2015 UNB ENGINEERING DESIGN SYMPOSIUM

DEPARTMENT OF GEODESY AND GEOMATICS

April 8, 2015

Fredericton Convention Centre

Marysville Room A

Session I

UNB Control Network: Determining coordinates using static GNSS **(M. Cameron)**

Comparing UNB's GAPS v5.5.0 processing ability with previous releases **(S. Dubay)**

The practicality of trigonometric heighting: Comparing trigonometric heighting, geometric levelling, and GNSS heighting **(G. Rodger)**

Low cost UAV photogrammetry accuracy assessment **(C. Choi)**

Aerial mapping techniques and technologies: A cost benefit analysis **(C. McLean)**

Predicting urban growth in Fredericton using the SLEUTH Model **(C-O. Cyr)**

Session II

Using PPP-GPS to estimate tidal motions in the Artic and comparison to a tidal model. **(C. Johnston)**

GNSS derived orthometric heights for water level monitoring and Geoid accuracy assessment. **(M. Williams)**

Canadian Marine Cadastre: Building on lessons from the US Gulf of Mexico **(E. Root)**

Evaluating Alberta's systemic handling of private minerals rights **(R. Larsen)**

New Brunswick Condominiums: Recommendations for improving governance by implementing educational requirements **(J. Doiron)**

Optimizing the campus floor plan: An interactive mapping application for E-Level of Head Hall, UNB. **(A. Paine)**

Session III

Mapping UNB walking paths to compare elevation data sources **(M. Mayne)**

Reporting Motor Vehicle Accidents with a GNSS based Application **(C. Murray)**

Modelling urban traffic using the Neo4j graph database **(J. Wood)**

A spatial analysis of the City of Fredericton's bus stop locations **(J. Mason)**

Discovering mobility behaviour using real trajectory data with M-Atlas **(M. Allen)**

Mapping the extent and intensity of a natural disaster using social media **(N. Hughes)**

Canadian Institute of Geomatics Competition Session

UNB Campus Control Network: Designing a deformation monitoring campaign **(A. Thimot)**

DIM: Developing a mobile least squares adjustment application for Android **(M. Bremner) 1st Prize**

Evaluating collision investigation and reconstruction capabilities with the Trimble TX5 laser scanner **(A. Cunningham)**

The use of hyperspectral images and laser scan data for the improvement of mine models in Canada's oil sands **(L. Fraser) 2nd Prize**

Analysis of GSM data in conjunction with Twitter data for understanding social behaviour in Senegal **(T. Liu) 3rd Prize**

The effect of ambulatory islands on international water boundaries **(J. Batty)**

You can find the authors' abstracts here.

Course Instructor: M. Wachowicz

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Faculty Mentors: R. Al-Tahir, P. Dare, J. Hughes Clarke, R. Kingdon, L. LeBlanc, S. Nichols, M. Santos, J. Secord, E. Stefanakis

Clients: RCMP, SarPoint Engineering, Leading Edge Geomatics, AnalyzeRe, Alberta Surveyors, Department of Fisheries and Oceans Canada, Canadian Rivers Institute, Orange France, Transportation Fredericton City, Transportation Service of New Brunswick, Fredericton Police Force

Sponsors: Canadian Institute of Geomatics (1st Place Prize $1000)
Midwest Surveys (2nd Place Prize $700)
McElhanney Surveying (3rd Place Prize $500)