

Sustainable Site Remediation Workshop

Guest Expert Profiles



Dr. Martin Mkandawire

Industrial Research Chair – Mine Water Management, Verschuren Centre, Cape Breton University (CBU), Nova Scotia, Canada

Faculty – Department of Chemistry, CBU

Dr. Mkandawire's current research activities are related to mine water remediation and management with a goal to develop cost-effective strategies for mine water and waste rock pile management. His research interests include:

- Photonics and photochemistry of pigment compounds for sensors and energy conversion.
- Using bio-inspired design and bio-mimicked processes such as development of biosensor for environmental monitoring and designing remediation technologies for mine water.
- Development of modelling tools to predict geochemical and geotechnical stability of abandoned mining sites.

Dr. Mkandawire has authored two books (with a third in process) and over 70 publications. He supervised undergraduate students as well as a postdoctoral research fellow. He serves in a number of universities as an external examiner for PhD, editorial boards of a several journals and is an international scientific expert for various research foundations in Europe, Asia and Africa. Dr. Mkandawire currently lives on outskirts of Sydney, in Howie Centre, with his wife Mary, son Chris, daughter Felicity and their dog, Watson. When he is not working, Martin is either hiking or long distance cycling, playing squash with his children, writing and reciting poems, and of course laughing! After stopping playing "real football" himself, he has remained very soccer active by watching the matches on TV.





Dr. Ken Oakes

Industrial Research Chair
Environmental Remediation

Faculty: Dept. of Biology

Ken Oakes is the Industrial Research Chair in Environmental Remediation at the Verschuren Centre for Sustainability in Energy & the Environment, and an Assistant Professor of Biology at Cape Breton University. His research interests span

environmental impact assessments of complex industrial effluents to reactive oxygen species impacts on reproductive physiology to studying oyster parasites. He has authored or co-authored over 50 publications, and has lead or co-lead nine workshops and field courses, which he considers the pinnacle of learning opportunities (for both participants and himself!). He resides outside Baddeck with his wife Kim, sons Ethan, Joshua and Matthew, one husky, and 18 laying hens.

Fred Baechler **Chief Hydrogeologist** **Exp. Services Inc.**

Mr. Baechler is the Chief Hydrogeologist and a Senior Hydrologist for Exp Services Inc, as well as an Adjunct Professor at Cape Breton University and a Research Fellow at the Verschuren Centre. Mr Baechler has over 40 years of experience in evaluating groundwater, streams and climate primarily over Cape Breton, as well as throughout Atlantic Canada. This has also included assignments and field trips across Canada as well as overseas in Mexico, Europe, Iceland, and Southeast Asia. Fred was involved with ground and surface water aspects of the Tar Ponds clean-up, starting with the first assessment of the Coke Ovens site in the late 1980s, as well as the second round of investigations between 2000 and 2010 of the Coke Ovens, Tar Ponds, Steel Plant and up gradient MAID landfill site. This 25 years of site experience focused on delineating the extent of inorganic and organic contamination (including DNAPs and LNAPLs) in groundwater, surface waters, and soils; as well as groundwater stream interaction. This provided input to the environmental impact assessment, as well as design of remedial procedures and long term monitoring programs.

Rod Beresford
Assistant Professor
Unama'ki College, Cape Breton University



Donnie Burke
Executive Project Director
Nova Scotia Lands

Donnie Burke is an Executive Project Director for the Province of Nova Scotia within their provincial crown corporation Nova Scotia Lands Inc. Donnie is a Project Management Professional (PMP) who holds a degree in Environmental Science from

Cape Breton University (CBU) and diplomas and Certificates from CBU, St. Mary's and Dalhousie Universities. Donnie has worked as the Project Director for the Sydney Tar Ponds Agency; the Cape Breton Regional Municipality (CBRM) in several capacities including Public Works Operations Manager, Solid Waste Manager; an environmental/geotechnical consultant throughout the Maritimes; and with Nova Scotia Power in their Environmental Policy and Programs Division.

Through both the cleanup of the Sydney Tar Ponds and Cokes Ovens and managing the development of a new waste management strategy for CBRM, Donnie has been a key player remediating and greening Cape Breton.

Belinda Campbell
Environmental Specialist
Public works and Government Services Canada

Parker Donham
Senior Partner
Kempt Head Communications



Owen Fitzgerald

Director of Industry and Government Engagement
Mi'kmaq Economic Benefits Office (MEBO)

Owen Fitzgerald is the Director of Industry and Government Engagement with the Mi'kmaq Economic Benefits Office (MEBO). Owen has an MBA from Cape Breton University with a focus in Community Economic Development. He operated his own business in downtown Sydney for over 20 years, has published four books. He is a past president of the Sydney and Area Chamber of Commerce and 2013 was presented with the Queens Diamond Jubilee Medal for work in community economic

development, work documenting the history, beauty and culture of Cape Breton and for his work in economic development with First Nation communities.

In Oct. 2013 Fitzgerald received the CBRM Ambassador of the Year Award from the Sydney & Area Chamber of Commerce. Owen helped establish MEBO, originally known as the Unama'ki Economic Benefits Office. This office was originally established to ensure there was meaningful Aboriginal participation in the \$400 million Sydney Tar Ponds Cleanup project. Since then the office has taken the success and experience it gained from the Tar Ponds project and applied it to many other economic opportunities in the region. This has resulted in hundreds of jobs for local Aboriginals. The Mi'kmaq Economic Benefits Office, now represents a very successful First Nation model in Economic Development, one that is being recognized across Canada. This model involves taking a business approach and a collaborative approach to Economic Development, both by the five First Nation communities in Cape Breton, as well as partnerships with Industry and government, partnerships that are a win-win for industry, government and for the First Nation communities

David Forrester, P.Eng.
Sr. Mining Engineer
AECOM

Dan MacDonald, P.Eng.
Senior Project Manager
CBCL, Sydney Office

Robert (Bob) MacDonald, P.Eng.
President
Engineers Nova Scotia

Glenn MacLeod
Geologist
CBCL, Sydney, NS

Joseph MacPhee, P.Eng.
Regional Manager Mine Water Management/Remediation
Public Works and Government Services Canada



David Mayich
Manager of Remediation & Maintenance (retired)
Mechanical Technologist (CET)

As a graduate of Cape Breton University in 1979, my career started with the Atomic Energy of Canada before returning to my home in Sydney to work with the Cape Breton Development Corporation in 1981. As a member of the coal mining team, my duties and responsibility constantly changed as I was challenged with new projects. The coal water fuel pilot plant design and operation, commissioning of water treatment facilities, capital projects, operations management, and maintenance management. With the closure of the coal mining operation my focus again shifted to the remediation activities. Remediation activities included the \$8.2M remediation of the Franklin Mine properties, the maintenance of the operating sites, design input, and the long-term environmental sampling programs. Retired in 2014, I continue to provide input into the remediation activities through the Verschuren Centre as part of the Pile Performance Monitoring team.

Willie McNeil, P.Eng.
Office Leader, Environmental Scientist
Stantec



**Randy Pointkoski, P.Eng.
Sr. Environmental Engineer
AECOM**

Randy Pointkoski P.Eng. – Senior Environmental Engineer from AECOM’s Sydney NS Office. Randy is University of Alberta Agricultural Engineering graduate with 33 years of experience with last 13 years dedicated to construction and quality management for large infrastructure and remediation projects. Career

highlights include participation in Calgary’s Northeast Stoney Trail P3 Freeway, Sydney Tar Ponds Cleanup, Regina’s P3 Wastewater Treatment Plant, Quality Advisor on Canadian Nuclear Laboratories remediation projects and most recently project director on Boat Harbour Early Stage Hydrology and Hydrogeology Assessments.

**Frank Potter
Executive Director
Nova Scotia Lands**



**Dr. Janice Esther Tulk
Sr. Research Associate
Purdy Crawford Chair in Aboriginal Business**

Janice Esther Tulk is the Senior Research Associate with the Purdy Crawford Chair in Aboriginal Business Studies. Her research of the past six years has focused on the Membertou model for economic development, the Unama’ki economic partnership model, and best practices in Aboriginal economic development. She published an article on Aboriginal participation in the Sydney Tar Ponds remediation in the *Journal of Aboriginal Economic Development* and co-edited *Indigenous Business in Canada: Principles and*

Practices (Cape Breton University Press, 2016). Tulk holds a Bachelor of Music (Honours) from Memorial University (2001), a Master of Arts in Music from University of Alberta (2003), and a Doctor of Philosophy (Ph.D) in Ethnomusicology from Memorial University (2008). In her free time, she is engaged in research on industrial soundscapes.