; (10/2009)

Panelist at the TLC-ITS co-sponsored luncheon on 2007 Hahn Teaching with Technology Grants; Pomona College; (03/2008)

Panelist at the Mathematical Sciences Research Institute *Connections for Women Workshop* panel titled “*Three Things I Wish I Knew Then*”; Berkeley, CA; (01/2008)

#### OTHER PRESENTATIONS

UPCOMING: (with Kira Hamman and Lew Ludwig) “*Revisiting Generative AI and Numeracy*” Informal Pop-up Discussion on ChatGPT and Numeracy, virtual facilitated discussion session organized by NNN; (03/2024)

“*Equity in the Moment: Responding to Challenging Situations in the Classroom*”; virtual workshop session at the MAA Open Math Summer 2023 Workshop on Inclusion and Inquiry: Fostering Student Belonging and Ownership; (07/2023)

“*Developing A Social Justice Curriculum: First Steps*”; virtual workshop session at the CUNY Innovative Teaching Academy (CITA) Summer 2023 Institute on Promoting Equitable and Inclusive STEM Teaching and Learning; (06/2023)

“*Defining Ada: On The Legacy of Augusta Ada Byron King Lovelace*”; virtual guest lecture at Duke University; (03/2023)

Informal Pop-up Discussion on ChatGPT and Numeracy, virtual facilitated discussion session organized by NNN; (03/2023)

“*Mathematics of Gerrymandering*”; virtual guest lecture at Lawrence 3-8 (Anna Lawrence Intermediate School, Tucson, AZ), MATCH Program 2022-20223; (03/2023)

“*Make Art With Mondrian!*”; virtual guest lecture at Lawrence 3-8 (Anna Lawrence Intermediate School, Tucson, AZ), MATCH Program 2022-20223; (02/2023)

“*Guess My Number!*”; virtual guest lecture at Lawrence 3-8 (Anna Lawrence Intermediate School, Tucson, AZ), MATCH Program 2022-20223; (01/2023)

“*Defining Ada: On The Legacy of Augusta Ada Byron King Lovelace*”; virtual guest lecture at Duke University; (03/2022)

(with Maria Mercedes Franco and Lily S. Khadjavi), Project NExT Minicourse on Mathematics for Social Justice, MathFEST 2021, virtual; (08/2021)

(with Kenan Ince, Lily S. Khadjavi, and Katy Ott), MathFEST Session for Project NExT: Mathematics for Social Justice, **breakout room leader**, MathFEST 2021, virtual; (08/2021)

“*Where does math come from?*”, poetry read at Show-and-Tell / Poetry Gathering, Bridges Math+Art Conference 2021, virtual; (08/2021)

“*Mathematical Verses, Magical Numbers, and Aesthetic Values: Explorations in Humanistic Mathematics in 2020*”; Second Annual Scholars & Creators (Virtual Event), Pomona College; (April 19–June 6, 2021)

“*Defining Ada: On The Legacy of Augusta Ada Byron King Lovelace*”; virtual guest lecture at Duke University; (03/2021)

*Math ... With A Conscience?*, Pomona College Fall Faculty Lecture Series, Claremont, CA; (09/2020)

*Lights Out! and Other Mechanical Puzzles: Fun Ways to Enter Research With Students*, Research Experiences for Undergraduate Faculty (REUF) 2018, **workshop team leader**, American Institute for Mathematics (AIM), San Jose, CA; (06/2018)

MAA Workshop on Writing Pedagogical and Expository Papers, 2018 Joint Mathematics Meetings; San Diego, CA; (01/2018)

(with Mark Huber) A Roundtable Discussion on Open Access (OA) and Open Educational Resources (OER), University of Redlands, CA; (11/2017)

“*Math and Poetry*”; lunch conversation with Budapest Semesters in Mathematics Students, Budapest, HUNGARY; (06/2017)

“*My Mathematical Journey*”; lunch conversation with Pomona Scholars in Mathematics, Claremont, CA; (04/2017)

“*Humanistic Mathematics: What You Should Know*”; California Mathematics Council Community Colleges (CMC<sup>3</sup>) South Spring 2016 Conference, Pomona, CA;<sup>7</sup> (03/2016)

“*Education and its Discontents (and what math’s got to do with it)*”, Special Interest Lecture, Pomona College Family Weekend, (02/2016)

Poetry: “A Mathematician’s Villanelle” (Math Horizons, 22:1, p. 23), public reading during the Creative Writing in Mathematics and Science workshop held at the Banff International Research Station in Banff, Calgary, (01/2016)

*MAA Minicourse on Humanistic Mathematics*, a two-session workshop; the 2016 Joint Mathematics Meetings; Seattle, WA; (01/2016)

(with Mark Huber) “*Humanistic Mathematics: A Philosophy, a Journal, and a Community*”, Claremont Discourse Lecture, Claremont Colleges Library, Claremont, CA; (11/2015)

Poetry, at the special mathematical poetry reading for Bridges 2015 Mathematics and the Arts Conference, Baltimore, MD, (08/2015)

*Working with Writing Interns*, a panel, Pomona College: ID1 (First-Year Critical Inquiry Seminar) Workshop (05/2015)

*How I Write*, a presentation with a Q&A session, facilitated by Pomona College Writing Center, Claremont, CA; (03/2015)

*MAA Minicourse on Humanistic Mathematics*, a two-session workshop; the 2015 Joint Mathematics Meetings; San Antonio, TX; (01/2015)

“*Humanism as a Philosophy of Mathematics?*”, a presentation for the Core Math & Philosophy Program of Concordia University Irvine, CA; (10/2014)

“*The Genius as a Characterization of the Creative Spirit in Mathematics and the Arts*”, Bridges 2014 Mathematics and the Arts Conference, Seoul, South Korea; (08/2014)

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<sup>7</sup>The recording of this talk is available at <https://youtu.be/WPxBGyTYC4xk>.



“*Defining humanistic mathematics through personal experience*”, Thematic Program on Teaching, Learning, Living Mathematics Humanistically; Fields Mathematics Education Forum; Fields Institute, Toronto, Canada; (03/2014)

(with Johanna Hardin and Samantha Hill’14): “*Bridging 6th Street: Math and the Humanities*”, Phi Beta Kappa Lectures 2013-2014, Pomona College, CA; (02/2014)

“*Humanism as a Philosophy of Mathematics?*”, a presentation for the Core Math & Philosophy Program of Concordia University Irvine, CA; (02/2014)

“*Can zombies do math?*”, Special Interest Lecture, Pomona College Family Weekend, (02/2014)

*MAA Minicourse on Humanistic Mathematics*, a two-session workshop; the 2014 Joint Mathematics Meetings; Baltimore, MD; (01/2014)

Excerpts from short story “A Mathematician’s Dilemma” and a recently published poem “The Colors of Math” (The Mathematical Intelligencer 35:1, p. 4), public reading during the Creative Writing in Mathematics and Science workshop held at the Banff International Research Station in Banff, Calgary, (11/2013)

“*MATH is FUN! (aka pick me!!!)*” representing the math department at *Pomona College: The Baccalaureate*, Pomona Student Union Event; (10/2013)

“*Can zombies do math?*”, Pomona College Alumni Event, Descanso Gardens, La Canada, CA; (08/2013)

Research Experiences for Undergraduate Faculty (REUF) 5, **workshop team leader**, Institute for Computational and Experimental Research in Mathematics (ICERM), Providence, RI; (07/2013)

“*The Brave New World of Open Access and Creative Commons: A Humanistic Experiment in Mathematical Publishing*”; AMS Special Session on Topics and Issues in Electronic Publishing, Joint Mathematics Meetings, San Diego, CA; (01/2013)

“*Productivity and Time Management: A Mini-Workshop*”, Workshop for EDGE 2012 (Enhancing Diversity in Graduate Education), Claremont, CA, (06/2012)

“*Math with a Social Conscience?*”, Pomona College Division II Science Lunch Talk, Claremont, CA; (04/2012)

“*Can zombies do math?*”, Special Interest Lecture, Pomona College Family Weekend, Claremont, CA; (02/2012)

“*Proving Hardy Wrong: Math With a Social Conscience*”, Invited Lecture, CMC Atul Vyas Memorial Lectures, November 8, 2011; Claremont, CA; (11/2011)

“*Humanistic Mathematics: Charting a Path Toward a New Transdiscipline*”, Facilitated discussion at the AAC&U Network for Academic Renewal Conference: *Arts & Humanities: Toward a Flourishing State?*, Providence RI, November 3-5, 2011; (11/2011)

(with Mark Huber): “*Journal of Humanistic Mathematics*”, A live web interview, Math 2.0 Special Interest Group (an international network of researchers, educators, families, community leaders and technology enablers); (5//2011)

“*Humanistic Mathematics: A Journal, A Philosophy, A Community?*”; **Invited Keynote Address** for the Thematic Program on Humanistic Mathematics, Fields Mathematics Education Forum; Fields Institute, Toronto, Canada; (11/2010)

“*Writing Mathematics*”; Workshop aimed for Summer REU students participating in the Claremont 2010 REU program, Claremont, CA; (07/2010)

#### MEDIA COVERAGE / INTERVIEWS

“Meet a Mathematician: Gizem Karaali,” video interview, forthcoming.

“Math Poetry Contest Beckons Students’ Muses” by Elaine Beebe, *News from the AMS*, December 6, 2023. [https://www.ams.org/news?news\\_id=7243](https://www.ams.org/news?news_id=7243)

“AMS Bookshelf: Mathematics for Social Justice: Focusing on Quantitative Reasoning and Statistics,” (brief review of *Mathematics for Social Justice: Focusing on Quantitative Reasoning and Statistics*), *Notices of the American Mathematical Society*, Volume **70** Number 2 (February 2023), page 318.

“Teaching Math for Good” (review of the two *Math for Social Justice* books), *FOCUS* (newsletter of the Mathematical Association of America), Volume **42** Number 5 (October/November 2022), pages 46–47.

“*Testimonios* and Other Good Reading from AMS and MAA” (brief review of the two *Math for Social Justice* books), *Association for Women in Mathematics Newsletter*, Volume **51** Number 6 (November–December 2021), page 10.

“Math for Social Justice”, *Inside Higher Ed*, posted on July 14, 2021, <https://www.insidehighered.com/news/2021/07/14/movement-focuses-integrating-social-justice-content-math-courses> (07/2021)

“Pomona Faculty Rethink Courses, Refine Skills for Online Semester”, Pomona College web news, <https://www.pomona.edu/news/2020/07/10-pomona-faculty-rethink-courses-refine-skills-online-semester> (07/2020)

“Mathematics for Social Justice: An interview with the editors”, interview with Gizem Karaali and Lily S. Khadjavi by Christina Edholm, *FOCUS* (newsletter of the Mathematical Association of America), Volume 40 Number 3 (June/July 2020), pages 16–18.

“Beloved Books: A List That Shaped Pomona Faculty”, books that have left an indelible mark on Pomona faculty, either personally or professionally, Pomona College web news, <https://www.pomona.edu/news/2020/04/17-beloved-books-list-shaped-pomona-faculty> (04/2020)

“*İnsancıl matematikle her şey çok daha güzel*”, interview with Gizem Karaali (in Turkish), *Connect*, Sonbahar 2019 (Fall 2019), pp.18–21. Available at [https://www.sev.org.tr/dergi/connect\\_sonbahar\\_2019/HTML/](https://www.sev.org.tr/dergi/connect_sonbahar_2019/HTML/) (09/2019)

“*Notable & Quotable: Mathematics for Social Justice*” (brief overview of book on mathematics for social justice), *Wall Street Journal*, May 27, 2019.

*The Humanistic Side of Mathematics with Professor Gizem Karaali*, podcast interview on Pomona Sagecast, available at <https://www.pomona.edu/sagecast>; (03/2019)

“New Critical Inquiry Seminars: Disneyland, Protests, Russian Intrigue and More”, Pomona College web news, <https://www.pomona.edu/news/2018/09/11-new-critical-inquiry-seminars-disneyland-protests-russian-intrigue-and-more> (09/2018)

Brief quote / tip included in “You won’t believe these 20+ mentoring tips really work!”, *MAA Focus*, June/July 2018, pages 20–22. (06/2018)

Mathematical poetry, in the mathematical podcast *Relatively Prime*; (01/2016)

“Negotiating your rights: Interview with Gizem Karaali”, clip shared as part of the *Faculty Author Rights Workshop: Strategies for Retaining your (Copy)rights*, by Char Booth, Sara Lowe, and Allegra Swift, Claremont Colleges Library, [https://scholarship.claremont.edu/open\\_access\\_week/2014/Schedule/3/](https://scholarship.claremont.edu/open_access_week/2014/Schedule/3/) (09/2014)

“Publishing Faculty and Student Research: Professor Gizem Karaali”, by Allegra Swift, *VITAL The Annual Report of the Claremont Colleges Library 20132014*, pages 21–22. (09/2014)

**TEACHING**

## COURSES TAUGHT (AT POMONA COLLEGE)

Math 1: <i>Mathematics, Philosophy, and the Real World</i>	Spring 2024
Math 101: <i>Introduction to Analysis</i>	Spring 2024
ID1: <i>Critical Inquiry Seminar</i>	Fall 2023
Math 60: <i>Introduction to Linear Algebra</i>	Fall 2023
Math 101: <i>Introduction to Analysis</i>	Spring 2023
ID1: <i>Critical Inquiry Seminar</i>	Fall 2022
Math 174: <i>Abstract Algebra II - Representation Theory</i>	Fall 2022
Math 1: <i>Mathematics, Philosophy, and the Real World</i>	Spring 2022
Math 30: <i>Calculus I</i>	Spring 2022
ID1: <i>Critical Inquiry Seminar</i>	Fall 2021
Math 101: <i>Introduction to Analysis</i>	Fall 2021
ID1: <i>Critical Inquiry Seminar</i>	Fall 2020
Math 174: <i>Abstract Algebra II - Representation Theory</i>	Fall 2020
Math 1: <i>Mathematics, Philosophy, and the Real World</i>	Spring 2020
ID1: <i>Critical Inquiry Seminar</i>	Fall 2019
Math 30: <i>Calculus I</i>	Fall 2019
Math 1: <i>Mathematics, Philosophy, and the Real World</i>	Spring 2019
ID1: <i>Critical Inquiry Seminar</i>	Fall 2018
Math 174: <i>Abstract Algebra II - Representation Theory</i>	Fall 2018
ID1: <i>Critical Inquiry Seminar</i>	Fall 2017
Math 174: <i>Abstract Algebra II - Representation Theory</i>	Fall 2017
Math 1: <i>Mathematics, Philosophy, and the Real World</i>	Spring 2017
Math 60: <i>Introduction to Linear Algebra</i>	Spring 2017
ID1: <i>Critical Inquiry Seminar, Pomona College</i>	Fall 2016
Math 171: <i>Abstract Algebra I - Groups and Rings</i>	Fall 2016
Math 101: <i>Introduction to Analysis</i>	Spring 2016
ID1: <i>Critical Inquiry Seminar, Pomona College</i>	Fall 2015
Math 30: <i>Calculus I</i> (two sections)	Fall 2015
Math 1: <i>Mathematics, Philosophy, and the Real World</i>	Spring 2015
Math 174: <i>Abstract Algebra II - Representation Theory</i>	Spring 2015
ID1: <i>Critical Inquiry Seminar, Pomona College</i>	Fall 2014
Math 101: <i>Introduction to Analysis</i>	Fall 2014

ID1: <i>Critical Inquiry Seminar</i> , Pomona College	Fall 2013
Math 171: <i>Abstract Algebra I - Groups and Rings</i>	Fall 2013
Math 1: <i>Mathematics, Philosophy, and the Real World</i>	Spring 2013
Math 60: <i>Introduction to Linear Algebra</i>	Spring 2013
Math 30: <i>Calculus I</i>	Spring 2012
Math 60: <i>Introduction to Linear Algebra</i>	Spring 2012
ID1: <i>Critical Inquiry Seminar</i> , Pomona College	Fall 2011
Math 30: <i>Calculus I</i>	Fall 2011
Math 101: <i>Introduction to Analysis</i>	Spring 2011
Math 174: <i>Abstract Algebra II - Representation Theory</i>	Spring 2011
Math 101: <i>Introduction to Analysis</i>	Fall 2010
Math 171: <i>Abstract Algebra I - Groups and Rings</i>	Fall 2010
Math 101: <i>Introduction to Analysis</i>	Fall 2008
Math 30: <i>Calculus I</i> (two sections)	Fall 2008
Math 174: <i>Abstract Algebra II - Representation Theory</i>	Spring 2008
Math 60: <i>Linear Algebra</i>	Spring 2008
Math 171: <i>Abstract Algebra I - Groups and Rings</i>	Fall 2007
Math 32: <i>Calculus III</i>	Fall 2007
Math 60: <i>Linear Algebra</i>	Spring 2007
Math 32: <i>Calculus III</i>	Spring 2007
Math 60: <i>Linear Algebra</i>	Fall 2006
Math 32: <i>Calculus III</i>	Fall 2006

## INDEPENDENT STUDY COURSES

Pomona students and others from the Claremont Colleges occasionally enroll in independent study courses in order to explore topics not usually covered in the standard course offerings. I have had the opportunity to work with several students in this capacity:

Andrew Kim: <i>Mathematical Logic</i>	Fall 2023
Feiyang Lin (HMC), Matthew Patterson, and Tim Wesley: <i>Supercharacters</i>	Spring 2019
Ahmed Al Fares (CGU): <i>Quasigroups and Their Structure Theory</i>	Spring 2017
Ahmed Al Fares (CGU): <i>Characters and Supercharacters of the Symmetric Groups</i>	Fall 2016
Samuel Yih: <i>Characters and Supercharacters of the Symmetric Groups</i>	Fall 2016
Ahmed Al Fares (CGU): <i>Representation Theory of Finite Groups</i>	Spring 2016
Ahmed Al Fares (CGU): <i>Representation Theory of Finite Groups</i>	Fall 2015
Jeremy Alexander Taylor: <i>Defining Quantitative Literacy</i>	Fall 2014
Amy Shoemaker: <i>Rethinking Algebra: A Middle School Math Curriculum</i>	Spring 2014

Gabrielle Badie: <i>Sports Ranking Analysis: A Study</i>	Spring 2012
Jacob Brumbaugh-Smith: <i>Applications of Lie Groups to Differential Equations</i>	Spring 2012
Ian Zhang: <i>Humanistic Mathematics</i>	Spring 2012
Karin Tannaka: <i>Introduction to Abstract Algebra</i>	Fall 2008

## COMMUNITY SEMINARS (CO-)FACILITATED (AT POMONA COLLEGE)

<i>Lie Algebras and Applications to Mathematical Physics (LAAMPS)</i> (lead facilitator: Edray Goins)	Spring 2023
<i>Whose Math and For What Purpose: On Identity, Culture, and Mathematics</i>	Spring 2018
<i>A Teacherless Writing Class a la Peter Elbow</i>	Spring 2017

## COURSES TAUGHT (AT THE CLAREMONT GRADUATE UNIVERSITY)

In Spring 2014, I was invited to develop and teach a graduate course on humanistic mathematics at the Claremont Graduate University, with support from a CGU BLAIS grant.

TRND 405E: <i>Humanistic Mathematics</i>	Fall 2014
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In Spring 2020, I was scheduled to teach a graduate course on philosophy of education at the Claremont Graduate University, with support from a CGU Avery Faculty Exchange Fellowship. Unfortunately due to low enrollments, this class was cancelled.

## COURSES TAUGHT (AT THE UNIVERSITY OF CALIFORNIA SANTA BARBARA)

I was a postdoctoral fellow at UCSB. My position entailed teaching four courses every academic year.

Math 5A: <i>Introduction to Linear Algebra and Differential Equations,</i>	Spring 2006
Math 8: <i>A Transition to Higher Mathematics,</i>	Winter 2006
Math 108A: <i>Introduction to Linear Algebra,</i>	Fall 2005
Math 34B: <i>Calculus for Social and Life Sciences - II,</i>	Fall 2005
Math 117: <i>Methods of Analysis,</i>	Spring 2005
Math 34B: <i>Calculus for Social and Life Sciences - II,</i>	Winter 2005
Math 34A: <i>Calculus for Social and Life Sciences - I</i> (two sections)	Fall 2004

## COURSES TAUGHT (AT THE UNIVERSITY OF CALIFORNIA BERKELEY)

For eight terms, I led discussion sessions as a Graduate Student Instructor in Calculus, Discrete Mathematics, Linear Algebra and Differential Equations. I also served as a Head GSI, resolving enrollment problems for hundreds of students each semester. I taught the following as sole instructor:

Math 54: *Linear Algebra and Differential Equations*

Summer 2002

Math 1A: *Calculus of a Single Variable I*

Summer 2001

## DISSERTATION AND THESIS COMMITTEES

### Senior Theses Supervised (POMONA COLLEGE)

The senior exercise in the Pomona mathematics department consists of a senior thesis project. Students work on this project throughout their senior year; at the end, they present their work to their professors and their peers, and write a detailed paper on their project.

During the academic year 2023-2024, I am working with (titles are tentative):

John Hamre ('24)

Tentative thesis title:

*Fractals in Non-Euclidean Geometries*

Zach Hinz ('24)

Tentative thesis title:

*Error Correcting Codes A Brief Introduction*

Brianna Huynh ('24)

Tentative thesis title:

*Understanding Faculty Motivation for Grading*

Below are the students I have worked with previously during my time at Pomona.

Kamden Baer ('23)

*Mathematical Approaches to the Study of Language:  
Sets and Stats*

Christopher Meng ('23)

*Connecting the Racial Counternarratives of  
Pomona Students of Black and Asian Math Students*

Nicholas Nguyen ('23)

*Signaling in Matching Problems*

Abigail Ball ('22)

*Graph Algorithms: A Theoretical and Practical Exploration*

Michael He ('22)

*Demystifying Growth*

Peter Heckendorn ('22)

*Key Ideas in Proof:  
Engaging Student Epistemology in Analysis Pedagogy*

Jordy Gertner ('21)

*The Semiotics of Graph Theory*

George Abelle Jr. ('20)	<i>Instrumental Variable Regression Analysis</i>
Jordan Huard ('20)	<i>Algorithmically Generating Harmonic Progressions for a “New” Bebop Standard</i>
Isabella Senturia ('20)	<i>Towards a New Characterization of the Weak Order</i>
Yanai Feldman ('19)	<i>A Categorical Critique of Binary Thought</i>
Eric Gofen ('19)	<i>(Re)humanizing Mathematics Education: Cultural Problem-Based Learning</i>
Sophia Hui ('19)	<i>Leveraging Mistakes in the Mathematics Classroom</i>
Sylvia Akueze Nwakanma ('19)	<i>Reading with Pictures, Picturing with Words: Probabilistic Topic Modeling of Text and Image</i>
Nurry Goren ('18)	<i>Quantifying Quantitative Literacy: Insights from Textbook Analysis</i>
Jacob Gomez ('18)	<i>Ethnomathematics and the Case for a Pedagogy of Liberation</i>
Adam Hathaway ('17)	<i>Algebraic Models of Logic in Quantum Mechanics</i>
Julia Paige Smith ('17)	<i>Evaluating Problem-Based Mathematics Curricula Grades 9-12</i>
Vannessa (Jinglin) Wang ('17)	<i>Revisiting the College Admissions Problem</i>
Luke Fischinger ('16)	<i>Quasigroups and Their Characters</i>
Charles Kusi Minkah-Premo ('16)	<i>Motivation and Epistemological Beliefs</i>
Cesar Julian Meza ('16)	<i>Ethnomathematics: An Indigenous Approach</i>
Emily Frances Proulx ('16)	<i>Creative Mathematical Reasoning in Assessment Tasks</i>
Hannah Thornhill ('16)	<i>The Philosophy of Mathematics: A Study of Indispensability and Inconsistency (Scripps dual thesis)</i>
Kimberley Jiongco Africa ('15)	<i>Challenging Roadblocks to Access in Education</i>
Alexander Cole ('15)	<i>Supermanifolds</i>
Emmanuel De Jesus Mendez ('15)	<i>Fermat’s Last Theorem: Past Attempts &amp; Final Proof</i>
Jennifer Marie Stewart ('15)	<i>Comparing Transition School Math Homework and Exams</i>
Gabrielle Andrea Badie ('14)	<i>Proof Formalization: History and Advancement</i>
Utsav Kothari ('14)	<i>The Theory of Coxeter Groups</i>
Rina Sadun ('14)	<i>Game Theory and the Binding of Isaac</i>



Jacob Alexander Brown ('13)	<i>Decomposing Poisson Space Into Symplectic Spaces</i>
Maria Boya Zhu ('13)	<i>Mathematics of Happiness</i>
Tom Cleveland ('12)	<i>Gödel's Incompleteness Theorems</i>
Christopher Fowler ('12)	<i>Supercharacter theory and Ramanujan Sums</i>
Clara Fried ('12)	<i>Strategy Manipulation in Matching Theory</i>
Xinyi Guo ('12)	<i>Group Theory in Physics</i>
Qingcheng Zhang ('12)	<i>Online Dating and Matching Theory</i>
Courtney Sibert ('12)	<i>School Choice and Voucher Systems (Scripps dual thesis)</i>
Anna Bessenen ('11)	<i>Effect of Gender in Mathematics Achievement</i>
Ben Greenberg ('09)	<i>Gödel's Incompleteness Theorems: Application and Proof</i>
Ian Cunningham ('08)	<i>An "Anti-group" Approach to Group Theory</i>
Andreea Nicolae ('08)	<i>Tropical Algebra and Applications to Tropical Geometry</i>
Kimberly Walters ('08)	<i>Gröbner Bases and Integer Programming</i>

**G. Badie, T. Cleveland, E. Gofen, B. Greenberg, X. Guo, A. Hathaway, S. Hui, and J. Wang received distinction for their work.**

**P. Heckendorn was co-advised by Edray Goins (Pomona College).**

**H. Thornhill was co-advised by Yuval Avnur (Scripps College).**

**A. Bessenen was co-advised by Darryl Yong (Harvey Mudd College).**

**C. Fowler was co-advised by Stephan Garcia (Pomona College).**

For information on these senior theses see:

<http://pages.pomona.edu/~gk014747/research/seniortheses.html>

### **Senior Theses - Second Reader (POMONA COLLEGE)**

At the Pomona Mathematics Department, theses nominated for distinction are read carefully by a second reader. I performed this duty for the following students:

Andrew Foster ('12)	ADVISOR: R. Levitt TITLE: <i>The Italian Anagram Problem</i>
Terry McDonnell ('09)	ADVISOR: S. Shahriari TITLE: <i>Irreducibility and primality of elements in generalized power series rings</i>

Julie Siloti ('08)

ADVISOR: A. Radunskaya

TITLE: *An Investigation of Symmetry Increasing Bifurcations  
in Discrete and Continuous Dynamical Systems*

Philip Armour ('07)

ADVISOR: S. Shahriari

TITLE: *Cooperative Game Theory  
with an Application to Currency Regimes***Senior Theses - Reader (HARVEY MUDD COLLEGE)**

I was the thesis reader for one student from Harvey Mudd College:

Ian Shors (HMC'23)

ADVISOR: M. Orrison

TITLE: *Harmonic Analysis o Permutation Statistics***Doctoral Dissertations - Committee Member (CLAREMONT GRADUATE UNIVERSITY)**

Faculty at the five undergraduate colleges of the Claremont Consortium occasionally serve on dissertation committees of doctoral students when their research specialties are relevant. They can also direct dissertation work in special circumstances.

Ahmed Al Fares('22)

ADVISOR: G. Karaali

PROGRAM: Mathematics

TITLE: *On Multiplication Groups of Quasigroups*

Hsi-Ching Wang('10)

ADVISOR: S. Rajpoot

PROGRAM: Engineering and Industrial Applied Mathematics

TITLE: *Z' Expectations at the Large Hadronic Collider***RESEARCH SUPERVISION IN OTHER CONTEXTS**

- **Summer research project supervisor (POMONA COLLEGE RAISE (REMOTE ALTERNATIVE INDEPENDENT SUMMER EXPERIENCE) 2020)**

As a replacement for the standard Pomona College SURP program, in the summer of 2020, the RAISE program provided multi-week paid fellowships for rising sophomores, juniors and seniors to pursue independent projects or connect with faculty research programs, all through virtual means.

PROJECT TITLE: What is College Math? Norms of Discourse, Narrative, and Mediation

DESCRIPTION: Jordy wanted to get a head start to work on the year-long thesis project. Jordy’s goal was “a 5-week analytical investigation of existing theoretical literature, exploring questions of how math is written, read, and spoken in college classrooms and surrounding discourse communities.”

STUDENT RESEARCHER: Jordy Gertner ’21.

• **Summer research project supervisor** (POMONA COLLEGE RAISE (REMOTE ALTERNATIVE INDEPENDENT SUMMER EXPERIENCE) 2020)

As a replacement for the standard Pomona College SURP program, in the summer of 2020, the RAISE program provided multi-week paid fellowships for rising sophomores, juniors and seniors to pursue independent projects or connect with faculty research programs, all through virtual means.

PROJECT TITLE: Development of Math 101: Introduction to Analysis Textbook

DESCRIPTION: Se Ho worked remotely reviewing and responding to my introductory analysis textbook. He learned a lot of mathematics but also gave me valuable feedback on the content, organization, style, and accessibility of the manuscript. I am still working on incorporating his feedback into the text and extending and clarifying several sections.

STUDENT RESEARCHER: Se Ho Kwak ’23.

• **Summer research project supervisor** (POMONA COLLEGE SURP (SUMMER UNDERGRADUATE RESEARCH PROGRAM) 2019)

Pomona College supports several undergraduates who are interested in engaging in research projects of various Pomona faculty via a funding program titled SURP. In the summer of 2019, I had the opportunity to work with one SURP student.

PROJECT TITLE: How to Write a Textbook: Representation Theory for Undergraduates

DESCRIPTION: Bella worked remotely on reading and responding to my representation theory manuscript. She learned a lot of mathematics but also gave me valuable feedback on the content, organization, style, and accessibility of the manuscript. I am still working on incorporating her feedback into the text and extending and clarifying several sections.

STUDENT RESEARCHER: Bella Senturia ’20.

• **Research Experiences for Undergraduate Faculty** (2018 REUF AIM-ICERM WORKSHOP TEAM LEADER)

Tenth in a series, sponsored by AIM, ICERM, and the NSF, this workshop aims to introduce

undergraduate faculty to research opportunities in several fields of mathematics so as to equip them with the tools to mentor students in undergraduate research in mathematics.

PROJECT TITLE: Mathematics of Mechanical Puzzles

DESCRIPTION: Lectures aimed to provide background information and introduce open problems. The majority of the time was spent working on problems, reporting on progress, and formulating plans for future work. Our team met virtually through the 2018-2019 academic year and then in person at Pomona College in April 2019. All team members are continuing to work on related projects with students on their respective campuses.

FACULTY RESEARCH TEAM PARTICIPANTS: Tara Davis, Lauren Grimley, Kenan Ince, Boyan Kostadinov, and Roberto Soto.

• **Summer research project supervisor** (*through a POMONA COLLEGE FACULTY RESEARCH GRANT 2015-2016*)

In Summer 2016, supported by an internal grant, I worked with two Pomona students.

PROJECT TITLE: Defining Humanistic Mathematics

DESCRIPTION: We explored the various definitions provided for the term “humanistic mathematics”. This work resulted in a poster presentation and a conference presentation for the students, and a paper that was published in 2018 in *Journal of Humanistic Mathematics*. I had expected there to be at least one more paper coming out of this project in the near future, but the two students have moved on to other pastures.

STUDENT RESEARCHERS: Nurullah Elliott Goren '18, Tiffany Zhu '17.

• **Summer reading and research project supervisor** (SUMMER 2016)

In Summer 2016, I also worked with Samuel Yih '18, a Pomona mathematics major who was interested in pursuing more opportunities.

PROJECT TITLE: The Power of Three in Abstract Algebra

DESCRIPTION: We explored the various special cases in abstract algebra involving the number 3 and found connections between these special cases. This work resulted in a paper which got accepted for publication in the journal *PRIMUS*.

STUDENT RESEARCHER: Samuel Yih '18.

• **Yearlong research project supervisor** (SOUTHERN CALIFORNIA ACADEMY OF SCIENCE (SCAS) RESEARCH TRAINING PROGRAM) 2015-2016)

Southern California Academy of Science supports local high school students who are interested in engaging in science research to connect with college faculty to work through the academic year. The work culminates in a research paper and a presentation. In the academic year of 2015-2016, I had the opportunity to work with one SCAS student.

PROJECT TITLE: Totally Positive Matrices and Planar Networks

DESCRIPTION: We explored the various algebraic properties of totally positive matrices and then connect them to planar networks using Le diagrams.

STUDENT RESEARCHERS: Christopher Wong, Walnut High School '17.

• **Summer research project supervisor** (POMONA COLLEGE SURP (SUMMER UNDERGRADUATE RESEARCH PROGRAM) 2015)

Pomona College supports several undergraduates who are interested in engaging in research projects of various Pomona faculty via a funding program titled SURP. In the summer of 2015, I had the opportunity to work with one SURP student.

PROJECT TITLE: Defining Quantitative Literacy

DESCRIPTION: We explored the various definitions provided for the term “quantitative literacy”. Together with Jeremy Taylor’s work during his independent study with me in Fall 2014, this work resulted in a paper that was published in January 2016 in *Numeracy*.

STUDENT RESEARCHERS: Edwin Villafane Hernandez '18.

• **Summer reading and research project supervisor** (SUMMER 2015)

In Summer 2015, I also worked with Dorian Lee '15, a Pomona mathematics major who had just graduated but was interested in pursuing some research opportunities before moving forward after graduation.

PROJECT TITLE: Languages, Alphabets, and Group Theory

DESCRIPTION: We explored algebraic properties of the Korean and Turkish alphabets. This work led to a collaborative project with Herbert Gangl of Durham University, UK, which has been published as a paper in 2019 in the journal *Involve*.

STUDENT RESEARCHER: Woohyung (Dorian) Lee '15.

• **Summer reading and research project supervisor** (SUMMER 2015)

In Summer 2015, I also worked with three high-school students exploring the philosophy

of education via Pioneer Academics.

PROJECT TITLE: On Education: Fundamentals, Philosophies, Realities

DESCRIPTION: We examined the notion and institutions of education, engaged with classical and contemporary arguments about it, and clarified our understanding of the goals of a college education. We surveyed the philosophical underpinnings of education, and investigated the purposes of educating the young in the arts, the humanities, and mathematics.

STUDENT RESEARCHERS: Sicheng Luo, Qia Wang, Nuanqiu Hou.

• **Summer research project supervisor** (POMONA COLLEGE SURP (SUMMER UNDERGRADUATE RESEARCH PROGRAM) AND HAP (HIGH ACHIEVEMENT PROGRAM) 2014)

Pomona College supports several undergraduates who are interested in engaging in research projects of various Pomona faculty via a funding program titled SURP.

Through another funding channel, HAP, Pomona supports a handful of incoming first-year students from backgrounds that are underrepresented in the sciences during a summer bridge program, which incorporates a research experience.

In Summer 2014, I worked with two SURP students and one HAP student.

PROJECT TITLE: Purpose and Humanism in Mathematics Education Research

DESCRIPTION: We explored the purported goals of mathematics education. We focused on the corpus of the first twenty volumes of an established mathematics education research journal (*Educational Studies in Mathematics*) to determine the prevalence of various approaches to this question among researchers of the time span of these twenty volumes.

STUDENT RESEARCHERS: Alejandra Castillo '17 (SURP), Prisca Diala '18 (HAP), Luke Fischinger '16 (SURP).

• **Research Experiences for Undergraduate Faculty** (2013 REUF AIM-ICERM WORKSHOP TEAM LEADER)

Fifth in a series, sponsored by AIM, ICERM, and the NSF, this workshop aimed to introduce undergraduate faculty to research opportunities in several fields of mathematics so as to equip them with the tools to mentor students in undergraduate research in mathematics.

PROJECT TITLE: Doing Math with a Conscience? / Math For Social Justice

DESCRIPTION: Lectures aimed to provide background information and introduce open

problems. The majority of the time was spent working on problems, reporting on progress, and formulating plans for future work. During the workshop I supervised a team of five faculty members in developing their own viable research programs in their own institutions.

FACULTY RESEARCH TEAM PARTICIPANTS: Nicholas Boros, Rhonda Ellis, Karen McCready, William Miles, and Roselyn Williams.

• **Summer research project supervisor (CCMS FLETCHER JONES SUMMER RESEARCH FELLOWSHIP 2011)**

The Claremont Center for the Mathematical Sciences funds, via the support of Fletcher Jones Foundation, three summer research projects. My project was selected to be one of these for Summer 2011. In this framework I worked with three undergraduate students from HMC and Pomona, and one graduate student from CGU.

PROJECT TITLE: Yang-Baxter Equations and Integrable Systems

DESCRIPTION: We explored the various meanings of the classical Yang-Baxter equation (CYBE). Our goal was to construct (precise mathematical descriptions for) specific mechanical systems (called *integrable systems*) arising from solutions of the CYBE. Students also got a glimpse of how modern physics and mathematics are inextricably intertwined.

STUDENT RESEARCHERS: Peter Fedak (Harvey Mudd College), Keith McHugh (Pomona College), Aaron Pribadi (Harvey Mudd College), Sundeep Sampath (Claremont Graduate University)

• **REU project supervisor (CLAREMONT REU 2010: Statistics / Operations Research)**

The Claremont Colleges run a joint NSF-supported Research Experiences for Undergraduates program where faculty from the five undergraduate colleges of the Claremont Consortium supervise projects in a focus area which changes from year to year.

PROJECT TITLE: Game Theory and School Choice

DESCRIPTION: The School Choice Problem seeks school choice mechanisms (designed by the school district) to allocate available resources (seats in schools) among players (students with parents as agents) subject to district priorities and legal requirements. We investigated a core set of mechanisms and devised new mechanisms with desirable properties.

STUDENT RESEARCHERS: Sinan Aksoy (University of Chicago), Adam Azzam (University of Nebraska Lincoln), Chaya Coppersmith (Bryn Mawr College), Xueying Zhao (Mount Holyoke College), Xinjing (Amie) Zhu (Mount Holyoke College)

RESEARCH DESIGN: Joint with Julie Glass (California State University East Bay)

## PROFESSIONAL SERVICE

### Editorial Experience

FOUNDING (AND CONTINUING) EDITOR (2011-present)

*Journal of Humanistic Mathematics*

with Mark Huber (Claremont McKenna College)

“*The Journal of Humanistic Mathematics provides a forum for discussions about the aesthetic, cultural, historical, literary, pedagogical, philosophical, psychological, and sociological aspects as we look at mathematics as a human endeavor.*” Established in 2011.

<http://scholarship.claremont.edu/jhm>

SENIOR EDITOR (2020-present)

ASSOCIATE EDITOR (2016-2020)

*Numeracy*

“*As the flagship journal of the National Numeracy Network (NNN), Numeracy seeks to advance the NNN’s vision of ‘a society in which all citizens possess the power and habit of mind to search out quantitative information, critique it, reflect upon it, and apply it in their public, personal and professional lives.’*” Established in 2008.

<http://scholarcommons.usf.edu/numeracy/>

ASSOCIATE EDITOR (2013-2022)

*The Mathematical Intelligencer*

“*The Mathematical Intelligencer publishes articles about mathematics, about mathematicians, and about the history and culture of mathematics.*” Established in 1978.

<http://www.springer.com/mathematics/journal/283>

<http://link.springer.com/journal/283>

EDITORIAL BOARD, *Matematik Dünyası*, (2017-2020)

A popular mathematics magazine, targeting high school and college students.

Published in Turkish by the Turkish Mathematicians Association

EDITORIAL BOARD, *Classroom Resource Materials*, (2020-present)

Publication Series of Mathematical Association of America

“*This series provides supplementary material for students and their teachers—laboratory, exercises, projects, historical information, textbooks with unusual approaches for presenting mathematical ideas, career information, and much more.*”

<https://bookstore.ams.org/clrm>



EDITORIAL BOARD, *Carus Mathematical Monographs*, (2013-2019)  
 Publication Series of Mathematical Association of America

*“Monographs [in this series] are set forth in a manner comprehensible not only to teachers and students specializing in mathematics, but also to scientific workers in other fields.”*

<https://bookstore.ams.org/car>

SERIES EDITOR, *Mathematics in Culture and the Arts*, (2017-present)

ASSOCIATE EDITOR, *Mathematics in Culture and the Arts*, (2013-2017)

Springer Book Series

*“The series Mathematics in Culture and the Arts publishes books on all aspects of the relationships between mathematics and the mathematical sciences and their roles in culture, art, architecture, literature, and music. This new book series will be a major resource for researchers, educators, scientifically-minded artists, and students alike.”*

<http://www.springer.com/series/13129>

CONSULTING EDITOR, *Springer Handbook on the Mathematics of the Arts and Sciences*,  
 edited by Bharath Sriraman (2016-2021)

*“The goal of this Handbook is to become an authoritative source with chapters that show the origins, unification, and points of similarity between different disciplines and mathematics. Some chapters will also show bifurcations and the development of disciplines which grow to take on a life of their own. Science and Art are used as umbrella terms to encompass the physical, natural and geological sciences, as well as the visual and performing arts.”*

<http://www.springer.com/us/book/9783319570716#aboutBook>

WEB EDITOR, *Algebraic Combinatorixx*, (2016-2017)

AWM Research Network

*“This site serves as a resource for and about female mathematicians whose research interests lie in Algebraic Combinatorics.”*

Site available at <https://awmadvance.org/research-networks/algebraic-combinatorixx/>

## Peer-Review

• **Journal Referee:** *Advances in Mathematics*, *College Mathematics Journal*, *European Journal of Combinatorics*, *European Journal of Educational Research*, *Froniers in Education*, *Journal of Algebra*, *Journal of Complex Networks*, *Journal of Mathematics and the Arts*, *Journal of Pragmatics*, *Involve*, *Leonardo*, *Loci*, *Math Horizons*, *Mathematics Teaching in the Middle School*, *Mathematics Teacher*, *Middle Grades Research Journal*, *Notices of the American Mathematical Society*, *Numeracy*, *PRIMUS*, *Turkish Journal of Mathematics*.

• **Reviewing Grant Proposals:**

- Workshop Proposal Reviewer:** *reporting to Banff International Research Station* 2022  
2024 BIRS Workshop Proposals Competition
- FWF Grant Reviewer:** *reporting to the Austrian Science Fund* 2015  
2015 FWF Grant Competition
- NSA-AMS Grant Reviewer:** *reporting to the National Security Agency* 2015  
2015 NSA-AMS Grant Competition
- DOE-GAANN Grant Reviewer:** *reporting to the Department of Education* 2012  
2012 GAANN Grant Competition
- DOE-FIPSE Grant Reviewer:** *reporting to the Department of Education* 2010  
2010 FIPSE Comprehensive Grant Competition
- NSF-EPSCoR Grant Reviewer:** *reporting to the Louisiana Board of Regents* 2009  
Pilot Funding for New Research (Pfund) program

- **AAC&U Conference Reviewer:** *Transforming STEM Education* 2013

- **Reviewer:** *AMS Mathematical Reviews (MathSciNet)* since 2007  
Scholarly reviews of published mathematics research articles  
<http://www.ams.org/mathscinet/>

- **Book reviewer:** on and off since 2011  
*AWM Newsletter, College Mathematics Journal, Mathematics Teacher, Journal of Mathematics and the Arts, Numeracy*

- Book reviewer:** *MAA Reviews* 2005–2015  
wrote over thirty scholarly reviews of recently published mathematics books  
<https://www.maa.org/press/maa-reviews>

KARAALI HAS ALSO REVIEWED SEVERAL BOOKS FOR PUBLISHERS:

- Reviewer, *De Gruyter* 2021
- Reviewer, *Chicago University Press* 2021
- Reviewer, *Birkhäuser* 2016
- Reviewer, *Birkhäuser* 2016
- Reviewer, *Cambridge University Press* 2014
- Reviewer, *McGraw-Hill* 2013
- Reviewer, *Pearson* 2011
- Reviewer, *Houghton Mifflin* 2007

**Workshops and Minicourses Developed and Facilitated**

- UPCOMING: **Co-facilitator** (with Kira Hamman and Lew Ludwig) Summer 2024  
*MAA OPEN Math Workshop: Whos Afraid of Generative AI? Promises and Challenges for the Mathematics Classroom,*  
 May 13-16, June 3, August 12, October 7  
 2024 MAA OPEN Math Summer Program, virtual
- UPCOMING: **Co-facilitator** (with Ileana Vasu, Geillan Aly, and Jonas D’Andrea) August 6, 2024  
*MathFEST 2024 Workshop: Equity in the Moment*  
 Bloomington, IN
- UPCOMING: **Co-facilitator** (with Ileana Vasu, Geillan Aly, and Jonas D’Andrea) April 6, 2024  
*Virtual NE-COMMIT Workshop: Equity in the Moment*
- **Co-facilitator** (with Ileana Vasu, Geillan Aly, and Jonas D’Andrea) November 3, 2023  
*AAC&U Workshop: Equity in the Moment*  
 2023 Conference on Transforming STEM Higher Education  
 Arlington, VA
- **Co-facilitator** (with Lily Khadjavi) June 7–9, 2023  
*MAA-NCS Workshop: Mathematics for Social Justice Workshop*  
 Minneapolis, MN
- **Co-facilitator** (with Maria Mercedes Franco and Lily Khadjavi) August 5-6, 2021  
*Project NExT Minicourse: Mathematics for Social Justice*  
 MathFEST 2021, virtual
- **Co-facilitator** (with Janet Beery, Matt Boelkins, Susan Jane Colley, Joanna Ellis-Monaghan, Brian Hopkins, Michael Jones, Marjorie Senechal, and Brigitte Servatius) January 11, 2018  
*MAA Workshop: Writing Pedagogical and Expository Papers*  
 Joint Mathematics Meeting 2018, San Diego, CA
- **Co-facilitator** (with Eric Marland) January 6-8, 2016  
*MAA Minicourse: Humanistic Mathematics - Two Parts*  
 Joint Mathematics Meeting 2016, Seattle, WA

- **Co-facilitator** (with Candice Price) October 29, 2015  
*PD Session: A Writing Group Strategy for Scientists*  
 2015 SACNAS National Conference, National Harbor, MD
- **Co-facilitator** (with Shawn McMurrin) March 14, 2015  
*Faculty Session on Pedagogy: Teaching Ideas Swap Session*  
*MAA Centennial and PCUMC Tenth Anniversary Conference,*  
 Spring 2015 MAA SoCal/NV Section Meeting,  
 Thousand Oaks, CA
- **Co-facilitator** (with Eric Marland) January 10-12, 2015  
*MAA Minicourse: Humanistic Mathematics - Two Parts*  
 Joint Mathematics Meeting 2015, San Antonio, TX
- **Co-facilitator** (with Travis Brown, Nathan Grawe, Neil Lutsky,  
 Lisa Norberg, Cassandra Pattanayak, Corrine Taylor, Mija  
 van der Wege, Heather van Volkinburg, and David Weiman) October 10-11, 2014  
*AALAC (Alliance to Advance Liberal Arts Colleges) Workshop:*  
*Enhancing Quantitative Reasoning Across the Curriculum*  
 National Numeracy Network Annual Conference, Northfield, MN
- **Co-facilitator** (with Eric Marland) January 15-17, 2014  
*MAA Minicourse: Humanistic Mathematics - Two Parts*  
 Joint Mathematics Meeting 2014, Baltimore, MD

### **Workshops, Conferences, Conference Sessions, Panels Organized, Chaired**

This list does not include the Algebra / Number Theory / Combinatorics seminar that GK coorganizes with Lenny Fukshansky at the Claremont Colleges.

- UPCOMING: Member, Local Organizing Committee August 2025  
*MES13: Mathematics Education and Society*  
 Atlanta, GA
- UPCOMING: Co-organizer, *MAA Contributed Paper Session* August 2024  
*Using Generative AI in the College Mathematics Classroom,*  
 MathFEST 2024, Indianapolis, PA

- Co-organizer, *MAA Town Hall Session* August 2023  
*Just Mathematics: Creating Connections between  
 Mathematics Content Areas & Social Justice,*  
 MathFEST 2023, Tampa, FL
- Co-organizer, *MAA Contributed Paper Session* August 2022  
*QL and QR as Tools for Learning Across the Disciplines,*  
 MathFEST 2022, Philadelphia, PA
- Co-organizer, *AMS Special Session* January 2022  
*Quantitative Literacy and Society,*  
 Joint Mathematics Meeting 2022, Seattle, WA
- Co-organizer, *MAA Contributed Paper Session* August 2021  
*Insights into QL and Reasoning from the COVID-19 Pandemic,*  
 MathFEST 2021, virtual
- Co-organizer, *MAA Contributed Paper Session* January 2021  
*Data-Driven Modeling Projects,*  
 Joint Mathematics Meeting 2021, virtual
- Co-organizer, *MAA Contributed Paper Session* January 2020  
*Mathematics, Quantitative Literacy, and Social Justice:  
 An Ongoing Dialogue,*  
 Joint Mathematics Meeting 2020, Denver, CO
- Co-organizer, *Special Town Hall Meeting* August 2019  
*Quantitative Literacy and Social Justice,*  
 MathFEST 2019, Cleveland, OH
- Co-organizer, *MAA Contributed Paper Session* January 2019  
*Humanistic Mathematics,*  
 Joint Mathematics Meeting 2019, Baltimore, MD
- Co-organizer, *MAA Contributed Paper Session* January 2018  
*Humanistic Mathematics,*  
 Joint Mathematics Meeting 2018, San Diego, CA
- Co-organizer, *AWM Special Session* April 2017  
*Algebraic Combinatorics,*  
 AWM Research Symposium 2017, Los Angeles, CA

- Co-organizer, *MAA Contributed Paper Session  
Humanistic Mathematics,  
Joint Mathematics Meeting 2017, Atlanta, GA* January 2017
- Co-organizer, *MAA Contributed Paper Session  
Humor and Mathematics,  
Joint Mathematics Meeting 2017, Atlanta, GA* January 2017
- Co-organizer, *MAA General Contributed Paper Session  
General Contributed Paper Sessions,  
MathFest 2016, Columbus, OH* August 3–6, 2016
- Co-organizer, *AWM Research Workshop  
AWM Research Workshop Session on Algebraic Combinatorics  
Joint Mathematics Meeting 2016, Seattle, WA* January 9, 2016
- Co-organizer, *MAA Contributed Paper Session  
Quantitative Literacy in the K-16 Curriculum,  
Joint Mathematics Meeting 2016, Seattle, WA* January 6, 2016
- Co-organizer, *AMS Special Session  
Special Session on Humanistic Mathematics,  
AMS 2015 Fall Western Section Meeting, Fullerton, CA* October 24-25, 2015
- Co-organizer,, *MAA Panel Session  
Quantitative Literacy and Democracy,  
MathFEST 2015, Washington, DC* August 8, 2015
- Co-organizer, *MAA / PCUMC Conference  
MAA Centennial and PCUMC Tenth Anniversary Conference,  
Spring 2015 MAA SoCal/NV Section Meeting, Thousand Oaks, CA* March 14, 2015
- Co-organizer, *AWM Poster Session  
Graduate Student Research Poster Session  
Joint Mathematics Meeting 2015, San Antonio, TX* January 12, 2015
- Co-organizer, *MAA Contributed Paper Session  
Humor in Mathematics,  
Joint Mathematics Meeting 2015, San Antonio, TX* January 10, 2015

- Organizer, *MAA Panel Session* January 11, 2015  
*Mathematicians Write: Publishing Options and Outlets*  
*Beyond the Standard Research Journal,*  
 Joint Mathematics Meeting 2015, San Antonio, TX
- Chairperson, *Short Communication Session SC11-05* August 15, 2014  
 International Congress for Mathematicians-ICM 2014, Seoul, Korea
- Organizer, *MAA Contributed Paper Session* October 12, 2013  
*Contributed Paper Sessions - Four Parts,*  
 Fall 2013 MAA SoCal/NV Section Meeting, Dominguez Hills, CA
- Co-organizer, *AMS Special Session* January 11, 2013  
*Special Session on Algebraic Combinatorics & Representation Theory,*  
 Joint Mathematics Meeting 2013, San Diego, CA
- Co-organizer, *MAA General Contributed Paper Session* January 9-12, 2013  
*General Contributed Paper Sessions,*  
 Joint Mathematics Meeting 2013, San Diego, CA
- Co-organizer, *MAA Panel* August 3, 2012  
*Effective Strategies for Teaching Classes for Non-majors,*  
 MathFEST (Annual Meeting of MAA) 2012, Madison, WI
- Co-organizer, *MAA Contributed Paper Session* January 8-9, 2011  
*Contributed Paper Session on Humanistic Mathematics,*  
 Joint Mathematics Meeting 2011, New Orleans, LA
- Co-organizer, *AMS 2008 Spring Western Section Meeting Session* May 3-4, 2008  
*Special Session on Hopf Algebras and Quantum Groups,*  
 Claremont McKenna College
- Co-organizer, *Project NExT Panel,* August 2, 2007  
*Funding agencies other than the NSF and Dept. of Education*  
 MathFEST 2007, San Jose, CA
- Co-organizer, *Project NExT Panel,* January 7, 2007  
*Expanding Our Research Horizons*  
 Joint Mathematics Meetings 2007, New Orleans, LA

GK also organized poetry readings / open poetry nights at the JMM 2011 (together with

Mark Huber and Dagan Karp), at JMM 2012 (together with JoAnne Growney and Mark Huber), at JMM 2013 (together with Mark Huber and Sue VanHattum), at JMM 2014 (together with JoAnne Growney and Mark Huber), at JMM 2015 (together with Lawrence Lesser), at JMM 2016 (together with Lawrence Lesser and Douglas Norton), at JMM 2017 (together with Lawrence Lesser and Douglas Norton), at JMM 2019 (together with JoAnne Growney, Lawrence Lesser, and Douglas Norton), at JMM 2020 (together with Lawrence Lesser and Douglas Norton), and at JMM 2022 (together with Lawrence Lesser and Douglas Norton).

### **Mentoring and outreach activities: General**

F22 MATCH Fellow MATCHing Mathematicians with Classrooms Nationwide (AIM)	2022-2023
Workshop Team Leader: Research Experiences for Undergraduate Faculty (REUF 2018) American Institute for Mathematics (AIM), San Jose, CA;	2018
MPWR Group Leader: <i>Mentoring &amp; Partnerships For Women in RUME</i> (initiated at Conference on RUME 2016, Pittsburgh, PA)	2016-2017
Co-organizer: <i>AWM Workshop Session and Mentoring Matchups</i> For the <i>AWM Research Workshop Session on Algebraic Combinatorics</i> Joint Mathematics Meeting 2016, Seattle, WA	1/15-1/16
Co-organizer: <i>SACNAS Professional Development Workshop Session</i> <i>A Writing Group Strategy for Scientists</i> 2015 SACNAS National Conference, National Harbor, MD	11/15
Faculty advisor: <i>Gates Millennium Scholars Claremont Colleges Community</i>	2015-
Research Mentor: <i>The Mellon Mays Undergraduate Fellowship</i> For Alejandra Castillo (PO class of 2018)	2015-2017
Co-organizer: <i>AWM Poster Session and Mentoring Matchups</i> For the <i>Graduate Student Research Poster Session</i> Joint Mathematics Meeting 2015, San Antonio, TX	12/14-1/15
Mentor: <i>MAA Early Career Mentoring Network</i> National program connecting junior mathematicians with experienced mathematicians.	2013-
Consultant: <i>Project NExT</i>	2013-



Professional development program for new or recent Ph.D.s in the mathematical sciences.

Workshop Team Leader:

Research Experiences for Undergraduate Faculty (REUF 5)  
Institute for Computational and Experimental Research in Mathematics (ICERM), Providence, RI; 2013

Mentor: AWM (Association for Women in Mathematics) Joint Mathematics Meetings Workshop - assigned to mentor an individual postdoctoral mathematician. 2010

Instructor for EDGE 2008 June 2008

Enhancing Diversity in Graduate Education:  
NSF-funded summer program for women about to start graduate studies in mathematics

### **Quantitative literacy and student support activities**

AAC&U VALUE Quantitative Literacy Rubric Revision Team Fall 2023

Past Chair, Special Interest Group of the MAA on Quantitative Literacy 02/2020-01/2021

Chair, Special Interest Group of the MAA on Quantitative Literacy 02/2018-01/2020

Chair-Elect, Special Interest Group of the MAA on Quantitative Literacy 08/2017-01/2018

Secretary/Treasurer, Executive Committee, Special Interest Group of the MAA on Quantitative Literacy (*served for two terms*) 02/2010-01/2016

Faculty coordinator for the CCMS Software Lab 2010-2013  
A collaborative consortium-wide resource that provides timely and much needed software support to any member of the Claremont community who requests it.

Served on all faculty committees of Pomona College on quantitative skills 2010-2014

Pomona College team member:

Summer workshop on inquiry based statistics education, Wesleyan College July 2011

PKAL workshop on quantitative assessment techniques, Carleton College October 2010

### **Reviewing / Judging Student Research**

TRIAGE JUDGE FOR HIGH SCHOOL STUDENT TEAM RESEARCH PROJECTS, for the M3 MathWorks Math Modeling Challenge; 2018–2023

JUDGE FOR UNDERGRADUATE STUDENT RESEARCH PRESENTATIONS, for the 2017 SACNAS (Society for Advancement of Chicanos/Hispanics and Native Americans in Science) – The National Diversity in STEM Conference, held in Salt Lake City, UT, in October 2017; (07-08/2017)

JUDGE FOR GRADUATE STUDENT RESEARCH PRESENTATIONS, for the 2017 SACNAS (Society for Advancement of Chicanos/Hispanics and Native Americans in Science) – The National Diversity in STEM Conference, held in Salt Lake City, UT, in October 2017; (07-08/2017)

JUDGE FOR THE GRADUATE STUDENT POSTER SESSION, 2017 AWM Research Symposium, Los Angeles, CA; (04/08/2017)

PROGRAM COMMITTEE MEMBER / REVIEWER FOR 2014 MCURCSM, Undergraduate computer science and mathematics research conference in Wooster, OH; (10-11/2014)

REVIEWER FOR THE 2014 YOUNG MATHEMATICIANS CONFERENCE, Undergraduate mathematics research conference in Columbus, OH, on August 22-24, 2014; (07/2014)

JUDGE FOR THE STUDENT POSTER SESSION, Spring 2014 Meeting of the Southern California - Nevada Section of MAA, Fullerton, CA; (04/12/2014)

PROGRAM COMMITTEE MEMBER / REVIEWER FOR 2013 MCURCSM, Undergraduate computer science and mathematics research conference in Delaware, OH; (10-11/2013)

PROGRAM COMMITTEE MEMBER / REVIEWER FOR 2012 MCURCSM, Undergraduate computer science and mathematics research conference in Delaware, OH; (10-11/2012)

REVIEWER FOR THE 2012 YOUNG MATHEMATICIANS CONFERENCE, Undergraduate mathematics research conference in Columbus, OH, on July 27-29, 2012; (06/2012)

JUDGE FOR THE STUDENT POSTER SESSION, Spring 2012 Meeting of the Southern California - Nevada Section of MAA, Fullerton, CA; (04/14/2012)

REVIEWER FOR THE NINTH ANNUAL STUDENT PAPER CONTEST IN THE HISTORY OF MATHEMATICS, Undergraduate essay competition organized by the History of Mathematics Special Interest Group of the MAA (HOMSIGMAA), 2012; (04/2012)

PROGRAM COMMITTEE MEMBER / REVIEWER FOR 2011 MCURCSM, Undergraduate computer science and mathematics research conference in Granville, OH; (10-11/2011)

REVIEWER FOR THE 2011 YOUNG MATHEMATICIANS CONFERENCE, Undergraduate mathematics research conference in Columbus, OH, on August 19-21, 2011; (07/2011)

REVIEWER FOR THE EIGHTH ANNUAL STUDENT PAPER CONTEST IN THE HISTORY OF MATHEMATICS, Undergraduate essay competition organized by the History of Mathematics Special Interest Group of the Mathematical Association of America (HOMSIGMAA), 2011; (04/2011)

PROGRAM COMMITTEE MEMBER / REVIEWER FOR 2010 MCURCSM, Undergraduate computer science and mathematics research conference in Springfield, OH; (10-11/2010)

REVIEWER FOR THE 2010 YOUNG MATHEMATICIANS CONFERENCE, Undergraduate mathematics research conference in Columbus, OH, on August 27-29, 2010; (08/2010)

JUDGE FOR THE UNDERGRADUATE RESEARCH POSTER SESSION, Joint Mathematics Meetings 2010, San Francisco, CA; (01/15/2010)

PROGRAM COMMITTEE MEMBER / REVIEWER FOR 2009 MCURCSM, Undergraduate computer science and mathematics research conference in Oberlin, OH; (10-11/2009)

REVIEWER FOR THE 2009 YOUNG MATHEMATICIANS CONFERENCE, Undergraduate mathematics research conference in Columbus, OH, on August 28-30, 2009; (08/2009)

JUDGE FOR THE STUDENT POSTER SESSION, Spring 2008 Meeting of the Southern California - Nevada Section of MAA, San Diego, CA; (03/15/2008)

JUDGE FOR THE UNDERGRADUATE RESEARCH POSTER SESSION, Joint Mathematics Meetings, San Diego, CA; (01/08/2008)

JUDGE FOR THE STUDENT POSTER SESSION, Spring 2007 Meeting of the Southern California - Nevada Section of MAA, Claremont, CA; (03/03/2007)

JUDGE FOR THE UNDERGRADUATE RESEARCH POSTER SESSION, Joint Mathematics Meetings, New Orleans, LA; (01/07/2007)

### **Service to the American Mathematical Society**

UPCOMING: Judge; AMS Math Poetry Contest 2024 February-April 2024

Judge; AMS Math Poetry Contest 2023 November 2022-January 2023

Member, AMS Library Committee 2021-present

Judge; AMS Math Poetry Contest 2020 November 2019-January 2020

Judge; AMS Math Poetry Contest 2019 November 2018-January 2019

**Service to the Mathematical Association of America**

Editorial Board Member, <i>Classroom Resource Materials</i> ,	2020-2025
Chair, Special Interest Group of the MAA on Quantitative Literacy	02/2018-01/2020
Chair-Elect, Special Interest Group of the MAA on Quantitative Literacy	08/2017-01/2018
Program Chair, MAA Southern California-Nevada Section,	2014-2015
Editorial Board Member, <i>Carus Mathematical Monographs</i> ,	2013-2016, 2016-2019
Program Vice Chair, MAA Southern California-Nevada Section,	2013-2014
Program Committee Member, MAA Southern California-Nevada Section,	2012-2015
Member, MAA Committee on Contributed Paper Sessions	2011-2014, 2014-2017
Secretary/Treasurer, Executive Committee, Special Interest Group of the MAA on Quantitative Literacy ( <i>served for two terms</i> )	02/2010-01/2016
Member, MAA Committee on the Beckenbach Book Award	2008-2010
Reviewer: MAA Reviews wrote over thirty book reviews	2005-2015

**Service to the Association for Women in Mathematics**

Member-at-Large (elected), AWM Executive Committee (Portfolio: Publications and Professional Communities)	2024-2028
AWM Newsletter Editor Search Committee	2022-2023
AWM-MAA Sectional Liaison Committee, AWM	2018-2020
AWM Wikipedia Fellow	Summer 2018
Research Networks Committee, AWM	2015-2017
Joint Mathematics Meeting Committee, AWM	2014-2016
Mentor, AWM (Association for Women in Mathematics) Joint Mathematics Meetings Work- shop - assigned to mentor an individual postdoctoral mathematician.	2010

Member, AWM 2010 Joint Mathematics Meetings Workshop Postdoctoral Participant Selection Committee 08/2009-07/2010

### **Other professional activities**

AAC&U VALUE Quantitative Literacy Rubric Revision Project - Literature Synthesis Team Fall 2023

Wiley Math and Statistics Advisory Panel 2023-2024

TMD (Turkish Mathematicians Association) Kollokyumlar Komitesi 2021–present

Participant: VALUE Reliability Project: AAC&U Project to assess the reliability of VALUE rubrics February 2011

Contributor: CAPSULE project 2006-2008  
MAA project to catalogue articles in Mathematics Magazine.

## **COLLEGE SERVICE and ACTIVITIES**

### DEPARTMENTAL ACTIVITIES:

Participated in the search to hire a tenure-track mathematician Fall 2019-Spring 2020

Participated in the tenure and promotion review of Blerta Shtylla Fall 2018

Participated in the promotion to full professor review of Vin de Silva Spring 2018

Participated in the search to fill two temporary positions Spring 2017

Participated in the third-year review of Blerta Shtylla Fall 2015

Participated in the promotion to full professor review of Jo Hardin Spring 2015

Senior exercise and honors “committee” Spring 2015

Participated in the first-year review of Blerta Shtylla Fall 2014

Participated in the search to fill a temporary part-time position Fall 2013

Participated in the search to hire a tenure-track mathematician Fall 2012-Spring 2013

Participated in the search to fill a three year postdoctoral position Spring 2012

Departmental assessment committee	Fall 2010-Spring 2012
Participated in the search for two temporary faculty	Fall 2008-Spring 2009
Participated in the third-year review of Vin de Silva	Fall 2007
Participated in the tenure review of Jo Hardin	Fall 2007
Helped proctor the exams in the Mathematics Placement Exams	08/27/2007
Helped grade for the Pomona-Wisconsin Mathematics Talent search - V	03/19/2007
Participated in the first-year review of Vin de Silva	Fall 2006
<u>POMONA COLLEGE COMMUNITY:</u>	
DEI Project Pairs Program	2023-2024
Teaching and Learning Committee	2023-2024
Ad hoc committee for Virginia Clauser Future Teacher Award 2023	Spring 2023
FPC subcommittee	Spring 2022
Member of the Orientation Book Committee	2021-2023
Participated in the DEI (Diversity, Equity, Inclusion) Faculty Cohort	Spring 2021
Member of the Faculty Grievance Committee (elected)	Fall 2019–Spring 2021
Pomona College Faculty Liaison Teaching Experiences for Undergraduates Program	Spring 2019-present
Pomona College Academy for Youth Success (PAYS) Advisory Committee	2018-2019
Pomona College Faculty Liaison Study Abroad (Budapest Semesters in Mathematics Education)	Spring 2018-present
Education / PST Advisor	2017-2021
Participated in the International Faculty and Student Meet and Greet 2017	Fall 2017
Member of the Critical Thinking and Writing Committee	2015-2017
Member of the Advisory Board for Library Planning (ABLP)	2015-2016

Member of the Hahn Teaching with Technology Grants Committee	Spring 2013, Spring 2015, Spring 2016, Spring 2019
Family Weekend presentations on ID1 courses (see Presentations for titles)	02/2016, 02/2014, 02/2012
Member of the Faculty Positions Advisory Committee (elected) Interim Chair: Summer 2014, Chair: 2014-2015.	Fall 2013–Spring 2015
Member of the QSC Advisory Committee	Fall 2013-Spring 2014
Special lecture presentation for Pomona College alumni/ae (see Presentations for titles)	08/2013, 12/2009
Chair of the ID-1 Steering Committee	Spring 2013
Member of the Quantitative Studies Center Director Search Committee	Fall 2012
Member of the Faculty-Trustee Retreat Planning Committee	2011-2012
Division II Science Lunch Talk (see Presentations for titles)	04/2012
Discussion leader for first-year book	August 2011
Pomona College Faculty representative Summer workshop on inquiry based statistics education, Wesleyan College	July 2011
Participant at Women’s Union event <i>Major Equality</i> on gender imbalances across specific disciplines	March 2011
Member of the Quantitative Studies Center Committee	2010-2011
Attended multiple sponsor dinners with students hosted by Dean Feldblum	2010, 2008
Pomona College Faculty representative PKAL workshop on quantitative assessment techniques, Carleton College	October 2010
Faculty advisor for Goldwater Fellowships	2010-2011
Participated in the grading of the first year quantitative skills examination	08/23/2010
Member of the Ad Hoc Committee on the Quantitative Studies Center	2008-2009
Led discussion seminar for the first year book	08/30/2008, 09/02/2007

Member of the Orientation Committee Spring 2008

Organized and led the FSFW Walking Club Fall 2007-Spring 2009, Fall 2010-Spring 2016

Irregular participant of the Oldenburg Turkish language table.

Participated in the Orientation Adventure 2007 SoCal Adventure

Participated in peer mentoring with colleagues Fall 2007  
Phil Choi (Astronomy), Dwight Whitaker (Physics), Anne Dwyer (German and Russian)  
and Hilary Lackey (Geology)

Participated in peer mentoring with colleagues Spring 2007  
Pardis Mahdavi (Anthropology), Erin Runion (Religious Studies), Angelina Chin (His-  
tory), and Aaron Kunin (English)

Attended Alumni Board Dinner with New Faculty 02/03/2007

Attended faculty lunch with library consultants 02/06/2007

Participated in peer mentoring with colleagues Fall 2006  
April Mayes (History), Darryl Smith (Religious Studies) and Kyla Tompkins (English)

CLAREMONT MATHEMATICS COMMUNITY:

Organizer of the Claremont Algebra/Number Theory/Combinatorics Seminar 2007–2009,  
Continued after Steele Leave 2010–2020, 2021–present

CCMS Program Review Committee member Spring 2017

Pitzer College Math Search Committee: external member 2014-2015

Faculty coordinator for the CCMS Software Lab 2010-2013

Founding Member and Participant of Mathematics Education Reading Club Spring 2011

Attended a library discussion about mathematics collections with President Oxtoby (others  
present were Ami Radunskaya (Pomona) and Ellis Cumberbach (CGU)) 07/09/2009

Participated in the planning and foundation of the Claremont Center for the Mathematical  
Sciences CCMS (est. 2007)

Participated in the collaborative development phase of the Claremont Colleges Institute for  
Math and Science Education housed at the Claremont Graduate University; now called the  
Claremont Colleges Collaborative for Math and Science Education (C3MSE) 2007-2008



Attended three out of four job talks for the CMC Mathematics department, and attended the candidate dinner with one of them 01/2007

OTHER CLAREMONT ACTIVITIES

Claremont Teaching and Learning Center (CTL) Generative AI Fellow 2023-2024

Participated in a Hixon Faculty Discussion Group on Algorithmic Rationality Spring 2021

Participated in Online Teaching Co-op Summer 2020

Participated in the CTL (Claremont Center for Teaching and Learning) Guilt-Free Book Club Spring 2021 (virtual), Spring 2020, Fall 2019, Spring 2019, Fall 2018, Spring 2018, Fall 2017, Spring 2017

Participated in the CTL Faculty Learning Community on *Creating Wicked Students* (Paul Hanstedt) Fall 2019, Summer 2019

Organized the *Uniform Convergence: A One-Woman Play with Corrine Yap* event (a performance) February 2019

Professional Development Network: *Work Prioritization Group* 2018-2019

Co-organized the *Global Warming Demystified with Jeffrey Bennett* event February 2018

Faculty advisor: *Gates Millennium Scholars Claremont Colleges Community* 2015-present

Claremont Colleges Consortial / Cross-Campus Project:  
*Coordination of K-12 Teacher Preparation* Spring–Fall 2017

Claremont Colleges Consortial / Cross-Campus Project:  
*Library Support and Collaboration – Faculty participant* Spring 2017

ABLP Advisory Board for Library Planning 2015-2016

Professional Development Network: *Work/Life Balance in STEM Fields* 2014-2015

Faculty Member of Search Committee for Digital Scholarship Librarian Fall 2014

Participated in a Hixon Faculty Discussion Group on Surveillance and Society Spring 2008

Participated in a Hixon Faculty Discussion Group on Technology and International Development Spring 2007

Attended the meetings of the Claremont Humanities Forum Fall 2006

**OTHER PROFESSIONAL ACTIVITIES****Conferences, Minicourses and Workshops Attended for Professional Development**RESEARCH CONFERENCES AND WORKSHOPS

- Women in Combinatorics and Representation Theory Diversity and Excellence Workshop  
(UC Riverside, virtual); (05/2021)
- BIRS Workshop: Algebraic Combinatorixx II, Banff, Canada; (05/2017)
- IPAM Workshop: Mathematical Analysis of Cultural Expressive Forms: Text Data, Los Angeles, CA; (05/2016)
- IPAM Workshop: Culture Analytics Core Tutorial, Los Angeles, CA; (03/2016)
- WiMSoCal 9: Women In Mathematics: Southern California (11/2015)
- Istanbul Summer School in Algebraic Geometry, Istanbul, Turkey; (06/2013)
- BIRS Workshop: Algebraic Combinatorixx, Banff, Canada; (05/2011)
- AIM Workshop: Supercharacters and combinatorial Hopf algebras, Palo Alto, CA; (05/2010)
- MSRI Workshop: Tropical Structures in Geometry and Physics, Berkeley, CA; (12/2009)
- MSRI Workshop: Tropical Geometry in Combinatorics and Algebra, Berkeley, CA; (10/2009)
- MSRI Workshop: Introduction to Tropical Geometry, Berkeley, CA; (08/2009)
- MSRI Connections for Women Workshop on Tropical Geometry, Berkeley, CA; (08/2009)
- AIM Workshop on Research Experiences for Undergraduate Faculty, (REUF 2), Palo Alto, CA; (07/2009)
- Spring Western Section Meeting of the American Mathematical Society (Meeting #1039), Claremont, CA; (05/2008)
- MSRI Workshop on Topics in Combinatorial Representation Theory, Berkeley, CA; (03/2008)
- Southern California Algebra Conference, Los Angeles, CA; (02/2008)

MSRI Connections for Women workshop on Combinatorial Representation Theory and Representations of Finite Groups, Berkeley, CA; (01/2008)

CRM Workshop on Combinatorial Hopf Algebras and Macdonald Polynomials, Montreal, Quebec; (05/2007)

AIM (American Institute of Mathematics) Workshop on Buildings and Combinatorial Representation Theory, Palo Alto, CA; (03/2007)

Southern California Algebra Conference, Los Angeles, CA; (11/2006)

NSF-CBMS Regional Conference on Cluster Algebras and Applications, North Carolina State University, Raleigh, NC; (06/2006)

Geometry and Representation Theory, A Conference in Honor of George Lusztig, Cambridge, MA; (05/2006)

Geometric Group Theory, University of Arkansas Spring Lecture Series 2006, (04/2006)

Workshop on Lie Groups, Lie Algebras and Their Representations, Eugene, OR; (10/2005)

MAA PREP - MSRI Workshop on Geometric Combinatorics, Berkeley, CA; (06/2005)

Southern California Algebra Conference, Los Angeles, CA; (02/2005)

Southern California Algebra Conference, Los Angeles, CA; (11/2004)

Interactions between Representation Theories, Knot Theory, Topology, Quantum Field Theory, Category Theory, and Mathematical Physics, Potsdam, NY; (06/2003)

Workshop on Lie Groups, Lie Algebras and Their Representations, Riverside, CA (03/2002)

Workshop on Representation of Loop Groups, Institute for Pure and Applied Mathematics, Los Angeles, CA; (11/2001)

SCHOLARSHIP OF TEACHING & LEARNING, PEDAGOGY, MATHEMATICS EDUCATION

Designing Engaging Writing Assignments and Navigating the Challenges of Generative AI, Pomona College TLC Event (11/2023)

Elementary EdTech: A Deep Dive into AI and Math Instruction, NCTM webinar (09/2023)

After the Diversity Statement: Narrating Inclusive Excellence for your Next Steps, Pomona

College	(09/2023)
ChatGPT: Moving from Perils to Potentials, MAA Workshop (virtual)	(05/2023)
Pomona College: ID1 (First-Year Critical Inquiry Seminar) Workshop	(05/2023)
COMMIT Summit 2023, Omaha, NE	(05/2023)
Students or Bots: Do You Know Who’s Doing The Work In Your Course?, Wiley Workshop (virtual)	(03/2023)
The Eleventh International Mathematics Education and Society (MES11) Conference (virtual);	(09/2021)
Pomona College: ID1 (First-Year Critical Inquiry Seminar) Workshop (virtual)	(08/2021)
Pomona College: ID1 (First-Year Critical Inquiry Seminar) Workshop (virtual)	(07/2020)
Bard College Institute for Writing and Thinking Online Writing & Thinking Workshop (virtual);	(07/20)
Claremont Colleges Center for Teaching and Learning Syllabus Design Workshop (virtual);	(06/20)
Pomona College Online Course Development Cohort Workshop (virtual);	(06/20)
Claremont Colleges Center for Teaching and Learning Agile Teaching Workshop (virtual)	(06/20)
Critical Issues in Mathematics Education 2020:; Today’s Mathematics, Social Justice, and Implications for Schools, Mathematical Sciences Research Institute (MSRI), Berkeley, CA; <sup>8</sup>	(03/2020)
Pomona College: ID1 (First-Year Critical Inquiry Seminar) Workshop	(05/2019)
Pomona College: ID1 (First-Year Critical Inquiry Seminar) Workshop	(05/2018)
2018 Southern California PKAL (SoCAL PKAL) Regional Network Annual Meeting, <i>One Size Doesn’t Fit All: Using Varied Instructional Approaches to Help All STEM Students Succeed</i> , University of California Los Angeles, Los Angeles, CA;	(03/2018)

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<sup>8</sup>Due to the COVID-19 pandemic this workshop moved online and was completely run via Zoom over the course of a few weeks.

- Conference on Research in Undergraduate Mathematics Education (RUME 2017), San Diego, CA; (02/2017)
- Claremont Colleges Center for Teaching and Learning Collaborative Learning Workshop, Claremont, CA; (12/2016)
- Pomona College: Writing-Intensive Courses Workshop, Claremont, CA; (12/2016)
- RUME with a View: Conference for New Researchers in RUME (Research in Undergraduate Mathematics Education), Norman, OK; (10/2016)
- Pomona College: ID1 (First-Year Critical Inquiry Seminar) Workshop (08/2016)
- Mobile National Academy Summer Institute of Undergraduate STEM Education, Claremont, CA; (06/2016)
- Pomona College: ID1 (First-Year Critical Inquiry Seminar) Workshop (05/2016)
- Conference on Research in Undergraduate Mathematics Education (RUME 2016), Pittsburgh, PA; (02/2016)
- The Eighth International Mathematics Education and Society (MES8) Conference, Portland, OR; (06/2015)
- MAA PREP Workshop on *Using Video Case Studies to Develop Students Proof-Writing Skills* (online); (06/2015)
- Pomona College: ID1 (First-Year Critical Inquiry Seminar) Workshop (05/2015)
- MAA Short Course on History of Mathematics, JMM 2014, Baltimore, MD (01/2014)
- Pomona College: ID1 (First-Year Critical Inquiry Seminar) Workshop (05/2013)
- Pomona College: Digital Pedagogies Workshop (05/2013)
- 2012 International Institute for SoTL (Scholarship of Teaching and Learning) Scholars and Mentors (IISSAM) on the Ecology of Teaching and Learning, Loyola Marymount University, Los Angeles, CA, May 31-June 3, 2012.
- 2012 Southern California PKAL (SoCAL PKAL) Regional Network Annual Meeting, *Engaged STEM Teaching — What Works?*, Pomona College, Claremont, CA; (01/2012)
- Workshop on Designing & Implementing Student Research Projects for Maximum Learn-

- ing; Claremont Colleges Libraries; (08/2011)
- Pomona College: ID1 (First-Year Critical Inquiry Seminar) Workshop (05/2011)
- PBWiki Summer Camp 2010: four-week virtual training program (June 21-July 20) on the use of new technologies in the classroom; (06/2010-07/2010)
- MAA Minicourse on Teaching a Proof-Based Course as the Gateway to the Mathematics Major, MathFEST 2008, Madison, WI; (08/2008)
- Boot Camp for Professors, Leadville, CO (07/2008)
- Pomona College TLC Workshop: Team Teaching Interdisciplinary Courses, (04/2008)
- Institute for Mathematics and Education Workshop: Mathematicians in Mathematics Education, Tucson, AZ; (03/2008)
- MAA Minicourse on Evaluating Student Presentations in Mathematics, Joint Mathematics Meeting, San Diego, CA; (01/2008)
- MAA Minicourse on Directing Undergraduate Research, Joint Mathematics Meeting, San Diego, CA; (01/2008)
- MAA Minicourse on Using History of Calculus to Enhance Its Teaching, MathFEST 2007, San Jose, CA; (08/2007)
- Workshop: Responding to Student Writing: How can we help student writing improve through comments on a single paper?, Claremont, CA; (02/2007)
- NITLE Workshop on Emerging Technologies and the Liberal Arts Campus, Claremont, CA; (01/2007)
- MAA Minicourse on Scholarship of Teaching and Learning, Joint Mathematics Meetings 2007, New Orleans, LA; (01/2007)
- MISCELLANEOUS TOPICS
- Harnessing the Power of AI in Education Webinar (virtual) (12/2023)
- When AI Is a Liar and a Cheat: Re-Imagining Authentic Assessment in the Age of Open AI (virtual) (10/2023)
- Hypothesis Academy: Social Annotation in the Age of AI (Cohort 3 - virtual) (10/2023)

- Wikipedia in a generative AI world (virtual) (09/2023)
- Hypothesis Academy: Social Annotation 101 (Cohort 6 - virtual) (08/2023)
- Introduction to RStudio Workshop, StatPREP (virtual) (07/2021)
- Online Workshop on Mathematics and Racial Justice, MSRI (virtual) (06/2021)
- National Numeracy Network Annual Meeting 2021 (virtual) (02/2021)
- Institute of Mathematics and its Applications (IMA) / Math Alliance Workshop on Career Paths in the Mathematical Sciences, Minneapolis, MN; (06/2019)
- MAA Minicourse on Visualizing Projective Geometry through Photographs and Perspective Drawings, MathFEST 2018, Denver, CO; (08/2018)
- Wikipedia Fellows General Academic Topics Cohort Summer 2018 Training: twelve-week training program (July 11-September 20) on contributing to Wikipedia to support and strengthen its coverage in topics of expertise; (07/2018-09/2018)
- Difficult Dialogues: How to be a Better Ally*, AWM workshop, 2018 SIAM Annual Meeting, Portland, OR, (07/2018)
- DH@CC Digital Humanities Summer Institute on Computational Text Analysis; Claremont, CA (05/2017)
- BIRS Workshop: Creative Writing in Mathematics and Science, Banff, Canada; (1/2016)
- DH@CC Digital Humanities Summer Institute; (06/2015)
- Claremont Colleges Library Journal Editors Workshops; (02/2014; 10/2014)
- BIRS Workshop: Creative Writing in Mathematics and Science, Banff, Canada; (11/2013)
- CHAS Pre-Major Advising and Mentoring Programs for Students of Color Targeted Professionals Meeting, Pomona College (06/2012)
- Workshop on inquiry based statistics education, Wesleyan College (07/2011)
- The Future of Higher Education in America: Are We Academically Adrift?* American Council on Education Webinar (06/2011)
- Feminism and Science: Building Bridges for Teaching and Research Innovation Mellon 23

- workshop, Scripps College, Claremont, CA; (01/2011)
- PKAL / QUIRK Workshop on Quantitative Assessment, Carleton College (10/2010)
- BIRS Workshop: Creative Writing in Mathematics and Science, Banff, Canada; (05/2010)
- Introduction to GIS Workshop, Claremont Colleges Libraries, Claremont, CA (01/2009)
- MAA Minicourse on A Game Theory Path to Quantitative Literacy, MathFEST 2008, Madison, WI; (08/2008)
- MAA Short Course: Game-theoretic Modeling: Techniques and Applications, MathFEST 2008, Madison, WI; (07/2008)
- MAA Short Course: Combinatorics: Past, Present, and Future, Joint Mathematics Meeting 2008, San Diego, CA; (01/2008)
- Pomona College Faculty Workshop on Queer Theory, Claremont, CA; (05/2007)
- MAA Digital Library Workshop, Washington, DC; (10/2006)
- MAA Minicourse on Mathematical Finance, MathFEST, Albuquerque, NM; (08/2005)

### **Professional Memberships**

American Mathematical Society (AMS); Association for Women in Mathematics (AWM); California Mathematics Council (CMC); Mathematical Association of America (MAA); National Council of Teachers of Mathematics (NCTM); National Numeracy Network (NNN); SACNAS (Society for Advancement of Chicanos/Hispanics and Native Americans in Science).