

ORCID: [0009-0000-2155-8749](https://orcid.org/0009-0000-2155-8749)

Email: edoolittle@firstnationsuniversity.ca

Website: www.fnuniv.ca/academic/faculty/dr-edward-doolittle

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

Associate Professor of Mathematics

Department 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/recipient-recipientaires/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 Ehdad 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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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](http://carmamaths.org/meetings/ium/video/Theme%204%20-%20Edward%20and%20Naomi.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., Desautniers, 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/vwOpprntnyDtIs.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 WNCPEdition, 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](https://github.com/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](https://github.com/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. FNUIniv 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. 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 2023 Canadian Math Education Study Group Conference
- 2023 [Doolittle, E](#). (2023, September 1). Indigenous Math Podcast 1 (No. 1) [Broadcast]. www.cfnuradio.ca/voices/
- 2023 [Doolittle, E](#), & Czuy, K. (2023, June 3). Mathematics is Creation, Being, & Medicine (No. 15) [Broadcast] open.spotify.com/episode/21oDjAQvZIOVWIIRh3CaKS
- 2022 [Doolittle, E](#). Indigenous Maths, Global Math, and Indigenizing Mathematics. The Centre for Indigenous Knowledges and Languages, 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 the University of Newcastle, Australia, and at First Nations University of Canada
- 2022 [Doolittle, E](#). Bridging Indigenous Mathematics and Global Mathematics. Turtle Island Indigenous Science Conference 2022, University of Manitoba
- 2022 [Doolittle, E](#). ‘Tent Talk’ on Indigenous Mathematics. Teaching and Learning Here and Now conference at the University of Regina
- 2022 [Doolittle, E](#), & Native Stories. (2022, April 3). Native Stories: Indigenous Mathematicians: 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, Radzinski, 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. Online presentation for Langara College on Indigenizing math education at the post-secondary level
- 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/201906220942-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/201211210914-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 coillink.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.vernakirkness.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

- 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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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/fcsc.2023.1215967](https://doi.org/10.3389/fcsc.2023.1215967)
- 2023 Retana-Guíascon, 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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/10.31756/jrsmte.515)
- 2022 Rubel, L. H., Herbel-Eisenman, B., Peralta, L. M., Lim, V., Jiang, S., & Kahn, J. (2022). Intersectional feminism to envision mathematical literacies & precarity. *Research in Mathematics Education*, 24(2), 224–248. doi:[10.1080/14794802.2022.2089908](https://doi.org/10.1080/14794802.2022.2089908)
- 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](https://doi.org/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](https://doi.org/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
- 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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/10.1080/14926156.2017.1308043)
- 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](https://doi.org/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](https://doi.org/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/2F7403012375137CE62E2DE320F4B.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

- 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](https://doi.org/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
- 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 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.