Curriculum Vitae **GLEN S. AIKENHEAD** (abridged version, July 2020)

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PERSONAL

Canadian citizen. Born in Claresholm, Alberta, Canada 1942. Married. Four children. Five grandchildren.

ACADEMIC & PROFESSIONAL EXPERIENCE

Professor Emeritus:	University of Saskatchewan, 2006 to present (early retirement)
Professor of Curriculum Studies:	University of Saskatchewan, 1971 to 2006.
Instructor:	Harvard-Newton Summer School, Harvard, Mass., 1970
Visiting Professor:	Tokyo University of Science, Tokyo, Japan, 2014
	Providence University, Taichung, Taiwan, 2009
	Aarhus University, Aarhus, Denmark, 2008
	Monash University, Melbourne, Australia, 2008
	Kristianstad University, Kristianstad, Sweden, 2004
	University of Hawai′i at Mānoa, Honolulu, Hawai′i, January, 2002
	University of Waikato, Hamilton, Aotearoa New Zealand, February, 2002
	Curtin University of Technology, Perth, Australia, March, 2002
	Kobe University, Japan, March, 2002
	University of Lisbon, Portugal, May, 2002
	University of the West Indies, January - March, 1995
	University of British Columbia, July - August, 1985
Science Teacher:	Leysin American School, Switzerland, 1975-1977
	Frankfurt International School, Germany, 1967-1969
	Calgary Public School Board, Canada, 1966-1967

DEGREES

Doctorate of Science Education	Harvard University.	1972
Master of Arts in Teaching	Harvard University.	1966
B.Sc. (Honours)	University of Calgary.	1965

LANGUAGES

English, French (somewhat)

HONOURS

Canadian Education Association Whitworth Award: Canadian Educational Researcher of the Year, 1990.

Canada 125 Commemorative Medal, for service in advancing science education through a commitment to research and development: Government of Canada, 1992.

Distinguished Contributions to Science Education through Research Award, for continuing contributions to, providing notable leadership in, and having had substantial impact on, science education through research: National Association for Research in Science Teaching, 2014.

TEACHING

Introduction to Research (graduate level)
Issues in Science Education (graduate level)
Issues in Curriculum Development (graduate level)
Epistemology, History & Sociology of Science
Elementary Science Methods
Secondary Physical Science Methods
Advanced Methods for Experienced Teachers
General Methods of Instruction

AREAS OF RESEARCH

Cross-cultural science and mathematics education with a focus on Indigenous students. Science curriculum and instruction (policy, curriculum development, assessment of students, instructional strategies, R&D into science and mathematics classroom materials). International science education.

CONSULTING

Ministry of Education, Government of Saskatchewan, Reference Committee for the project SaskMATH. (2019-2020).

Conference Board of Canada; Research Advisory Board; Cross-cultural curricula and supports for Indigenous learners in science, technology, engineering, and mathematics. Ottawa. (2019-present).

Ehime University, Matsuyama, Ehime, Japan. Book publishing project. (2019-2020).

Norwegian University of Science and Technology, Finnmark University College, Arctic University of Norway, & University of Oslo. Collaborative R&D project, LOCUMS – Local Culture for Understanding Mathematics and Science. Advisory Board (2015-2019).

Laboratory School, Dr. Eric Jackman Institute of Child Study, OISE/University of Toronto. Writing a 2nd edition of *Natural Curiosity* by incorporating an Indigenous lens into this teacher resource book for teaching environmental inquiry, grades K-8 (2015-2017).

Native Universe: Indigenous Voice in Science Centers. A USA National Science Foundation funded project co-sponsored by the Association of Science-Technology Centers. Member of an 11-person Advisory Board, and the only non-American (2015-2018).

Tokyo University of Science, Graduate School of Science and Mathematics Education. Preparing future teacher leaders for multicultural classrooms (October 12-25, 2014).

Four Corners School of Outdoor Education: Teacher professional development for teachers in the Colorado Plateau region (Utah, Colorado, New Mexico, Arizona): Enhancing school science with Indigenous knowledge, and implementing culturally responsive science teaching (Utah State University Eastern Blanding Campus, February 27 – March 2, 2014).

University of British Columbia Press. Book manuscript reviewer (January 2014).

Council of Canadian Academies, Ottawa, Canada. Reviewer for a draft of a major research project report on the state of Canada's science culture (November 2013).

Pearson Education Canada (publisher), Don Mills, Ontario: Writing and editing Indigenous content for Manitoba's Grade 7 Science Teacher Resource (June-July, 2013).

Regional Centre of Expertise on Education for Sustainable Development for Saskatchewan. Project "Education for Sustainability in Rural and Remote Regions" (May 8-9, 2013).

Australian Council of Scholarly Academics, Melbourne University, Australia, concerning STEM Education and Related Employment for Indigenous Students and Indigenous Citizens of Saskatchewan (Sept – Dec 2012)

Saskatoon Public Schools, consultant in producing a professional development program Enhancing School Science with Indigenous Knowledge (May 2011 – June 2012).

Federation of Saskatchewan Indian Nations, Saskatoon: Developing a provincial Indigenous science fair that reflects Indigenous values and an Indigenous collective worldview (2008-present).

Alberta Regional Professional Development Consortia, Blackfoot Crossing Historical Park, Cluny, Alberta. Professional development on producing teaching materials that include Indigenous knowledge in school science (Grades 7-9), for Siksika, Tsuu T'ina, and Nakoda Nations, along with the Calgary Catholic School Division (February 22, 2012).

Pearson Education Canada (publisher), Don Mills, Ontario: Developing science textbooks (Grades 3-9) that combine Indigenous and scientific ways of knowing nature (2008-2013).

National Science Teachers Association, San Francisco, CA, teacher professional development on building cultural bridges between scientific and Indigenous ways of knowing nature (March 10, 2011).

Norwegian University of Science and Technology, Sámi University College, and Finnmark University College; Alta, Norway: How does teaching in science relate to Indigenous peoples' cultural identities? (2010)

Providence University, Taichung, Taiwan: Designing research and development projects with Taiwanese Aboriginal Tribes (2009).

Aarhus University, Denmark: Policy development for cross-cultural science education for European students (2008).
University of the West Indies, Trinidad & Tobago: Assessing content in science education graduate studies (2008).
American Indian Center of Chicago, USA: Future directions for science, technology, engineering, and mathematics education (2008).
Asian Science Education Association, Kaohshiung, Taiwan: Modifying Western science education curricula to meet Asian students' identities and life goals (2007).
Thompson Rivers University, Kanloops, BC, Canada: Developing classroom resources in school science for First Nations students (2007).
Uppsala University, Uppsala, Sweden: Combining Indigenous knowledge into scientific literacy policies (2007).
National Research Council, and National Science Teachers Association, Washington DC: Developing a research agenda in science education (2006).
Zürich University, Switzerland: Developing cross-cultural science education for European students (2005).
Nelson Canada (publisher): Reviewing Aboriginal content in Grades 11 & 12 chemistry textbooks (2005).
Northern Lights School Division, La Ronge, SK, Canada: Developing community-based science education programs for Indigenous students' resiliency (2005).
Kristianstad University, Kristianstad, Sweden: School science program development for science-based occupations and the attentive public (2004).
Göteborg University, Göteborg, Sweden: Developing a research program framed by a humanistic science education (2004).
Illinois Institute of Technology, Chicago, USA: Developing cross-cultural science education for inner city schools (2004).
University of Kobe, Kobe, Japan: The inception of an international research network "Culture Studies in Science Education" (2004).
Northwest Indian College, Bellingham, Washington, USA: Integrating Western science with Native American science (2003).
University of Kobe, Kobe, Japan; University of Hawai'i at Māona, Hawai'i, USA; Waikato University, Hamilton, Aotearoa New Zealand; Curtin University of Technology, Perth, Australia: Research into culture, language, and gender sensitive science teacher education programs (2002).
Hiroshima University, Hiroshima, Japan: Planning an international workshop on research in culture studies in science education (2001).
WestEd (research company) and Stanford University, Palo Alto, California: Analyzing the cultural validity in science and mathematics assessments of students (2000).
Northern Lights School Division, La Ronge, SK, Canada: Developing community-based school science that combines Indigenous and scientific knowledge systems (1998-2000).
Ibaraki University, Mito, Japan: Policy development for non-Western countries' science curriculum (1996).
Tsukuba University, Tsukuba, Japan: Policy development for non-Western countries' science curriculum (1996).
Department of Teacher Education, Oslo University, Norway: Teacher education for cross-cultural science education for European students (1996).
UNESCO, Paris: Developing a scientific and technological literacy project (1996).
Seoul National University, Korea: Curriculum and assessment in non-Western school science (1996).
Ministry of Education and the University of the West Indies, St. Augustine, Trinidad & Tobago: Research and curriculum development for Indigenous knowledge in the science curriculum (1995).
Council of Ministers of Education of Canada, Ottawa, Ontario: Developing the SAIP science assessment project (1994).
UNESCO, Paris: Policy development for student assessment in science education (1993).
Durham Board of Education, Whitby, Ontario: Developing *Science in Society OAC* (1992).

PUBLICATIONS

A. Books:

G.S. Aikenhead (Editor), J. Brokofsky, T. Bodnar, C. Clark, C. Foley, J. Hingley, et al. (2014). *Enhancing school science with Indigenous knowledge: What we know from teachers and research*. Saskatoon, Canada: Saskatoon Public Schools with Amazon.ca, http://www.amazon.ca/Enhancing-School-Science-Indigenous-Knowledge/dp/149957343X

G.S. Aikenhead, & H. Michell. (2011). *Bridging cultures: Indigenous and scientific ways of knowing nature*. Don Mills, Ontario, Canada: Pearson Education Canada. 196 pp.

G.S. Aikenhead. (2009-2012) Expert reviewer/editor for decolonizing English. Grs. 3-9 science textbook series *Pearson Saskatchewan Science.* Don Mills, Ontario, Canada: Pearson Education Canada.

G.S. Aikenhead. (2009). *Educação científica: Para todos.* (translation by Maria Teresa Oliveira of an introduction and 5 articles or conference presentations by G.S. Aikenhead). Ramada, Portugal: Edições Pedago, Lda. 187 pp.

G.S. Aikenhead. (2006). *Science education for everyday life: Evidence-based practice*. New York: Teachers College Press. 186 pp.

G.S. Aikenhead. (Ed). (2000). *Rekindling traditions: Cross-cultural science & technology units* project: (http://www.usask.ca/education/ccstu/)
Teacher guide to rekindling traditions. 59 pp.
Stories from the field: Experiences and advice from the rekindling traditions team. 24 pp.
Nature's hidden gifts (with M. Brizinski) 59 pp.
The night sky (with S. Nagy) 51 pp.
Survival in our land (with E. Stobbe) 41 pp.
Snowshoes (with D. Gold) 37 pp.
Trapping (with K. Lemaigre) 47 pp.
Wild Rice (with G. Belcourt) 81 pp.

J. Solomon & G.S. Aikenhead. (Eds.) (1994). *STS education: International perspective on reform*. New York: Teachers College Press. 260 pp.

Crelinsten, J., de Boerr, J., & Aikenhead, G.S. (1993). *Measuring students' understanding of science in its technological and social context*. Toronto: Ministry of Education.

G.S. Aikenhead. (1991a). *Logical reasoning in science & technology*, Student Textbook. Toronto: John Wiley & Sons of Canada. 390 pp. (Adopted by Saskatchewan, Nova Scotia, and Newfoundland.)

G.S. Aikenhead. (1991b). *Logical reasoning in science & technology*, Teacher's Guide. Toronto: John Wiley & Sons of Canada. 418 pp.

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B. Chapters in Books:

G. S. Aikenhead. (2018). Indigenous perspectives in school mathematics: From intellect to wisdom. In A. Kajander, J.,Holm, & E. J. Chernoff, (Eds.) (2018), *Teaching and learning secondary school mathematics: Canadian Perspectives in an International Context* (pp. 39-50). Cham, Switzerland: Springer International Publishing AG. https://doi.org/10.1007/978-3-319-92390-1.

G.S. Aikenhead, & D. Sutherland. (2015). How grassroots Indigenous movements can change the shape of STEM education. In B. Freeman, S. Marginson, & R. Tytler (Eds.), *The age of STEM: Educational policy and practice across the world in science, technology, engineering and mathematics* (pp. 151-160). New York: Routledge.

G.S. Aikenhead. (2011). Preface. In T.D. Sadler et al. (Eds.), *Socio-scientific issues in science classroom: Teaching, learning and research* (pp. vii-xi). New York: Springer.

G.S. Aikenhead. (2011). Towards a cultural view on quality science teaching. In D. Corrigan, J. Dillon, & R. Gunstone (Eds.), *The professional knowledge base of science teaching* (pp. 107-127). New York: Springer.

G.S. Aikenhead, G. Orpwood, & P. Fensham. (2011). Scientific literacy for a knowledge society. In C. Linder, L. Östman, D.A. Roberts, P-O. Wickman, G. Erickson, & A. MacKinnon (Eds.), *Exploring the landscape of scientific literacy* (pp. 28-44). Philadelphia, PA: Routledge.

G.S. Aikenhead. (2007). Humanistic perspectives in the science curriculum. S. K. Abell & N. G. Lederman (Eds.), *Handbook of research on science education* (pp. 881-910). Mahwah, NJ: Lawrence Erlbaum.

G.S. Aikenhead. (2006). Cross-cultural science teaching: Rekindling Traditions for Aboriginal students. In Y. Kanu (Ed.), *Curriculum as cultural practice: Postcolonial imaginations* (pp. 223-248). Toronto, Canada: University of Toronto Press.

G.S. Aikenhead. (2004). Science communication with the public: A cross-cultural event. In J. Gilbert (Ed.), *The RoutledgeFalmer reader in science education*. London: RoutledgeFalmer, pp. 149-167.

O.J. Jegede, & G.S. Aikenhead. (2004). Transcending cultural borders: Implications for science teaching. In E. Scanlon, P. Murphy, J. Thomas & E. Whitelegg (Eds.), *Reconsidering science learning*. London: RoutledgeFalmer Press, pp. 153-175.

G.S. Aikenhead. (2003). Science stories and border crossings. In M. Ogawa (Ed.), *Culture, language and gender sensitive science teacher education programs*. Kobe University, Japan.

G.S. Aikenhead. (2003). STS education: A rose by any other name. In R. Cross (Ed.), *A vision for science education: Responding to the work of Peter J. Fensham*. Routledge Press, pp. 59-75.

G.S. Aikenhead. (2002). Whose scientific knowledge? The colonizer and the colonized. In W-M Roth & J. Désautels (Eds.), *Science education as/for sociopolitical action* (pp. 39-52). New York: Peter Lang, pp. 151-166.

G.S. Aikenhead. (2001). Science communication with the public: A cross-cultural event. In S. Stocklmayer, M. Gore, & C. Bryant (Eds.), *Science communication in theory and practice*. The Netherlands: Kluwer Academic Publishers, pp. 23-45.

G.S. Aikenhead. (2001). Cultural relevance: Whose culture? What culture? In J. Wallace & W. Louden (Eds.), *Dilemmas of science teaching*. New York: RoutledgeFalmer, pp. 92-95.

G.S. Aikenhead. (2000). Renegotiating the culture of school science. In R. Millar, J. Leach & J. Osborne (Eds.), *Improving science education: The contribution of research*. Buckingham, UK: Open University Press, pp. 245-264.

G.S. Aikenhead. (2000). STS science in Canada: From policy to student evaluation. In D. Kumar & D. Chubin (Eds.), *Science, technology, & society: A source book on research and practice*. Kluwer/Plenum Press, pp. 49-89.

W.W. Cobern & G.S. Aikenhead (1998). Cultural aspects of learning science. In B.J. Fraser & K.G. Tobin (eds.), *International handbook of science education* (pp. 39-52). Dordrecht, The Netherlands: Kluwer Academic Publishers, pp. 39-52.

G.S. Aikenhead. (1998). Border crossing: Culture, school science, assimilation of students. In D.A. Roberts & L. Ostman (Eds.), *The multiple meanings of a school subject*. New York: Teachers College Press, pp. 86-100.

G.S. Aikenhead (1997). STL and STS: Common ground or divergent scenarios? In E.W. Jenkins (Ed.), *Innovations in science and technology education*, Vol. VI. Paris: UNESCO.

G.S. Aikenhead with J. Keeves. (1995). Science curricula in a changing world. In B.J. Fraser & H.J. Walberg (Eds.), *Improving science education*. Chicago: The National Society for the Study of Education, University of Chicago Press.

G.S. Aikenhead. (1994):
Chapter 2. The social contract of science: Implications for teaching science.
Chapter 5. What is STS science teaching?
Chapter 16. Consequences to learning science through STS: A research perspective.
Chapter 20. Collaborative research and development.
In J. Solomon and G. Aikenhead (Eds.), *STS education: International perspective on reform*. New York: Teachers College Press.

G.S. Aikenhead & A.G. Ryan. (1993). Evaluation of views of high school graduates on STS topics. In R.E. Yager (Ed.), *The science, technology, society movement*. Washington, DC: National Science Teachers Association.

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C. Articles in Refereed Journals:

Meyer, S., & Aikenhead, G. (2021). Indigenous culture-based school mathematics in action: Part I: Professional development for creating teaching materials. *The Mathematics Enthusiast, 18*(1&2), 100-118. https://scholarworks.umt.edu/tme/vol18/iss1/9.

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. https://scholarworks.umt.edu/tme/vol18/iss1/10.

Aikenhead, G. S. (2017a). Enhancing school mathematics culturally: A path of reconciliation. *Canadian Journal of Science, Mathematics and Technology Education*, *17*(2: Special Monograph Issue), 73-140.

Aikenhead, G. S. (2017b). A 21st century economic, educational and ethical mathematics curriculum policy. *The Mathematics Enthusiast*, *14*(1-3), 563-574.

Lee H., Yen C-F., & Aikenhead, G.S. (2012). Indigenous elementary students' science instruction in Taiwan: Indigenous knowledge and Western science. *Research in Science Education, 42*, 1183-1199.

Aikenhead, G.S., & Elliott, D. (2010). An emerging decolonized science education in Canada. *Canadian Journal of Science, Mathematics and Technology Education*, *10*, 321-338.

Aikenhead, G.S. (2010). Academic science, cultural intransigence, and devious educo-politics. *Cultural Studies of Science Education, 5*, 613-619.

Aikenhead, G.S. (2008). Objectivity: The opiate of the academic? *Cultural Studies of Science Education*, *3*, 581-585.

Aikenhead, G.S., & Ogawa, M. (2007a). Indigenous knowledge and science revisited. *Cultural Studies of Science Education, 2*, 539-591.

Aikenhead, G.S., & Ogawa, M. (2007b). A reply to three thoughtful commentaries: The conversation continues. *Cultural Studies of Science Education, 2*, 614-620.

Aikenhead, G.S. (2006). Towards decolonizing the pan-Canadian science framework. *Canadian Journal of Science, Mathematics and Technology Education, 6*, 387-399.

G.S. Aikenhead. (2005a). Research into STS science education. *Educación Química, 16*, 384-397.

G.S. Aikenhead. (2005b). Educación ciencia-tecnología-sociedad (CTS): Una Buena idea como quiera que se le llame. *Educación Química, 16*, 304-314.

G.S. Aikenhead. (2005c). Science-based occupations and the science curriculum: Concepts of evidence. *Science Education, 89*, 242-275.

G.S. Aikenhead. (2003). Chemistry and physics instruction: Integration, ideologies, and choices. *Chemical Education: Research and Practice*, *4*, 115-130.

G.S. Aikenhead. (2002a). Cross-cultural science teaching: *Rekindling Traditions for Aboriginal students. Canadian Journal of Science, Mathematics and Technology Education, 2*, 287-304.

G.S. Aikenhead. (2002b). The educo-politics of curriculum development. *Canadian Journal of Science, Mathematics and Technology Education, 2*, 49-57.

G.S. Aikenhead. (2001a). Integrating Western and Aboriginal sciences: Cross-cultural science teaching. *Research in Science Education, 31*, 337-355.

G.S. Aikenhead. (2001b). Students' ease in crossing cultural borders into school science. *Science Education, 85*, 180-188.

B.F. Lewis & G.S. Aikenhead. (2001). Shifting perspectives from universalism to cross-culturalism. *Science Education, 85*, 3-5.

G.S. Aikenhead & Otsuji, H. (2000). Japanese and Canadian Science Teachers' Views on Science and Culture. *Journal of Science Teacher Education, 11*, 277-299.

G.S. Aikenhead & B. Huntley. (1999). Teachers' views on Aboriginal students learning Western and Aboriginal science. *Canadian Journal of Native Education, 23*, 159-175.

O.J. Jegede & G.S. Aikenhead. (1999). Transcending cultural borders: Implications for science teaching. *Research in Science and Technological Education, 17*, 45-66.

G.S. Aikenhead & O.J. Jegede. (1999). Cross-cultural science education: A cognitive explanation of a cultural phenomenon. *Journal of Research in Science Teaching, 36*, 269-287.

G.S. Aikenhead. (1998a). Many students cross cultural borders to learn science: Implication for teaching. *Australian Science Teachers Journal, 44*(4), 9-12.

G.S. Aikenhead. (1998b). Teachers, teaching strategies and culture. *Science Education International, 9*(3), 7-10.
G.S. Aikenhead. (1997a). Student views on the influence of culture on science. *International Journal of Science Education, 19*, 419-428.
G.S. Aikenhead. (1997b). Toward a First Nations cross-cultural science and technology curriculum. *Science Education, 81*, 217-238.
G.S. Aikenhead. (1996). Science education: Border crossing into the subculture of science. *Studies in Science Education, 27*, 1-52.
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Major Research Reports

Co-Author with 9 other co-authors, (2019). *Culture-based school mathematics for reconciliation and professional development: Project report*. Saskatoon, Saskatchewan: Stirling McDowell Foundation, Saskatchewan Teachers' Federation. 116 pages. Retrieved from http://mcdowellfoundation.ca/research/culture-based-school-mathematics-for-reconciliation-and-professional-development/.