Edward Jon Doolittle

Curriculum Vitæ Summary

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Latest CV: github.com/edoolittle/cv/raw/pdf/cv.pdf

Associate Professor of Mathematics
Departament of Indigenous Knowledge and Science
First Nations University of Canada
1 First Nations Way, Regina, Saskatchewan, S4S 7K2, Canada

Current Professional Appointments

2024–on **Associate Dean, Research and Graduate Programs**, First Nations University of Canada www.fnuniv.ca

2024–on **Co-chair (Indigenous Research)**, Research Ethics Board, University of Regina www.uregina.ca

2014–on **Associate Professor of Mathematics**, First Nations University of Canada www.fnuniv.ca

Previous Professional Appointments

2011–2014 **Associate Professor of Mathematics and Department Head**, First Nations University of Canada

2009–2011 **Associate Professor of Mathematics**, First Nations University of Canada www.fnuniv.ca

2008–2009 **Assistant Professor of Mathematics**, First Nations University of Canada www.fnuniv.ca

2005–2008 **Assistant Professor of Mathematics**, University of Regina www.uregina.ca

2002–2005 **Assistant Professor of Mathematics and Department Head**, First Nations University of Canada

2001–2002 **Assistant Professor of Mathematics**, Saskatchewan Indian Federated College

Leadership and Involvement

2025–on **Board Member**, Board of Directors, Pacific Institute for the Mathematical Sciences (PIMS) www.pims.math.ca/people/board

2023–on **Chair**, Mathematics and Reconciliation Committee, Canadian Mathematical Society (CMS) cms.math.ca/about-the-cms/governance/committees/#rmc

2022–on **Executive Member**, Computer-Assisted Research Mathematics and its Applications (CARMA), Australia carmamaths.org/people/

2022–on **Committee Member**, Equity, Diversity and Inclusion Advisory Committee, Fields Institute for Research in Mathematical Sciences (Fields) www.fields.utoronto.ca

2021–on **Committee Member**, Indigenous Engagement Committee, Pacific Institute for the Mathematical Sciences (PIMS) www.pims.math.ca/people/committees/indigenous-engagement-committee

2020–on **Board Member**, Equity, Diversity and Inclusion Advisory Board, Banff International Research Station (BIRS) www.birs.ca/about/governance/scientific-management/Equity-Diversity-Inclusion-Board/current-members-EDIB

2019–on **Judge**, National Judging Team, Youth Science Canada (YSC) youthscience.ca

2018–on **Trustee**, Trust Fund Committee, University of Regina Faculty Association urfa.ca/committees/trust-fund

Education

1992–1997 **PhD in Mathematics**, University of Toronto www.utoronto.ca
utoronto.scholaris.ca/server/api/core/bitstreams/a6c7bee0-0bce-49dd-8044-e0695623a0dc/content

1990–1992 **MSc in Mathematics**, University of Toronto, www.utoronto.ca

1985–1990 **BSc in Mathematics**, University of Toronto, www.utoronto.ca

Indigenous Identity

I am a **Status Indian**, member of the **Lower Mohawk** band of **Six Nations**.

Fellowships and Awards

2024 **Fellow** of the Canadian Mathematical Society
cms.math.ca/news-item/canadian-mathematical-societys-2024-class-of-fellows-announced/

2023 **Adrien Pouliot Award**, Canadian Mathematical Society
cms.math.ca/news-item/dr-edward-doolittle-named-the-2023-adrien-pouliot-award-recipient/

1992 **Governor General's Gold Medal** www.gg.ca/en/honours/recipients/116-5733

Grants

2026 **Mathematics Bundle**. Banff International Research Station (BIRS) workshop 26w5629.
Glanfield, F (PI), Doolittle, E, McKenna, B www.birs.ca/event/26w5629

2025–2027 **Word Puzzles in Indigenous Languages**. Humanities Research Institute Fellowship, University of Regina.
Doolittle, E (PI). (**$5,000 over 2 years**) www.humanitiesresearch.org/profile-dr-edward-doolittle/

2025 **The Math Bundle**. Banff International Research Station (BIRS) workshop 25w5472.
Doolittle, E (PI), Glanfield, F, McKenna, B www.birs.ca/events/2025/5-day-workshops/25w5472

2024–2030 **Critical Approaches to Indigenous Relationality**. Social Sciences and Humanities Research Council (SSHRC) Partnership Grant. www.prairierelationality.ca/cair-meet-our-team-co-applicants
Jobin, S (PI), et. al, Doolittle, E, et. al (**$2.5 million over 6 years**)

2024–2029 **SK-NEIHR: Indigenous Futurisms in Indigenous Health and Wellbeing: The natawihowin and mamawiikikayaahk Research, Training and Mentorship Networks**. Network Environments for Indigenous Health Research (NEIHR) operating grant, Institute of Indigenous Peoples' Health (IIPH), Canadian Institutes of Health Research (CIHR) research-groups.usask.ca/sk-neihr/index.php
Henry, R (NPI), Campbell, L (PI), Doolittle, E (PI), et. al (**$5.575 million over 5 years**)

2024–2026 **The Mathematics of Indigenous Games**. First Nations University Board of Governors Research Award.
Doolittle, E (PI), Fallat, S. (**$5000 over 2 years**)

2023–2028 **Mathematics Education for STEM as Place**. Social Sciences and Humanities Research Council (SSHRC) Insight Grant. www.sshrc-crsh.gc.ca/results-resultats/recipients-recipiendaires/2021/ig-ss-eng.aspx
Nicol, C (PI), Doolittle, E, Glanfield, F, Thom, J (**$360,000 over 5 years**)

2022–2027 **Banff International Research Station**. Natural Sciences and Engineering Research Council (NSERC) Discovery Institutes Support Grants. www.nserc-crsng.gc.ca/ase-oro/Details-Detailles_eng.asp?id=767960
Pramanik, M (PI), Behjat, L, Doolittle, E, Frappier, M, Husain, V, Lewis, M, Sun, L. (**$5 million over 5 years**)

2013 **Understanding Relationships between Aboriginal Knowledge Systems, Wisdom Traditions, and Mathematics: Research Possibilities**. Banff International Research Station (BIRS) workshop 13w5120.
Doolittle, E; Glanfield, F www.birs.ca/events/2013/5-day-workshops/13w5120

2010–2012 **Creating a Research Network to Develop an Understanding of Relationships between Aboriginal Knowledge Systems, Wisdom Traditions, and Mathematics Education**. Social Sciences and Humanities Research Council (SSHRC) Aboriginal Research Development Grant.
Glanfield, F (PI), Donald, D, Doolittle, E, Sterenberg G (**$25,000 over 2 years**)
www.outil.ost.uqam.ca/crsh/Detail.aspx?Cle=78132&Langue=2

2008 **MATH 104/105 Development of Online Calculus**. Technology Enhanced Learning grant, Ministry of Advanced Education, Government of Saskatchewan.
Herman, Allen (PI) & Doolittle, E. (**$30,000**)

1991–1995 **NSERC Postgraduate Scholarship** (**$56,000 over 4 years**)
www.nserc-crsng.gc.ca/ase-oro/index_eng.asp?new

Supervision

2024–on Layne Burns, MSc in Mathematics, University of Regina (**Co-supervisor**)

2024–on Whitney Ogle, MA in Indigenous Education, University of Regina (**Committee Member**)

2023–2024 Layne Burns, Natural Sciences and Engineering Research Council (NSERC) Undergraduate Student Research Award (USRA) in Mathematics, First Nations University of Canada (**Supervisor**)

2023–on John Porrit, PhD in Mathematics Education, University of Regina (**Co-supervisor**)

2023–on Ehdaa Matia, PhD in Mathematics Education, University of Regina (**Committee Member**)

2022–2023 Shana Graham, Postdoctoral Fellowship, University of Regina (**Co-supervisor**)

2022 Myron Medina, PhD in Curriculum Studies, University of British Columbia (**External Examiner**) open.library.ubc.ca/media/download/pdf/24/1.0421274/4

2020–on Tannen Acoose, PhD in Mathematics, University of Regina (**Committee Member**)

2018 Vanessa Braun, MA in Curriculum and Instruction, University of Regina (**External Examiner**) ourspace.uregina.ca/server/api/core/bitstreams/17ba3eee-6a3b-40aa-add6-4fe95b865431/content

2017–2020 Shana Graham, PhD in Education, University of Regina (**Committee Member**) ourspace.uregina.ca/server/api/core/bitstreams/8facba27-f8f1-4d29-b47b-e0d2e7634000/content

2012–2017 Tannen Acoose, MSc in Mathematics, University of Regina (**Co-supervisor**) ourspace.uregina.ca/server/api/core/bitstreams/8fe04ddf-4683-467a-837c-220914dcacc0/content

2003–2005 Meseret Bowden, MSc in Mathematics, University of Regina (**Supervisor**)

Papers in Refereed Journals

future Lemon, M., Thom, J. S., Doolittle, E., Glanfield, F., & Nicol, C. Time, place, and learning STEM as place. *Journal of Curriculum Studies*. Revised and submitted.

future Dosselmann, R., Doolittle, E., & Tayal, V. Quipu data structure. Submitted to *Springer New Generation Computing*.

future Doolittle, E., & Burns, L. Analysis of a Game Like the Peach Stone Bowl Game. In preparation.

2023 Nicol, C., Thom, J. S., Doolittle, E., Glanfield, F., & Ghostkeeper, E. (2023) Mathematics education for STEM as place. *ZDM — Mathematics Education*, *55*(7), 1231–1242. doi:10.1007/s11858-023-01498-z

2022 Adusei, K. K., Ng, K. T. W., Karimi, N., Mahmud, T. S., & Doolittle, E. (2022). Modeling of municipal waste disposal behaviors related to meteorological seasons using recurrent neural network LSTM models. *Ecological Informatics*, *72*, 101925. doi:10.1016/j.ecoinf.2022.101925

2020 Leung, F.-S., Radzimski, V., & Doolittle, E. (2020). Reimagining Authentic Mathematical Tasks for Non-STEM Majors. *Canadian Journal of Science, Mathematics and Technology Education*, *20*(2), 205–217. doi:10.1007/s42330-020-00084-9

2017 Miller, A. M., & Doolittle, E. (2017). RaráMuri Bird Knowledge and Environmental Change in the Sierra Tarahumara, Chihuahua, Mexico. *Journal of Ethnobiology*, *37*(4), 663–681. doi:10.2993/0278-0771-37.4.663

2010 Kajander, A., Mason, R., Taylor, P., Doolittle, E., Boland, T., Jarvis, D., & Maciejewski, W. (2010). Multiple Visions of Teachers' understandings of Mathematics. *For the Learning of Mathematics*, *30*(3), 50–56. www.jstor.org/stable/41319540

2007 Doolittle, E., & Glanfield, F. (2007). Balancing equations and culture: Indigenous educators reflect on mathematics education. *For the Learning of Mathematics*, *27*(3), 27–30. www.jstor.org/stable/40248584

2006 Berg, L. C., Longman, S., Hepting, D., & Doolittle, E. (2006). Respectful actions in research: Aboriginal adolescents speaking their future. *Delta Kappa Gamma Bulletin*, *72*(3), 23–29.

2000 Ferrando, S. E., Doolittle, E., Bernal, A. J., & Bernal, L. J. (2000). Probabilistic matching pursuit with Gabor dictionaries. *Signal Processing*, *80*(10), 2099–2120. doi:10.1016/S0165-1684(00)00071-2

Book Chapters

future Doolittle, E., Graham, S., & Hughes, A. Division with remainder: Indigenous perspectives. Under review.

2025 Doolittle, E., & Hughes, A. (2025). Perhaps we didn't need a bridge: In dialogue with Indigenous mathematics. In K. Kiewitt, R. Lutz, G. Cajete, M. do C. dos S. Gonçalves, & D. K. Johanna (Eds.), *Decolonizing Western-Indigenous Dialogues: Interwoven Epistemologies for Multiple Modernities*. Bloomsbury Academic. www.bloomsbury.com/ca/decolonizing-westernindigenous-dialogues-9781350425200

2018 Doolittle, E. (2018). Off the Grid. In S. Gerofsky (Ed.), *Contemporary Environmental and Mathematics Education Modelling Using New Geometric Approaches: Geometries of Liberation* (pp. 101–121). Palgrave Pivot. doi:10.1007/978-3-319-72523-9_7

2018 Doolittle, E. (2018). Foreword. In A. Kajander, J. Holm, & E. J. Chernoff (Eds.), *Teaching and Learning Secondary School Mathematics Canadian Perspectives in an International Context* (1st ed. 2018, pp. v–xi). Springer International Publishing. doi:10.1007/978-3-319-92390-1

Conference Proceedings

future Doolittle, E (2024). "Mathematics as a Spiritual Being". Invited talk in the *Proceedings of the Fifteenth International Conference on Mathematics Education (ICME-15)*

2021 Staats, S., Ugboajah, I., Chronaki, A., Doolittle, E, & Sircar, S. (2021). "There is no America without inequality": Imagining social justice writing in a calculus class. In D. Kollosche (Ed.), *Exploring new ways to connect: Proceedings of the Eleventh International Mathematics Education and Society Conference* (Vol. 1, pp. 260–263). Tredition. doi:10.5281/zenodo.5393187

2020 Gourdeau, F., Deguire, P., LeBlanc, M., Doolittle, E, Nolan, K., Gibara, R., & Mathieu-Soucy, S. (2020). Initiating and nurturing collaborations between mathematicians and mathematics educators. In J. Holm & S. Mathieu-Soucy (Eds.), *Proceedings of the 2019 Annual Meeting of the Canadian Mathematics Education Study Group* (pp. 125–137). Canadian Mathematics Education Study Group. www.cmesg.org/wp-content/uploads/2021/06/CMESG-2019-website.pdf

2011 Doolittle, E, Lunney Borden, L., & Wiseman, D. (2011). Can we be thankful for mathematics? Mathematical thinking and Aboriginal peoples. In P. Liljedahl, S. Oesterle, & D. Allan (Eds.), *Proceedings of the 2010 Annual Meeting of the Canadian Mathematics Education Study Group* (pp. 81–94). Canadian Mathematics Education Study Group. www.cmesg.org/wp-content/uploads/2015/01/CMESG2010.pdf

2007 Doolittle, E. (2007). Mathematics as medicine. In P. Liljedahl (Ed.), *Proceedings of the 2006 Annual Meeting of the Canadian Mathematics Education Study Group* (pp. 17–25). Canadian Mathematics Education Study Group. www.cmesg.org/wp-content/uploads/2015/01/CMESG2006.pdf

Invited Talks

future Doolittle, E. 2025 Hagey Lecture, University of Waterloo uwaterloo.ca/hagey-lectures/

2025 Keshen, J, Ottmann, J, Yost, C, Doolittle, E. ReconciliAction Panel, National Building Reconciliation Forum 2025, First Nations University of Canada and the University of Regina

2024 Doolittle, E. Mathematics as a Spiritual Being. Department of Mathematics and Statistics, University of Saskatchewan usask.cloud.panopto.eu/Panopto/Pages/Viewer.aspx?id=001c1142-f3a6-476b-bed9-b13c0037c04f

2023 Doolittle, E. Adrien Pouliot Award Prize Lecture. 2023 CMS Winter Meeting, Canadian Mathematical Society.

2023 Doolittle, E. Indigenizing University Mathematics. Invited plenary speaker at Alberta Mathematics Dialogue 2023

2021 Borwein, N., & Doolittle, E. Indigenous Mathematics. Keynote presentation at Indigenising University Mathematics 2021, University of Newcastle, Australia carmamaths.org/meetings/ium/video/Theme 4 - Edward and Naomi.mp4

2018 Doolittle, E. What is Indigenous Mathematics? Weweni Indigenous Scholars Speaker Series, University of Winnipeg www.uwinnipeg.ca/indigenous/weweni/weweni-2018/what-is-indigenous-mathematics.html

2018 Doolittle, E. Geometries of Liberation. Keynote presentation at Living Mathematics in Our Communities: Listening to the Land, 8th Aboriginal Mathematics Symposium, First Nations House of Learning, University of British Columbia

2014 Doolittle, E. Native American Mathematics. Louise and Richard K. Guy Lecture, University of Calgary mathtube.org/lecture/video/native-american-mathematics

2014 Doolittle, E. Indigenous Mathematics. Invited speaker, N'gwii Kendaasmin (We'll Learn Together): Drawing on Indigenous Knowledges to Transform Teaching and Learning in Mathematics and Science, Ontario Institute for Studies in Education, University of Toronto

2014 Doolittle, E. Indigenous Mathematics. Indigenous Math and Science Symposium, University of Manitoba

2006 Doolittle, E. Mathematics as Medicine. Plenary speaker, 30th Annual Meeting of the Canadian Mathematics Education Study Group, University of Calgary www.cmesg.org/wp-content/uploads/2015/01/CMESG2006.pdf

Articles in Periodicals

2021 Doolittle, E (2021, December). Explorations in Indigenous Mathematics: Drum Lacing. *Crux Mathematicorum*, *47*(10), 481–486. cms.math.ca/publications/crux/issue/?volume=47&issue=10

2021 Doolittle, E (2021, January). Explorations in Indigenous Mathematics: The Starblanket Design. *Crux Mathematicorum*, *47*(1), 18–24. cms.math.ca/publications/crux/issue/?volume=47&issue=1

2020 Doolittle, E (2020, March). Mathematics and Reconciliation. *CMS Notes*, *52*(2), 2–5. notes.math.ca/en/article/mathematics-and-reconciliation/

2019 Barr, D., Desaulniers, S., Doolittle, E, & Jungic, V. (2019, April). Indigenization and Reconciliation through University Mathematics: Why, When and How? *CMS Notes*, *51*(2), 9–11. notes.math.ca/archives/Notesv51n2.pdf

Peer Review and Editorial Work

2025 **Chair**, Expert Committee, Canada Foundation for Innovation (CFI) www.innovation.ca

2024–on **Guest Editor**, *Education Sciences* special issue Indigenous Pedagogies and Perspectives in STEM and Mathematics Education: Learning that Supports the Well-Being of Self, Family, Community, Land, and Ancestors www.mdpi.com/journal/education/special_issues/THJA7SLWC2

2024 **Referee**, *International Journal of Science and Mathematics Education* springer.com/journal/10763

2022 **Peer Review Member**, First Nations Biobanking and Genomic Research committee, Canadian Institutes of Health Research (CIHR) www.researchnet-recherchenet.ca/rnr16/vwOpprtntyDtls.do?prog=3635

2020 **Referee** for the *Engaged Scholar Journal: Community-Based Research, Teaching and Learning* special issue on Indigenous and Trans-Systemic Knowledge Systems esj.usask.ca/index.php/esj/issue/view/5160

2018 **Referee** for the *Minnesota Journal of Undergraduate Mathematics* pubs.lib.umn.edu/index.php/mjum/

2016–2017 **Referee**, *Canadian J. of Science, Mathematics, and Technology Education* springer.com/journal/42330

2014 **Referee**, *in education* journal journals.uregina.ca/ineducation

2012 **Member**, Multidisciplinary Assessment Committee (MAC), Canada Foundation for Innovation (CFI) www.innovation.ca

2012 **Member**, Insight Grants Selection Committee (Aboriginal Research), Social Sciences and Humanities Research Council (SSHRC) sshrc-crsh.gc.ca

2009 **Referee**, *Canadian Journal of Science, Mathematics, and Technology Education* special issue Indigenous Science Education From Place link.springer.com/journal/42330/volumes-and-issues/9-3

2005–2009 **Reviewer** for Math Makes Sense — Pearson WNCP Edition, K–9, Pearson Canada www.pearsoncanadaschool.com/Math/products/mms-wncp-k-9.html

1996–1997 **Language Editor** for Ivrii, V. *Microlocal Analysis and Precise Spectral Asymptotics*. Springer.

Reports

2000 Doolittle, E. *Report on the Creation of an Aboriginal Studies Course at Queen's University*

Problem Solutions

2006 Doolittle, E (2006a). Solution to Problem 3026. *Crux Mathematicorum*, *32*(3), 184–185.
Doolittle, E (2006b). Solution to Problem 3028. *Crux Mathematicorum*, *32*(3), 186–187.
Doolittle, E (2006c). Solution to Problem 3029. *Crux Mathematicorum*, *32*(3), 187–188.
cms.math.ca/publications/crux/issue/?volume=32&issue=3

2006 Doolittle, E (2006d). Solution to Problem 3080. *Crux Mathematicorum*, *32*(7), 473–475.
cms.math.ca/publications/crux/issue/?volume=32&issue=7

1988 Doolittle, E (1988a). Solution to Problem 1985.305.8. *Crux Mathematicorum*, *14*(2), 42–43.
Doolittle, E (1988b). Solution to Problem 1985.305.10. *Crux Mathematicorum*, *14*(2), 43–44.
cms.math.ca/publications/crux/issue/?volume=14&issue=2

1988 Doolittle, E (1988c). Solution to Problem 1985.305.11. *Crux Mathematicorum*, *14*(3), 68–69.
Doolittle, E (1988d). Solution to Problem 1985.306.19. *Crux Mathematicorum*, *14*(3), 70–71.
Doolittle, E (1988e). Solution to Problem 1985.306.20. *Crux Mathematicorum*, *14*(3), 71.
Doolittle, E (1988f). Solution to Problem 1985.307.22. *Crux Mathematicorum*, *14*(3), 71–72.
Doolittle, E (1988g). Solution to Problem 1985.307.23. *Crux Mathematicorum*, *14*(3), 72.
Doolittle, E (1988h). Solution to Problem 1985.307.26. *Crux Mathematicorum*, *14*(3), 73–74.
Doolittle, E (1988i). Solution to Problem 1985.307.27. *Crux Mathematicorum*, *14*(3), 74–75.
cms.math.ca/publications/crux/issue/?volume=14&issue=3

1988 Doolittle, E (1988j). Solution to Problem 1986.3.1. *Crux Mathematicorum*, *14*(4), 102–103.
Doolittle, E (1988k). Solution to Problem 1986.4.2. *Crux Mathematicorum*, *14*(4), 103.
Doolittle, E (1988l). Solution to Problem 1986.4.3. *Crux Mathematicorum*, *14*(4), 103.
Doolittle, E (1988m). Solution to Problem 1986.4.4. *Crux Mathematicorum*, *14*(4), 104.
cms.math.ca/publications/crux/issue/?volume=14&issue=4

Open Software

2025 **Curriculum Vitae**, adaptation of a GitHub template for developing a readable curriculum vitae in LaTeX. edoolittle/cv.

Open Educational Resources

2025 **Calculus I**, resources including Beamer slides, problem sets, and solutions, for use in conjunction with Stewart Calculus. edoolittle/calculus-1.

Selected Presentations, Workshops, and Other Media

2025 Doolittle, E. Rotations in Indigenous Mathematics and in Mathematics Education. Talk at The Math Bundle, Banff International Research Station (BIRS) workshop 25w5472

2025 Doolittle, E. Indigenous Students and Mathematics Competitions, Math Unity: Enhancing Diversity in Mathematics Through Outreach, 2025 Canadian Mathematical Society Summer Meeting

2025 Doolittle, E. Indigenous Games in Statistics Education and Research, Indigenizing the statistics curriculum, 2025 Statistical Society of Canada Annual Meeting tinyurl.com/indigenous-games-stats-ed-pptx

2025 Doolittle, E. Division with Remainder: Indigenous Perspectives. Alberta Mathematics Dialogue 2025, University of Calgary tinyurl.com/division-with-remainder-pptx

2025 Doolittle, E. Tips and Tricks for UR Courses. FNUniv Instructors Lunch and Learn, First Nations University of Canada urcourses.uregina.ca/mod/page/view.php?id=2932292&forceview=1

2025 Doolittle, E. Mathematics as Story. Storytelling through Art, Language, and Action, 15th Annual Storytellers Conference, Department of Indigenous Studies, State University of New York at Buffalo

2024 Doolittle, E. String Figures and Knots. Aboriginal and Torres Strait Islander Mathematics Alliance (ATSIMA) STEM Camp, Birrigai Outdoor School, Australian Capital Territory

2024 Doolittle, E. Presenter and Organizer for Indigenising University Mathematics 3 international conference held at La Trobe University, Melbourne, Australia

2023 Doolittle, E. Better Living Through Combinatorics. Topic Session at the 47th Annual Meeting of the Canadian Math Education Study Group

2023 Doolittle, E., Glanfield, F., Nicol, C., & Thom, J. (2023, September 1). Indigenous Math Podcast 1 (No. 1) [Broadcast]. CFNU Radio, First Nations University of Canada. www.cfnuradio.ca/voices/

2023 Doolittle, E, & Czuy, K. (2023, June 3). Mathematics is Creation, Being, & Medicine (No. 15) [Broadcast]. Ancestral Science Podcast, Relational Science Circle open.spotify.com/episode/21oDjAQvZIOVWIIRh3CaKS

2022 Doolittle, E. Indigenous Maths, Global Math, and Indigenizing Mathematics. The Centre for Indigenous Knowledges and Languages (CIKL), and the Department of Mathematics and Statistics, York University www.youtube.com/watch?v=ptk__Ga43Wg

2022 Doolittle, E. Presenter and Organizer for Indigenizing University Mathematics 2 international conference held at First Nations University of Canada and Yamuloong Centre, Garden Suburb, Australia

2022 Doolittle, E. Bridging Indigenous Mathematics and Global Mathematics. Turtle Island Indigenous Science Conference 2022, University of Manitoba

2022 Doolittle, E., Russell, G., & Ricketts, K. 'Tent Talk' on Indigenous Mathematics. Teaching and Learning Here and Now 2022 conference at the University of Regina

2022 Doolittle, E, & Native Stories. (2022, April 3). Indigenous Mathematicians Podcast: Edward Doolittle [Broadcast] nativestories.org/indigenous-mathematicians-edward-doolittle/

2022 Doolittle, E. Mathematics and Reconciliation. Interdisciplinary Research Institute for Mathematical and Statistical Modelling in Scientific Discovery, Innovation and Sustainability (MS2Discovery), Wilfrid Laurier University

2021 Doolittle, E. Indigenizing Mathematics, University of Toronto Mathematics Department Equity Forum

2021 Leung, F-S, Radzimski, V, & Doolittle, E. Reimagining Authentic Mathematical Tasks Non-STEM Majors, Paper Panel Presentation A, Fields MathEd Forum: (Re)imagining the M in STEM

2020 Doolittle, E. Online presentation on Indigenous mathematics for Teachers for the Federation of Sovereign Indigenous Nations (FSIN), Saskatchewan

2020 Doolittle, E. Indigenizing math education at the post-secondary level, Online presentation for Langara College

2019 Doolittle, E, & Russell, G. Mathematics as a Tool for Colonization, keynote presentation at Provoking Curriculum, Faculty of Education, University of Regina

2019 Doolittle, E, & Nolan, K. Initiating and Nurturing Collaborations Between Mathematicians and Mathematics Educators, panel presentation at the Canadian Mathematics Education Study Group annual meeting

2019 Doolittle, E. Word Puzzles in Indigenous Languages, presentation at the Canadian Mathematical Society summer meeting

2019 Doolittle, E. Mathematics of Indigenous Games, a talk for high school students at Campbell Collegiate high school in Regina

2019 Doolittle, E. MATH 101 for Indigenous Students, presentation at the Canadian Mathematical Society winter meeting

2019 Leung, F.-S., Doolittle, E, Zazkis, R., & Marken, K. Looking In, panel presentation at Innovations in New Instructor Training, Banff International Research Station workshop 19w2231
www.birs.ca/events/2019/2-day-workshops/19w2231/videos/watch/20190622090942-Doolittle.html

2018 Russell, G., Bazzul, J., Doolittle, E, Donald, D., Higgins, M., & Ji, X. Exploring Indigenous Spiritualities In-Relation: How Might Science and Math Education Become Different? Panel at the Canadian Society for the Study of Education XLVI Annual Conference

2017 Doolittle, E. Harmonics, Nodal Lines, and Acoustic Levitation, keynote presentation at the Treaty 4 Math Fair in Fort Qu'appelle, Saskatchewan

2017 Doolittle, E. Transformations, Symmetry, and the Starblanket, a talk for Grade 9 students at Campbell Collegiate high school in Regina

2016 Doolittle, E. From String Figures to the Fields Medal at the 6th Aboriginal Students in Math and Science Workshop for Indigenous high school students at Simon Fraser University

2016 Doolittle, E. An Exploration of the Fibonacci Sequence at Discover Your Direction, an event to encourage Indigenous grade 10 students to attend university

2016 Doolittle, E. Indigenous String Figures for the Science Showcase Series, First Nations University

2015 Doolittle, E. Indigenous Students of Mathematics, 17th Annual Meeting of Canadian Mathematics Department Chairs

2015 CBC & Doolittle, E. "Residential Schools Robbed Edward Doolittle of the Mohawk Language. Then He Reclaimed It." CBC Radio, June 4, 2015. tinyurl.com/www-cbc-ca-radio-asithappens

2015 Doolittle, E. The Development of a Plains Cree Pangrammatic Autogram at STEMfest, an international conference, in Saskatoon

2014 Doolittle, E. Cree Syllabic Crosswords, FNUniv Endangered Alphabets conference

2014 Doolittle, E. Indigenous Math Education, University of Regina/High School Transitions Committee Joint Professional Development conference

2013 Doolittle, E. Mathematics of Planet Earth: Graph Theory of the Food Chain for the Science Camp for Aboriginal Youth, First Nations University

2013 Doolittle, E. Word Puzzles in Cree at the fourth annual Math and Science for Aboriginal Students conference at Simon Fraser University

2013 Doolittle, E. Manipulatives in High School Math Education series of workshops for the Yorkton Tribal Council

2012 Doolittle, E. Graph Theory in an Indigenous Context, in First Nations Math Education, Banff International Research Station workshop 12w5076
www.birs.ca/events/2012/5-day-workshops/12w5076/videos/watch/20121121090914-Doolittle.html

2012 Doolittle, E. Seeing Sounds, Science Camp for Aboriginal Youth, First Nations University

2011 Doolittle, E. Mazes and Explorobots for the Science Camp for Aboriginal Youth, First Nations University

2010 Doolittle, E. Aboriginal Perspectives in the Saskatchewan Mathematics Curriculum, Emerging Professionalism Conference, Faculty of Education, University of Regina

2009 Doolittle, E. Music and Signal Processing, presentation to Aboriginal K-12 students at the Kehewin Education Institute

2009 Doolittle, E. Teaching Aboriginal Perspectives in High School Mathematics at the Sun Country School District Professional Development Conference

2005 Doolittle, E. Building Community through Science Curriculum Actualization, Awasis Conference (organized by the Saskatchewan Teachers' Federation)

2002 Doolittle, E. Knots in Aboriginal Mathematics Education, Guest lecture for the Aboriginal Teacher Education Program, Queen's University

1998 Doolittle, E. Issues in the Mathematics Education of Aboriginal Students, Engineering Explorations Concordia University

1998 Doolittle, E. Seeing Sounds, Blueprint for the Future, National Aboriginal Achievement Foundation

1998 Doolittle, E. Graduation Address, Grand River Post-Secondary Education student recognition dinner

1997 Doolittle, E. Experiences of Indigenous Students, Native Science Dialogue, University of Toronto

1997 Doolittle, E. Mathematics as a Spiritual Endeavour, Aboriginal Youth Career Symposium

1996 Doolittle, E. Introduction of Hopi filmmaker Victor Masayesva Jr., Editing Aboriginal Oral Texts: the thirty-second annual Conference on Editorial Problems, University of Toronto coilink.org/20.500.12592/xdq1t6

1995 Doolittle, E. Native Mathematics, Native Issues Seminar, First Nations House, University of Toronto

1995 Doolittle, E. Native Mathematics Education, Native Science Teachers Camp, University of Toronto

Selected Teaching Experience

2020–on **Professor**, MATH 110 (Calculus I) remote modality (online, synchronous), First Nations University of Canada

2020–on **Mentor**, Putnam Competition Training, University of Regina

2023 **Sessional Lecturer**, EDPJ/EDJI 1100 (Mathematics Education for Primary/Junior/Intermediate) for the Waaban Indigenous Education Program at York University

2013–2014 **Professor**, AMTH 001/091/092 (Adult Mathematics) for community-based access programs in Onion Lake and Piapot First Nations, First Nations University

2012 **Professor**, MATH 101 for the community-based Aboriginal Teacher Education Program (Fort Qu'appelle), First Nations University

2018 **Professor**, EMTH 215 (Elementary Mathematics Education), Department of Indigenous Education, First Nations University

2001 **Instructor**, Leadership and Management, Grand River Polytechnic, Six Nations

2000 **Lecturer**, Native Studies, Faculty of Environmental Studies, York University

1999–2001 **Lecturer**, ABS201Y (Aboriginal Studies), Faculty of Arts and Science, University of Toronto

1998–1999 **Instructor**, Elementary Mathematics Education, Aboriginal Teacher Education Program, Faculty of Education, Queen's University

1999 **Instructor**, Business Math, First Nation Management Training and Confederation College, Sioux Lookout

1997–1998 **Lecturer**, MAT 188F/196F (Linear Algebra/Calculus), Faculty of Engineering, University of Toronto

1997 **Lecturer**, MAT135Y (Calculus I), Faculty of Arts and Science, University of Toronto

1996 **Lecturer**, MAT186F (Calculus IB), Faculty of Engineering, University of Toronto

1992–1994 **Academic Counselor**, First Nations House, University of Toronto

1986–1996 **Teaching Assistant**, Department of Mathematics, University of Toronto

Selected Community Service

2023–2025 **Member**, Academic Performance Review Committee, First Nations University of Canada www.fnuniv.ca

2023–2024 **Member**, Local Organizing Committee, 2024 Turtle Island Indigenous Science Conference, University of Regina and First Nations University of Canada event.fourwaves.com/2024tiisc/pages/8c2de33c-254b-4cc1-a379-dfc8e2621e19

2022–2024 **Executive Member**, Canadian Mathematics Education Study Group www.cmesg.org

2021–on **Member**, Canada Jay Mathematical Competition committee, Canadian Mathematical Society cms.math.ca/competitions/cjmc/

2020–2027 **Member**, Mathematics and Reconciliation Committee, Canadian Mathematical Society cms.math.ca/about-the-cms/governance/committees/#rmc

2019–on **Member**, Bargaining Team, First Nations University of Canada Academic Bargaining Unit, University of Regina Faculty Association www.urfa.ca

2018–2022 **Mentor**, Verna J. Kirkness Foundation program www.vernajkirkness.org

2018 **Judge**, Yakutia International Science Fair in Yakutsk, Russia ysf.lensky-kray.ru/en/

2017–on **Judge**, and **Chair of a Judging Group**, Canada Wide Science Fair cwsf-espc.ca

2017 **Judge**, File Hills Qu'appelle Tribal Council Science Fair

2017 **Judge**, Treaty 4 Math Fair

2015–on **Member**, Pension and Benefits Committee, First Nations University of Canada www.fnuniv.ca

2015–2017 **Secretary/Treasurer**, Native Heritage Foundation of Canada

2013–2014 **Chair**, First Nations Environmental Contaminants Program (FNECP) Selection Committee www.sac-isc.gc.ca/eng/1583779185601/1583779243216

2010 **Tax Policy Consultant**, Chiefs of Ontario chiefs-of-ontario.org

2010 **Member**, Academic Reform Task Force, First Nations University of Canada www.fnuniv.ca

2010 **Webmaster**, *Fund First Nations University Now!* blog fnuniv.wordpress.com

2007 **Mentor**, Canada's International Math Olympiad team www.birs.ca/events/2007/summer-schools/07ss005

2006–2008 **Member**, Canadian Mathematical Olympiad committee cms.math.ca/competitions/cmo/

2003–2005 **Member**, President's International Alumni Council, University of Toronto www.utoronto.ca

1999–2002 **Member**, National Aboriginal Achievement Foundation Postsecondary Awards Jury

1996–1997 **Graduate Student Representative**, Aboriginal Advisory Council, University of Toronto www.utoronto.ca

1991–1992 **Member**, Presidential Advisory Committee on Race Relations and Anti-Racism Initiatives, University of Toronto www.utoronto.ca

Research Impact: Selected Citations of My Work

2025 Lu, J., Si, H., Xu, J., & Xu, T. (2025). An overview of applications and trends of STEM for learning effectiveness — An umbrella review based on 22 meta-analyses. *Educational Research Review*, 100712. doi:10.1016/j.edurev.2025.100712

2025 Bakan, G., & Bircan, M. A. (2025). Enhancing 21st century skills of primary school students in rural areas through STEM activities. *The Journal of Educational Research*, 0(0), 1–16. doi:10.1080/00220671.2025.2517265

2025 Beumann, S., Weber, D., & Benölken, R. (2025). Identifying and Fostering Giftedness in Students with Disabilities – Potential Barriers in Identification and Support from a Mathematics Educational Perspective. *International Journal of Science and Mathematics Education*. doi:10.1007/s10763-025-10587-2

2025 Du, W., Cao, Y., Tang, M., Wang, F., & Wang, G. (2025). Factors influencing AI adoption by Chinese mathematics teachers in STEM education. *Scientific Reports*, *15*(1), 20429. doi:10.1038/s41598-025-06476-x

2024 Abtahi, Y., & Planas, N. (2024). Mathematics teaching and teacher education against marginalisation, or towards equity, diversity and inclusion. *ZDM – Mathematics Education*, *56*(3), 307–318. doi:10.1007/s11858-024-01602-x

2024 Anderson, J. (2024). How mathematics in STEM can contribute to responsible citizenship education in schools. In J. Anderson & K. Makar (Eds.), *The Contribution of Mathematics to School STEM Education: Current Understandings* (pp. 243–256). Springer Nature. doi:10.1007/978-981-97-2728-5_14

2024 Loh, K. Q., & Dasgupta, M. (2024, July 24). The forces of stage design: An interdisciplinary approach to teaching normal force, frictional force, and design ethics for non-STEM majors. 2023 ASEE Midwest Section Conference. doi:10.18260/1-2-660.1137-46369

2024 Rosa, M., & Orey, D. C. (2024). Contributions of the pedagogical Action of ethnomodelling to STEM Education. In J. Anderson & K. Makar (Eds.), *The Contribution of Mathematics to School STEM Education: Current Understandings* (pp. 277–293). Springer Nature. doi:10.1007/978-981-97-2728-5_16

2023 Nordkild, S. I., & Hætta, O. E. (2023). Mathematics teaching in lávvues from the perspectives of Indigenous education and critical peace education. *Journal of Peace Education*, *20*(2), 176–195. doi:10.1080/17400201.2023.2206731

2023 Ortega-Álvarez, R., & Casas, A. (2023). Biocultural salient birds: Which biological and cultural factors define them? *Frontiers in Conservation Science*, *4*. doi:10.3389/fcosc.2023.1215967

2023 Retana-Guiascón, O. G., Santos-Fita, D., Pereyra-Camaal, A., Mejenes-López, S. de M. A., & Vargas-Soriano, J. (2023). Conocimiento morfo-anatómico de las aves por mayas yucatecos. *Huitzil*, *24*(1). doi:10.28947/hrmo.2023.24.1.720

2023 Xenofontos, C., & Mouroutsou, S. (2023). Resilience in mathematics education research: A systematic review of empirical studies. *Scandinavian Journal of Educational Research*, *67*(7), 1041–1055. doi:10.1080/00313831.2022.2115132

2022 Guano, E., & Moretti, C. (2022). A tale of two ethnographers: Urban anthropologists read Invisible Cities. In B. Linder (Ed.), *"Invisible Cities" and the Urban Imagination* (pp. 117–130). Springer International Publishing. doi:10.1007/978-3-031-13048-9_9

2022 Khan, S., & Bowen, G. M. (2022). Why Multispecies' Flourishing? *Journal of Research in Science, Mathematics and Technology Education*, *5*(1), 1–10. doi:10.31756/jrsmte.515

2022 Khan, S., LaFrance, S., & Tran, H. T. T. (2022). After plantations' precarities: Curating math-thematic curriculum plots in initial teacher education for multispecies' flourishing and a freedom-yet-to-come. *Research in Mathematics Education*, *24*(2), 170–186. doi:10.1080/14794802.2022.2090421

2022 Rubel, L. H., Herbel-Eisenman, B., Peralta, L. M., Lim, V., Jiang, S., & Kahn, J. (2022). Intersectional feminism to reenvision mathematical literacies & precarity. *Research in Mathematics Education*, *24*(2), 224–248. doi:10.1080/14794802.2022.2089908

2022 Stavrou, S. G., & Murphy, M. S. (2022). Failures Indigenising school mathematics: A narrative inquiry. *The Australian Journal of Indigenous Education*, *51*(2). doi:10.55146/ajie.v51i2.40

2021 La France, S. (2021). *Engaging in Speculation and Critical Reflection About Future Assessment Practice* [MEd, University of Alberta]. tinyurl.com/thesis-lafrance-2021-09

2021 Maciejewski, W. (2021). Teaching math in real time. *Educational Studies in Mathematics*, *108*(1), 143–159. doi:10.1007/s10649-021-10090-9

2021 Meyer, S., & Aikenhead, G. (2021). Indigenous culture-based school mathematics in action part II: The study's results: what support do teachers need? *The Mathematics Enthusiast*, *18*(1–2), 119–138. doi:10.54870/1551-3440.1517

2021 Schiano, B. A. (2021). *Redesigning Developmental Math to Improve Community College Retention Rates and Student Success* [EdD, Centenary University]. www.proquest.com/docview/2524205938/abstract/6D9302DD5E3A4935PQ/1

2021 Watson, A. (2021). Mathematics Education in Indigenous Communities. In A. Watson (Ed.), *Care in Mathematics Education: Alternative Educational Spaces and Practices* (pp. 95–125). Springer International Publishing. doi:10.1007/978-3-030-64114-6_6

2020 Abtahi, Y. (2020). The "M" in STEM as a Note of Caution: Resilient to What and Responsive to Whose Culture. *Canadian Journal of Science, Mathematics, and Technology Education*, *20*(2), 281–287. doi:10.1007/s42330-020-00093-8

2020 Aikenhead, G. (2020). School Science and Mathematics Storylines. *Canadian Journal of Science, Mathematics, and Technology Education*, *20*(4), 682–699. doi:10.1007/s42330-020-00115-5

2020 McDougall, D. (2020). Building Knowledge in a Time of Physical Distancing. *Canadian Journal of Science, Mathematics, and Technology Education*, *20*(2), 167–170. doi:10.1007/s42330-020-00096-5

2017 Aikenhead, G. S. (2017). Enhancing School Mathematics Culturally: A Path of Reconciliation. *Canadian Journal of Science, Mathematics, and Technology Education*, *17*(2), 73–140. doi:10.1080/14926156.2017.1308043

2017 Vashchyshyn, I., & Lunney Borden, L. (2017). Spotlight on the profession: In conversation with Dr. Lisa Lunney Borden. *The Variable: An SMTS Periodical*, *2*(5), 18–23.

2016 Fyhn, A. B., Nutti, Y. J., Nystad, K., Eira, E. J. S., & Hætta, O. E. (2016). "We had not dared to do that earlier, but now we see that it works": Creating a culturally responsive mathematics exam. *AlterNative: An International Journal of Indigenous Peoples*, *12*(4), 411–424. doi:10.20507/AlterNative.2016.12.4.6

2012 Wagner, D., & Lunney Borden, L. (2012). Aiming for equity in ethnomathematics research. In B. Herbel-Eisenmann, J. Choppin, D. Wagner, & D. Pimm (Eds.), *Equity in Discourse for Mathematics Education: Theories, Practices, and Policies* (pp. 69–87). Springer Netherlands. doi:10.1007/978-94-007-2813-4_5

2011 Lunney Borden, L. (2011). The 'verbification' of mathematics: Using the grammatical structures of Mi'kmaq to support student learning. *For the Learning of Mathematics*, *31*(3), 8–13. flm-journal.org/Articles/2F74030123751 37CE62E2DE320F4B.pdf

2009 Panina-Beard, N. (2009). Striving for success: Education and career aspiration experiences in the lives of young Aboriginal women [MA in Counselling Psychology, Trinity Western University]. tinyurl.com/panina-beard-2009

1996 Honsberger, R. (1996). *From Erdős to Kiev: Problems of Olympiad Caliber*. Mathematical Association of America. bookstore.ams.org/dol-17

Research Impact: Selected Acknowledgments of My Work

2025 Nolan, K. T., & Wagner, D. (2025). Abandoning hope? What mathematics education researchers say about why they do what they do. *Education Sciences*, *15*(9), 1154. doi:10.3390/educsci15091154

2024 CEMC. (2024). *Problems with purpose: Volume 2*. cemc.uwaterloo.ca/resources/problems-with-purpose.php

2024 Khan, S., & Higgins, M. (2024). In conversation with Steven Khan: Sensible and sense-able qualitative literacies for multi-species flourishing. In S. Tolbert, M. F. G. Wallace, M. Higgins, & J. Bazzul (Eds.), *Reimagining Science Education in the Anthropocene*, Volume 2 (pp. 389–408). Springer International Publishing. doi:10.1007/978-3-031-35430-4_21

2023 CEMC. (2023). *Problems with purpose: Volume 1*. cemc.uwaterloo.ca/resources/problems-with-purpose.php

2023 First Nations University of Canada. (2023, March 24). Mohawk Language Program Signing Event [Video recording]. www.facebook.com/watch/live/?ref=watch_permalink&v=735653604603851. Acknowledgment at 13:30.

2023 Nolan, K., & Lunney Borden, L. (2023). It's all a matter of perspective. *For the Learning of Mathematics*, *43*(2), 8–14. flm-journal.org/Articles/38B48D80ABF94B2B6AA2C0373439D.pdf

2022 Medina, M. A. (2022). *Weaving Indigenous mathematics: Ways of sensing, being, and doing* [PhD in Curriculum Studies, University of British Columbia]. open.library.ubc.ca/media/download/pdf/24/1.0421274/4

2020 Graham, S. R. W. (2020). *Disrupting Euro-Western onto-epistemologies (re)imagining possibilities for mathematics education through/with Indigenous knowledges and complex conversations* [PhD in Education, University of Regina]. hdl.handle.net/10294/9302

2018 Braun, V. K. (2018). *Beyond the numbers: Gaining perspective on the Mathematics Problem towards the successful transition of students into university mathematics* [MEd in Curriculum and Instruction, Faculty of Graduate Studies and Research, University of Regina]. hdl.handle.net/10294/8549

2018 Hogue, M. (2018). *Dropping the "T" from CAN'T: Enabling Aboriginal post-secondary academic success in science and mathematics*. JCharlton Publishing. tinyurl.com/hogue-dropping-t-from-cant

2017 Acoose, T. D. (2017). *Some probability properties of the crack distribution* [MSc in Mathematics, Faculty of Graduate Studies and Research, University of Regina]. hdl.handle.net/10294/8440

2016 Russell, G. (2016). *Valued kinds of knowledge and ways of knowing in mathematics and the teaching and learning of mathematics: A worldview analysis* [PhD in Curriculum Studies, University of Saskatchewan]. harvest.usask.ca/items/11a8b074-934b-4cb1-ab5a-491a42960462/full

1998 Ivrii, V. (1998). *Microlocal Analysis and Precise Spectral Asymptotics*. Springer Science & Business Media.