

Dr. Arzu Sardarli
Professor, Physics and Mathematics



**Department of Indigenous Science, the Environment, and Economic
Development**

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Credentials: Ph.D., Supreme Attestation Commission of Russian
Federation, Moscow
M.S. (First Class Honours), Baku State University, Baku

Research Interests: Statistical analysis of social processes in Indigenous
communities

Mathematical modeling of human fertility and
mortality dynamics

Mathematical modeling of environmental processes
using Indigenous Knowledge

Low dimensional quantum effects in semiconductors
with chained and layered crystalline structures

Current Projects: Explanatory English-Cree Dictionary of Mathematics Terms (supported by FNUniv)

Drinking water quality monitor and governance in Kahkewistahaw First Nation community using Indigenous Knowledge (supported by U of R)

Employment vs. Educational Attainment correlation in Aboriginal and Non-Aboriginal communities of Prince Albert. Comparative Analysis (supported by U of R)

Role of Environmental Factors in Forming Seasonal Fertility Oscillations

Courses Taught: AMTH 091 – Mathematics I
AMTH 092 – Mathematics II
MATH 101 – Introductory Finite Mathematics I
MATH 103 – Calculus for the Social & Management Sciences
MATH 111 – Calculus II
PHYS 109 – General Physics I
PHYS 119 – General Physics II
STAT 100 – Elementary Statistics for Applications
STAT 160 – Introductory Statistics

Community Work: Coordinator of [Wiseman Mathematics Contest](#)

Awards: [Regional Centre of Expertise \(Saskatchewan\) recognition award for the project, “First nations University of Canada – Influence of Cultural Water on Waterborne Diseases”, 2009](#)

Regional Centre of Expertise (Saskatchewan) recognition award for Wiseman Mathematics Contest, 2016

Selected Publications: [A. Sardarli, T. Ngamkham, A. Volodin, Centre of Population of Saskatchewan, Canada, Thailand Statistician, 15 \(1\), 2017, 97-103](#)

[A. Pashaev, A. Badalov, R. Sardarly, O. Samedov, N. Alieva, R. Agayeva, A. Orujova, A. Sardarli, Prospective Application of A³B³C⁶₂ Type Semiconductors for Developing Nano-size Electronic Devices, International Journal of Theoretical and Applied Nanotechnology, 2 \(1\), 2014, 9-17](#)

[A. Sardarli, Use of Indigenous Knowledge in Modeling the Water Quality Dynamics in Peepeekisis and Kahkewistahaw First Nations Communities, Pimatisiwin: A Journal of Aboriginal and Indigenous Community Health 11\(1\), 2013, 55-63](#)

[A. Sardarli, R. Sardarly, O. Samedov, N. Aliyeva, R. Aqayeva, T. Musazade, Superionic Conductivity and Specific Effects Induced by \$\gamma\$ -Radiation in Nanofibrous TlGaTe₂ Crystals, International Journal of Theoretical and Applied Nanotechnology, 1\(1\), 2012, 20-28](#)

A. Sardarli, Use of Indigenous Knowledge in Mathematical Modeling of Water Quality Dynamics, 152-167, Indigenous Earth: Praxis and Transformations, edited by Ellen Simmons, Theytus Books, 2013, 416 pages, ISBN 978-1-926886-28-2

[K. Budsaba, S. Chaimongkol, S. Pete, A. Sardarli, and A. Volodin, "Estimation of Prosperity and Depression Periods in a Labour Market", Thailand Statistician, July 2008, 6\(2\), 37-46.](#)