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⁽²⁾ Agence spatiale canadienne

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⁽²⁾ Université de Versailles-Saint-Quentin-en-Yvelines

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⁽¹⁾ IBM India Pvt. Limited

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⁽¹⁾ Xi'an Technological University

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⁽¹⁾ Dalhousie University

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⁽¹⁾ Federal University of Rio Grande do Sul – UFRGS

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⁽¹⁾ Ecole Mohammadia d'Ingenieurs

⁽²⁾ University of Ontario Institute of Technology

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Chair: Esmaili

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⁽¹⁾ University of Guelph

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⁽¹⁾ University of Calgary

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Place: Saint-Charles

Chair: Zhang

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⁽¹⁾ University of Isfahan

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⁽¹⁾ Evidence Scientific Consulting Inc.

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⁽¹⁾ University of Western Ontario

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⁽¹⁾ École de technologie supérieure

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⁽¹⁾ Université du Québec à Trois-Rivières

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⁽¹⁾ University of Ontario Institute of Technology

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Place: Grand Salon

Chair: El-Hawary

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⁽¹⁾ Guru Nanak Dev Engineering College, Gill Road, Gill Park, Ludhiana, Punjab, India

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Place: Saint-Maurice

Chair: Poshtkouhi

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⁽¹⁾ University of Western Ontario

⁽²⁾ London Hydro Inc.

⁽³⁾ Bluewater Power Generation Corp.

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⁽¹⁾ University of California San Diego

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Place: Hochelaga 6

Chair: Trueman

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⁽¹⁾ École de technologie supérieure

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⁽¹⁾ McGill University

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⁽¹⁾ COMSATS, Pakistan

⁽²⁾ Dalhousie University

⁽³⁾ LISSI, Université Paris-Est Créteil (UPEC)

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Time: 9:45 am - 11:45 am

Place: Matapedia

Chair: Nguyen

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[Rami Sabouni^{\(1\)}](#) [Roshdy Hafez^{\(1\)}](#)

⁽¹⁾ Carleton University

[A Study Of Different Types Of Attacks In Mobile Ad-hoc Networks](#) 805

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⁽¹⁾ York University

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⁽¹⁾ University of Ontario Institute of Technology

[How Energy Consumption Affects Routing Performance In Delay Tolerant Networks](#) N/A

[Annalisa Socievole^{\(1\)}](#) [Salvatore Marano^{\(1\)}](#)

⁽¹⁾ University of Calabria, Rende, Italy

[A Probabilistic Model For Network Survivability In Large Scale Failure Scenarios](#) 816

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⁽¹⁾ University of Ontario Institute of Technology

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[Ye Yu^{\(1\)}](#) [Cungang Yang^{\(1\)}](#)

⁽¹⁾ Ryerson University

WM05 Software Engineering and Data Management

Time: 9:45 am - 11:45 am

Place: Hochelaga 5

Chair: Pendharkar

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⁽¹⁾ University of Quebec at Chicoutimi

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Mohammad Hossein Ahmadi Danesh Ashtiani⁽¹⁾ Bijan Raahemi⁽¹⁾ Amin Kamali⁽¹⁾ Greg Richards⁽¹⁾

⁽¹⁾ University of Ottawa

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⁽¹⁾ Fu Jen Catholic University

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⁽¹⁾ University of British Columbia

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⁽¹⁾ École de technologie supérieure

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⁽¹⁾ Penn State Harrisburg

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Time: 9:45 am - 11:45 am

Place: Chaudière

Chair: He

Bang-Bang CDR's Acquisition, Locking, and Jitter Tolerance 853

Chao He⁽¹⁾ Tadeusz Kwasniewski⁽¹⁾

⁽¹⁾ DOE, Carleton University

Wireless Passive Hydrogen Gas Sensor

Bekkaoui Otmane⁽¹⁾ Issam Kerroum⁽¹⁾ Frédéric Dominique⁽¹⁾ Adel Omar Dahmane⁽¹⁾ 857

⁽¹⁾ Université du Québec à Trois-Rivières

Parametric Analysis Of Multi Section Slot Coupled Quadrature Coupler

Muhammad Ashraf⁽¹⁾ Abdel Razik Sebak⁽²⁾ Zeyad Al-Hekail⁽¹⁾ Majeed Alkanhal⁽¹⁾ 861

⁽¹⁾ King Saud University

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⁽¹⁾ École de technologie supérieure

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⁽¹⁾ University of Manitoba

⁽²⁾ University of Brasilia

WM07 Fault-Detection & Fault-Tolerant Systems

Time: 9:45 am - 11:45 am

Place: Saint-Charles

Chair: Khorasani

[Fault Detection Of Gas Turbine Engines Using Dynamic Neural Networks](#) 877

[Seyed Sina Tayarani Bathaie](#)⁽¹⁾ [Zakieh](#) ^(Nasim) [Sadough Vanini](#)⁽¹⁾ [Kash Khorasani](#)⁽¹⁾

⁽¹⁾ Concordia University

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⁽¹⁾ Université du Québec en Abitibi-Témiscamingue

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⁽¹⁾ Concordia University

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[Azeddine Ghodbane](#)⁽¹⁾ [Maarouf Saad](#)⁽¹⁾ [Jean-Francois Boland](#)⁽¹⁾ [Claude Thibeault](#)⁽¹⁾

⁽¹⁾ École de technologie supérieure

[An Analytical Framework For Analysis And Design Of Networked Control Systems With Random Delays And Packet Losses](#) N/A

[Mishiga Vallabhan](#)⁽¹⁾ [Seshadhri Srinivasan](#)⁽²⁾ [Ashok S](#)⁽¹⁾ [Srini Ramaswamy](#)⁽²⁾ [Ramakalyan Ayyagari](#)⁽³⁾

⁽¹⁾ National Institute of Technology, Calicut

⁽²⁾ ABB GISL, Indian Corporate Research Center, Bangalore

⁽³⁾ National Institute of Technology-Tiruchirappalli

WA01 Energy Storage Technologies

Time: 1:30 pm - 3:30 pm

Place: Grand Salon

Chair: Sharaf

[A Novel Hybrid FACTS Scheme Of Smart Battery V2G Chargers](#) N/A

[Adel Sharaf](#)⁽¹⁾ [Behnam Khaki](#)⁽²⁾

⁽¹⁾ University of Trinidad and Tobago

⁽²⁾ Amirkabir University of Technology

[Repurposing Used Electric Vehicle Batteries For Energy Storage Of Renewable Energy In The Power System](#) 898

[Aniruddha Gole](#)⁽¹⁾ [Dexter Williams](#)⁽¹⁾ [Randy W. Wachal](#)⁽²⁾

⁽¹⁾ University of Manitoba

⁽²⁾ Manitoba HVDC Research Centre

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[Farhad Yahyaie](#)⁽¹⁾ [Theodore Soong](#)⁽¹⁾

⁽¹⁾ University of Toronto

[Low Voltage Performance Improvement Of A Doubly Fed Wind Generator Through Smes](#) 908

[Abu Rahim](#)⁽¹⁾ [Edwin Nowicki](#)⁽²⁾

⁽¹⁾ KFUPM

⁽²⁾ University of Calgary

[Virtual Grid Flux Oriented Control Method For Front-End Three Phase Boost Type Voltage Source Rectifier](#) 912

[M. A. Rahman](#)⁽¹⁾ [Azziddin Razali](#)⁽¹⁾

⁽¹⁾ Memorial University of Newfoundland

WA02 Power electronics Modeling - II

Time: 1:30 pm - 3:30 pm

Place: Saint-Maurice

Chair: Schmidt

Power System State Estimation: Methods, Implementation And Evaluation 916

Fahimeh Kazempour⁽¹⁾ Shahab Poshtkouhi⁽¹⁾

⁽¹⁾ University of Toronto

Parameter Evaluation Of Permanent Magnet Synchronous Machines With Tooth Coil Windings Using The Frozen Permeabilities Method With The Finite Element Analyses 920

Erich Schmidt⁽¹⁾

⁽¹⁾ Vienna University of Technology

Modified Maximum Power Point Tracking (MPPT) Of Grid-Connected PV System Under Partial Shading Conditions 925

Shamsodin Taheri⁽¹⁾ Hamed Taheri⁽²⁾

⁽¹⁾ University of Quebec at Chicoutimi

⁽²⁾ École de technologie supérieure

FACTS Based Fault Current Limiter Utilization In HV Grid 929

Amir Golshani⁽¹⁾ Alireza Khakpour⁽¹⁾ Lutz Hofmann⁽²⁾

⁽¹⁾ K.N.T. University of Technology

⁽²⁾ Leibniz University

WA03 Modulation & Coding

Time: 1:30 pm - 3:30 pm

Place: Hochelaga 6

Chair: Huang

Closed-Form Expressions For The Bit Error Rate Of MQAM And MPSK Modulation Schemes Over The A - M Fading Channels N/A

Taimour Aldalgamouni⁽¹⁾ Ahmed Alhubaishi⁽¹⁾ Amer Magableh⁽¹⁾

⁽¹⁾ Jordan University of Science and Technology

Simplified LLR-Based Viterbi Decoder For Convolutional Codes In Symmetric Alpha-Stable Noise 935

Tarik Shehata Saleh⁽¹⁾ Ian Marsland⁽¹⁾ Mohamed El-Tanany⁽¹⁾

⁽¹⁾ Carleton University

Low-Complexity Near-Optimal Map Decoder For Convolutional Codes In Symmetric Alpha-Stable Noise 939

Ian Marsland⁽¹⁾ Tarik Shehata Saleh⁽¹⁾ Mohamed El-Tanany⁽¹⁾

⁽¹⁾ Carleton University

Efficient Decode-And-Forward Relaying Scheme For Wireless Communication Systems 943

Essam Altubaishi⁽¹⁾ Sherman Shen⁽¹⁾

⁽¹⁾ University of Waterloo

Effects Of Fiber Impairments On Signal Coding Orthogonality Over Optical CDMA Transmissions 947

Cheng-Feng Lin⁽¹⁾ Jen-Fa Huang⁽¹⁾ Ta-Chun Nieh⁽¹⁾

⁽¹⁾ National Cheng Kung University

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Xiao Bian⁽¹⁾ Nam Yul Yu⁽¹⁾

⁽¹⁾ Lakehead University

WA04 Software Engineering - II

Time: 1:30 pm - 3:30 pm

Place: Hochelaga 5

Chair: Asadi

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[Afshan Samani^{\(1\)}](#) [Hamada Ghenniwa^{\(1\)}](#) [Jagath Samarabandu^{\(1\)}](#)

⁽¹⁾ University of Western Ontario

[Fault Localization In Software Testing](#) N/A

[Kavitha R.^{\(1\)}](#) [Kavitha V. R.^{\(1\)}](#) [Sureshkumar N.^{\(1\)}](#) [Kannan N.^{\(2\)}](#)

⁽¹⁾ VCET

⁽²⁾ JCET

[An Ontology-Based Framework For Arabic Information Retrieval](#) N/A

[Amr Elsehemy^{\(1\)}](#) [Mohamed Abdeen^{\(1\)}](#) [Taymore Nazmy^{\(1\)}](#) [Mustapha C.E. Yagoub^{\(2\)}](#)

⁽¹⁾ Ain Shams University

⁽²⁾ University of Ottawa

[E-Police System For Improved E-Government Services Of Developing Countries](#) 960

[Muhammad Baqer Mollah^{\(1\)}](#) [Kazi Islam^{\(2\)}](#) [Sikder Sunbeam Islam^{\(1\)}](#)

⁽¹⁾ International Islamic University Chittagong

⁽²⁾ Ryerson Univeristy

[Ontology Driven Software Engineering](#) 966

[Christine Chan^{\(1\)}](#) [Alexander Wiebe^{\(1\)}](#)

⁽¹⁾ University of Regina

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Place: Chaudiere

Chair: Salehizadeh

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⁽¹⁾ University of Calgary

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⁽¹⁾ University of Ottawa

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⁽¹⁾ University of Calgary

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⁽¹⁾ University of Western Ontario

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⁽¹⁾ Tsinghua University

WA06 Control Applications

Time: 1:30 pm - 3:30 pm

Place: Saint-Charles

Chair: Shahriari

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[Lalami Abdelhalim^{\(1\)}](#) [Wamkeue René^{\(1\)}](#)

⁽¹⁾ Université du Québec en Abitibi-Témiscamingue

[A New Concept To Reject Perturbations In A TMP Process Due To Raw Materials Properties Variation](#) 995

[Kyarash Shahriari^{\(1\)}](#) [Feng Ding^{\(1\)}](#)

⁽¹⁾ Centre de recherche industrielle du Quebec

MPC Based Ring Deberking Process Optimisation 999

Feng Ding⁽¹⁾ Fadi Ibrahim⁽¹⁾ Philippe Gagné⁽¹⁾

⁽¹⁾ CRIQ

WA07 Image Processing

Time: 1:30 pm - 3:30 pm

Place: Matapedia

Chair: Badawy

A Novel Algorithm For Illumination Invariant DCT-Based Face Recognition 1003

wael badawy⁽¹⁾ Shan Du⁽²⁾ Mohamed Shehata⁽²⁾

⁽¹⁾ Umm Al Quora University

⁽²⁾ IntelliView Technologies Inc.

Exploiting Optimal Selection Of Inputs For Reconstruction Of High Resolution Image N/A

Toufeeq Ahmad⁽¹⁾ Toufeeq Ahmad⁽¹⁾ Shahryar Shafique Qureshi⁽¹⁾ Xu Yan⁽¹⁾

⁽¹⁾ Beijing University of Posts and Telecommunications

Modified Multiscale Vesselness Filter For Facial Feature Detection N/A

Ahmad Poursaberi⁽¹⁾ Svetlana Yanushkevich⁽¹⁾

⁽¹⁾ University of Calgary

Using An Adaptive UPA Scheme With A Channel-Aware OFDM Technique For Wireless Transmission Of JPEG2000 Images 1007

Sami Muhaidat⁽¹⁾ Moein Shayegannia⁽¹⁾ Atousa Hajshirmohammadi⁽¹⁾

⁽¹⁾ Simon Fraser University

Two-Dimensional Face Recognition Algorithms In The Frequency Domain 1012

M.N.S. Swamy⁽¹⁾ M. Omair Ahmad⁽¹⁾ Alper Serhat Zeytunlu⁽¹⁾

⁽¹⁾ Concordia University

WE01 Wind Power & Energy Harvesting

Time: 3:45 pm - 5:45 pm

Place: Grand Salon

Chair: Woodward

Maximizing Wind Energy Production With The Multi-Unit Optimization Method 1016

Lyne Woodward⁽¹⁾ Toufik Mehena⁽¹⁾

⁽¹⁾ École de technologie supérieure

Explicit And Implicit Representation Of Saturation For Induction Machines Modelling In State-Variable Transient Simulators 1022

Francis Therrien⁽¹⁾ Liwei Wang⁽²⁾ Juri Jatskevich⁽¹⁾

⁽¹⁾ University of British Columbia

⁽²⁾ ABB Sweden Corporate Research

Practical Study Of The Voltage Regulation In A Self Excited Induction Generator With Two Orthogonal Three Phase Windings Stator 1026

wamkeue René⁽¹⁾ Jean-Jacques Beaudoin⁽¹⁾

⁽¹⁾ Université du Québec en Abitibi-Témiscamingue

A Novel FACTS Compensation Scheme For Power Quality Improvement In Wind Smart Grid 1030

Abdelazeem Abdelsalam⁽¹⁾ Adel Sharaf⁽²⁾

⁽¹⁾ Suez Canal University

⁽²⁾ University of Trinidad and Tobago

Commande Vectorielle En Puissances D'Un Émulateur Éolien À Base De Machine Asynchrone À Double Alimentation 1034

Mamadou Lamine Doumbia⁽¹⁾ Abdoulaye Mamadie Sylla⁽¹⁾ Karim Belmokhtar⁽¹⁾

⁽¹⁾ University of Quebec in Trois-Rivières

[A New Strategy For Wind Speed Forecasting Using Hybrid Intelligent Models](#) **1041**

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⁽¹⁾ University of New Brunswick

⁽²⁾ University of Texas at El Paso

WE02 Power Transmission

Time: 3:45 pm - 5:45 pm

Place: Saint-Maurice

Chair: Raahemifar

[Dynamic Model Reduction Using Integrated PSS/E And Matlab](#) **1045**

[Nilkamal Fernandopulle^{\(1\)}](#) [Mahmoud Bayoumi^{\(2\)}](#)

⁽¹⁾ Independent Electricity System Operator

⁽²⁾ IESO

[Blended Biogeography Based Optimization For Different Economic Load Dispatch Problem](#) **1050**

[Shivani Kanoongo^{\(1\)}](#) [Prerna Jain^{\(1\)}](#)

⁽¹⁾ Malviya National Institute of Technology

[Novel Reactive Power Optimization Based On Hybrid Particle Swarm Optimization Algorithm](#) **N/A**

[Kaamran Raahemifar^{\(1\)}](#)

⁽¹⁾ Ryerson University

[A Robust PI Based LFC Design Using BF-NM Algorithm](#) **1055**

[Mohamad Reza Tavakoli^{\(1\)}](#) [amin khodabakhshian^{\(1\)}](#) [Rahmat Allah Hooshmand^{\(1\)}](#)

⁽¹⁾ University of Isfahan

WE03 Network Architecture & Protocols - II

Time: 3:45 pm - 5:45 pm

Place: Hochelaga 6

Chair: Agarwal

[A Secure Multiparty Micropayment Protocol For Internet Access Over WLAN Wireless Mesh Networks](#) **1059**

[Cungang Yang^{\(1\)}](#)

⁽¹⁾ Ryerson University

[An Energy-Efficiency Assessment Of Content Centric Networking \(CCN\)](#) **1065**

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⁽¹⁾ McGill University

[Outage Probability In A Circle With Uniformly Distributed Users](#) **1069**

[Sami Baroudi^{\(1\)}](#) [Yousef Shayan^{\(1\)}](#)

⁽¹⁾ Concordia University

[A New Threshold Switching Scheme For A DVB-RCS+M Return Link In A Terrestrial Scenario](#) **1073**

[Peppino Fazio^{\(1\)}](#) [Mauro Tropea^{\(1\)}](#)

⁽¹⁾ University of Calabria, Rende, Italy

[Modeling And Evaluating Enhancements In Expanding Ring Search Algorithm For Wireless Reactive Protocols](#) **1077**

[Nadeem Javaid^{\(1\)}](#) [Ayesha Bibi^{\(1\)}](#) [Khaled Dridi^{\(2\)}](#) [Safdar Hussain Bouk^{\(1\)}](#) [Zahoor Khan^{\(3\)}](#)

⁽¹⁾ COMSATS, Pakistan

⁽²⁾ LISSI, University of Paris-Est Creteil (UPEC), France

⁽³⁾ Dalhousie University, Halifax, Canada

[Load Balancing For QoS In Agile All-Photonic Networks](#) **1081**

[Imad Khazali^{\(1\)}](#) [Anjali Agarwal^{\(1\)}](#)

⁽¹⁾ Concordia University

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Chair: Mcheick

[A Novel Approach For Indexing Arabic Documents Through GPU Computing](#) 1087

[Nermine Sophoclis^{\(1\)}](#) [Mohamed Abdeen^{\(1\)}](#) [Mustapha C.E. Yagoub^{\(2\)}](#) [El-Sayed El-Horbaty^{\(1\)}](#)

⁽¹⁾ Ain Shams University

⁽²⁾ University of Ottawa

[Approximating User Preferences In Online Store Systems](#) 1091

[Malek Mouhoub^{\(1\)}](#) [Bandar Mohammed^{\(1\)}](#) [Eisa Alanazi^{\(1\)}](#)

⁽¹⁾ University of Calgary

[Palmhash Code For Palmprint Verification And Protection](#) 1095

[Lu Leng^{\(1\)}](#) [Jiashu Zhang^{\(1\)}](#)

⁽¹⁾ Southwest Jiaotong University

[A Holistic Framework For Water Sustainability And Education In Municipal Green Spaces](#) 1099

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⁽¹⁾ University of British Columbia

[Next Generation Of Computing Through Cloud Computing Technology](#) 1105

[Muhammad Baqer Mollah^{\(1\)}](#) [Kazi Islam^{\(2\)}](#) [Sikder Sunbeam Islam^{\(1\)}](#)

⁽¹⁾ International Islamic University Chittagong

⁽²⁾ Ryerson Univeristy

WE05 Integrated Circuits for Communications

Time: 3:45 pm - 5:45 pm

Place: Chaudiere

Chair: Briqech

[60 GHz Microstrip-Fed High Gain Dielectric Lens Antenna](#) 1111

[Zouhair Briqech^{\(1\)}](#) [Abdelrazek Sebak^{\(1\)}](#)

⁽¹⁾ Concordia University

[Design And Validation Of A Small-Scale 5.9 GHz DSRC System For Vehicular Communication](#) 1115

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⁽¹⁾ University of Alberta

[Load-Pull Assisted CAD Design Of Inverted Doherty Amplifier Without Quarter-Wave Transformer](#) 1119

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⁽¹⁾ University of Calgary

[A Broadband High Linear Lna For GSM/LTE Wireless Communications](#) 1123

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⁽¹⁾ University of Saskatchewan

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[Khaled Nigim^{\(1\)}](#) [Mohamed Ouda^{\(2\)}](#) [Henry Resier^{\(1\)}](#)

⁽¹⁾ Lambton College

⁽²⁾ IUG

WE06 Nano and Optoelectronic Devices

Time: 3:45 pm - 5:45 pm

Place: Matapedia

Chair: Haraz

Gain Enhancement In Ultra-Wideband Antennas Backed By A Suspended Ground Or Covered With Metamaterial Superstrates 1131

Abdelrazek Sebak⁽¹⁾ Osama Haraz⁽¹⁾

⁽¹⁾ Concordia University

Synthesis Of Crystalline Nanorods As Water Soluble Sacrificial Structures 1135

Mahmoud Amouzgar⁽¹⁾ Bahareh Yaghootkar⁽¹⁾ Nassim Mashayekh⁽¹⁾ Mojtaba Kahrizi⁽¹⁾

⁽¹⁾ Concordia University

Design Of The Shape, Size, And Distribution Of The Array Of Crystalline ZnO Nanowires 1139

Svetlana Spitsina⁽¹⁾ Mojtaba Kahrizi⁽¹⁾

⁽¹⁾ Concordia University

Modeling Of Metal-Oxide-Semiconductor Capacitor On Indium Gallium Nitride 1-Channel Model 1143

Tarik Menkad⁽¹⁾ Dimiter Alexandrov⁽¹⁾ Kenneth Butcher⁽¹⁾

⁽¹⁾ Lakehead University

WE07 Computational Methods

Time: 3:45 pm - 5:45 pm

Place: Saint-Charles

Chair: Al-Ani

Optimal Pump Operation For Water Distribution Systems Using Multi-Agent Particle Swarm Optimization Technique with EPANET 1150

Dhafar Al-Ani⁽¹⁾ Saeid Habibi⁽¹⁾

⁽¹⁾ McMaster University

On The Positivity Of Polynomials On The Complex Unit Disc Via LMIs 1156

Graziano Chesi⁽¹⁾

⁽¹⁾ University of Hong Kong

Robust Multi-Objective Static Output Feedback Control Satisfying Closed Loop Passivity Constraints 1160

Mohammad Al Janaideh⁽¹⁾ Ahmed El-Shaer⁽²⁾

⁽¹⁾ The University of Jordan

⁽²⁾ Samsung R & D

Traffic Speed Prediction Using Mutual Information 1164

Behzad Moshiri⁽¹⁾ Seyed Mohammad Hadi Hosseini⁽²⁾ Ashkan Rahimi-kian⁽¹⁾ Babak N. Araabi⁽¹⁾

⁽¹⁾ University of Tehran

⁽²⁾ Science and Research Branch, Islamic Azad University

Characterization Of Structured And Unstructured Decentralized Fixed Modes Using Transfer Matrices 1168

Mohammad Amin Rahimian⁽¹⁾ Mohammad Mehdi Asadi⁽¹⁾ Amir Aghdam⁽¹⁾

⁽¹⁾ Concordia University

Optimal Spatial Resolution In Vision-Based Inspection Of Pipes Using Catadioptric Sensors 1172

Abbasali Dehghan Tezerjani⁽¹⁾ Mehran Mehrandezh⁽¹⁾ Raman Paranjape⁽¹⁾

⁽¹⁾ University of Regina

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Mohammad Yumus Ali, Kaamran Raahemifar

An ∞ Consensus Achievement for LTI Multi-Agent Systems with Directed Fixed "33: 3 Networks

Iman Saboori, K. Khorasani