



UNIVERSITY OF OTTAWA
HEART INSTITUTE
INSTITUT DE CARDIOLOGIE
DE L'UNIVERSITÉ D'OTTAWA

Research Day 2011

Presentation Program

May 5, 2011
University of Ottawa Heart Institute

Procedure
Femoral Angiography
Cardiac Angiography
Suitable Anatomy

Collaborative Approach
Interventional Cardiology and Cardiac Surgery
Cath lab staff and COR staff

Potential Advers

- MI
- Arrhythmias (VF & VT)
- Death
- AV Block
- Pseudo aneurysm fe
- Dissection
- Stroke
- Drug reaction
- Mitral insufficien
- Embolization
- Hemorrhage
- Infection




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PROGRAM

11:45	Lunch
12:00 – 12:10	Welcome and Opening Remarks (CF) Dr. Terry Ruddy
12:10 – 12:15	Investigator of the Year Awards (CF) Dr. Terry Ruddy
12:20 – 12:35	Basic Science Investigator of the Year Presentation (CF) Dr. Edward O'Brien
12:40 – 12:55	Clinical Science Investigator of the Year Presentation (CF) Dr. Robert Reid
13:00 – 16:00	Basic Science Oral Presentations (CF)
13:00 – 16:00	Clinical Science Oral Presentations (WF)
13:00 – 16:00	Allied and Population Health Oral Presentations (EF)
15:30 – 17:00	Poster Presentations and Wine and Cheese (TR)
17:30	Oral and Poster Presentation Awards (CF) Dr. Andrew Pipe
18:00	Research Day End

CF – Centre Foustanelas Auditorium

EF – East Foustanelas Auditorium

WF – West Foustanelas Auditorium

TR – Track Room



ORAL PRESENTATIONS: SIMULTANEOUS SESSIONS

13:00 – 16:00

Session 1: Basic Science Oral Presentations (CF)

Judges: Dr. Ruth McPherson (Chair), Dr. Thomas Lagace, Dr. Ross Milne

- 1:00 O-1 Autologous Endothelial Progenitor Cells Provide a More Extensive Paracrine Repertoire than Resident Cardiac Stem Cells with Equivalent Angiogenic Potential**
Nicholas Latham (Supervisor: Dr. Darryl R Davis)
- 1:14 O-2 Automated Synthesis of a Novel F-18 Labeled Tracer for PET Imaging of AT1 Receptors**
Natasha Arksey (Supervisor: Dr. Jean N. DaSilva and Dr. Rob S. Beanlands)
- 1:28 O-3 Development of Reporter Gene PET Imaging Techniques for Long-term Assessment of Transplanted Human Circulating Progenitor Cells**
Yan (Mary) Zhang (Supervisor: Dr. Marc Ruel and Dr. Erik J Suuronen)
- 1:43 O-4 Validation of New Image-Derived Blood Input Function for Mouse Heart Positron Emission Tomography Imaging: Evaluation in the Human Arg302Gln-PRKAG2 Mutation-Induced Metabolic Cardiomyopathy**
Stephanie Thorn (Supervisor: Dr. Jean N. DaSilva and Dr. Michael Gollob)
- 1:57 O-5 *In Vivo* Evaluation of Angiogenic Factors in A Collagen-Chitosan Matrix as a Potential Islet Transplant Site**
Joanne McBane (Supervisor: Dr. Erik J. Suuronen)
- 2:11 O-6 Functional Analysis of the Trib1 Locus in Coronary Artery Disease**
Adrianna Douvris (Supervisor: Dr. Ruth McPherson)

2:25 – 2:35 COFFEE BREAK

- 2:35 O-7 Role of Glyoxalase-1 in Defective Ischemia-Induced Neovascularization in Diabetes**
Branka Vulesevic (Supervisor: Dr. Erik J. Suuronen)
- 2:49 O-8 Autophagy and Lysosomal Acid Lipase Regulate Macrophage Reverse Cholesterol Transport**
Mireille Ouimet (Supervisor: Dr. Yves Marcel)
- 3:03 O-9 Association of PCSK9 with Low-Density Lipoproteins in Human Plasma**
Mia Golder (Supervisor: Dr. Thomas Lagace)



- 3:17 O-10 Nucleotides Regulate Hepatic Lipoprotein Secretion Through Autophagic and Proteasomal Degradation Pathways**
Cynthia Chatterjee (Supervisor: Dr. Daniel L. Sparks)
- 3:31 O-11 Phosphatidylcholine Metabolism Affects Trafficking of LDL-derived Free Cholesterol in Cholesterol-loaded CHO Cells**
Chandra Landry (Supervisor: Dr. Thomas Lagace)
- 3:45 O-12 An integrin-linked kinase mechanism is associated with improved myocardial perfusion, viability and function in infarcted mouse hearts after collagen matrix-enhanced cell therapy**
Ali Ahmadi (Supervisor: Dr. Erik J. Suuronen and Dr. Marc Ruel)

Session 2: Clinical Science Oral Presentations (WF)

Judges: Dr. Derek So (Chair), Dr. Marc Ruel, Dr. Duncan Stewart, Lily Chen

- 1:00 O-13 OPCAB Does Not Preserve Renal Function Better than CABG: Results of a Case-Matched Study in 5,940 patients.**
Elsayed Elmistekawy (Supervisor: Dr Marc Ruel)
- 1:15 O-14 Prognostic Assessment of Coronary Artery By-Pass Patients with 64-slice CT Angiography: Anatomical Information is Incremental to Clinical Risk Prediction.**
Gary Small (Supervisor: Dr. Benjamin J.W. Chow)
- 1:30 O-15 Role of FDG-PET in Imaging of Carotid Atherosclerotic Plaque (FDG PET substudy of the CAIN II Project)**
George Youssef (Supervisor: Dr. Robert S. Beanlands)
- 1:45 O-16 A Single CT Study for Attenuation Correction of Rest and Stress SPECT Myocardial Perfusion Images**
Mikael Trottier (Supervisor: Dr. Terrence D. Ruddy)
- 2:00 O-17 Radial versus Femoral Artery Approach for Coronary Angiography and Percutaneous Coronary Intervention in the Extremely Obese**
Benjamin Hibbert (Supervisor: Dr. Edward O'Brien)

2:15 – 2:30 COFFEE BREAK

- 2:30 O-18 Impact of Technetium Shortage on Downstream Utilization of Cardiac Diagnostic Techniques**
Gary Small (Supervisor: Dr. Benjamin J.W. Chow)



- 2:45 O-19 The Value of Risk Algorithms in Predicting Outcomes for Octogenarians Undergoing Aortic Valve Replacement with or without CABG**
Elsayed Elmistekawy (Supervisor: Dr. Khan Lam)
- 3:00 O-20 Cardiac FDG PET Imaging Positively Impacts Management Direction and Identifies High Risk Patients in a Multi-Center Provincial Registry (CADRE).**
Allison Hall (Supervisor: Dr. Robert S. Beanlands)
- 3:15 O-21 Three Year Clinical Outcomes Associated with the Use of the Zotarolimus-Eluting Stent in an Unrestricted Contemporary Practice**
Katie Giles (Supervisor: Dr. Christopher Glover)
- 3:30 O-22 A Two-Year Follow-Up of Patients who Required Readmission to a Cardiac Surgical Intensive Care Unit**
Vance Beck (Supervisor: Dr. Jim Robblee)

Session 3: Allied and Population Health Oral Presentations (EF)

Judges: Dr. Amy Mark (Chair), Dr. Bob Reid, Robbie Davies, Eftyhia Helis

- 1:00 O-23 Addressing Nurse Fatigue at the University of Ottawa Heart Institute (UOHI)**
Joshua Hambleton (Supervisor: Dr. Mirou Jaana, Telfer School of Management, University of Ottawa)
- 1:15 O-24 Changes In Cholesterol Levels over an 18-Year Period in a Random Sample of Newfoundland Residents: Effect of Diet Versus Pharmacotherapy**
Penelope Turton (Supervisor: Dr. Marshall Godwin, Memorial University of Newfoundland)
- 1:30 O-25 Champlain Community Heart Health Survey**
Danielle Simpson, CCPN Analyst, Minto Prevention and Rehabilitation Centre
- 1:45 O-26 Development and Psychometric Evaluation of a Theory of Planned Behaviour Physical Activity Questionnaire for Individuals at Risk for Coronary Heart Disease**
Dana Riley (Supervisor: Dr. Robert Reid)
- 2:00 O-27 Effects of Nordic Pole Walking on Functional Status in Patients with Moderate to Severe Heart Failure: A Randomized Controlled Trial**
Marja-Leena Keast, Physiotherapist, Minto Prevention and Rehabilitation Centre

2:15 – 2:30 COFFEE BREAK



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- 2:30 O-28 Results and Applications of a Multi-Centre Chart Audit Exploring Best Practices in Heart Failure Management**
Lorraine Montoya, BSN, MAdEd, Regional Program Educator
- 2:45 O-29 Home Telehealth Improves HF Readmission Rates: A Case-Matched Cohort Study**
Christine Struthers, RN, MScN, APN Cardiac Telehelath
- 3:00 O-30 Using IVR to Improve Disease Management and Compliance with ACS Best Practice Guidelines**
Christine Struthers, RN, MScN, APN Cardiac Telehelath
- 3:15 O-31 Cost Analysis of the Ottawa Model for Smoking Cessation as Implemented at an Ontario Tertiary Care Cardiac Hospital**
Kerri-Anne Mullen (Supervisor: Dr. Robert Reid)
- 3:30 O-32 Effectiveness of the Ottawa Model for Smoking Cessation in Cardiac Care Units Across Canada**
Kerri-Anne Mullen (Supervisor: Dr. Robert Reid)
- 3:45 O-33 Perceptions of Barriers and Facilitators to Smoking Cessation Among Pregnant Smokers in the Baffin Region of Nunavut**
Chantal Nelson (Supervisor: Dr. Robert Reid)



POSTER PRESENTATIONS

15:30 – 17:00

Basic Science Poster Presentations

Judges: Dr. Alexandre Stewart, Dr. Patrick Burgon, Dr. Erik Suuronen, Dr. Dan Sparks, Dr. Mercedes Kuroski-deBold, Dr. Gary Small, Dr. Glenn Wells, Dr. Terrence Ruddy

- P-1 Identification of Nuclear Localization Signal in IRF2BP2**
Allen Teng (Supervisor: Dr. Alexandre Stewart)
- P-2 Culture of Circulating Progenitor Cells on a 3D Collagen Matrix Enhances Their Therapeutic Effect in a Model of Hindlimb Ischemia**
Chenchen Hou (Supervisor: Dr. Erik J Suuronen)
- P-3 Synthesis and Characterization of Chitosan-Derived Microgels for Cardiovascular Tissue Engineering**
Donna Padavan (Supervisor: Dr. Erik J Suuronen)
- P-4 Quantitative Reconstruction of Small Animal Multiplexed Multi-Pinhole SPECT with Scatter and Attenuation Correction**
Jared Strydhorst (Supervisor: Dr. Glenn Wells)
- P-5 A Collagen Matrix Activates the ERK Pathway and Improves the Survival and Function of Endothelial Progenitor Cells**
Jenelle Marier (Supervisor: Dr. Erik J Suuronen)
- P-6 Circulating Progenitor Cell Viability and Collagen Hydrogel Properties are Dependent on the Interactions between the Cells and the Biomaterial**
Kimberly McEwan (Supervisor: Dr. Erik J Suuronen)
- P-7 Durability and Immunological Correlates with Implanted Porcine Heart Valves**
Noor Al-Attar (Supervisor: Dr. Marc Ruel)
- P-8 Aortic Cusp Prolapse Repair: Effect of SURGICAL Technique on Leaflet Dynamics and Stress**
Stefano Mastrobuoni (Supervisor: Dr. Munir Boodhwani)
- P-9 ROCK1/2 Regulation as a Marker of Cardiac Hypertrophy**
Steven Moreau (Supervisor: Dr. Pasan Fernando and Dr. Jean DaSilva)
- P-10 Effects of Cryopreservation on Peripheral Blood Mononuclear Cells and Circulating Angiogenic Cells**
Tanja Sofrenovic (Supervisor: Dr. Erik J Suuronen)



- P-11 Mitochondrial Fusion is Actively Repressed in Primary Tissues, Requires ROS and is Activated Specifically in Response to Stress**
Timothy Shutt (Supervisor: Dr. Heidi McBride)
- P-12 Functional Relationship of the COL4A1/COL4A2 Locus on Chromosome 13q34 to Coronary Artery Disease (CAD)**
Adam Turner (Supervisor: Dr. Ruth McPherson)
- P-14 PET Imaging of $\alpha v\beta 3$ Integrin Receptors Using a c(RGDyK) Peptide Labeled with [18F]FPyKYNE via "Click Chemistry"**
Ana Carola Valdivia (Supervisor: Dr. Jean N. DaSilva)
- P-15 Vestigial-like 3 Regulates Myosin Light Chain and Skeletal α -Actin Promoters**
Brian Cheng (Supervisor: Dr. Alexandre Stewart)
- P-16 Evaluation of a Collagen Matrix for Generation of an Angiogenic Population and as a Vehicle for Cell Delivery in a Porcine Model of Myocardial Hibernation**
Céline Giordano (Supervisor: Dr. Marc Ruel and Dr. Erik J Suuronen)
- P-17 The Use of 18F-FDG to Detect Atherosclerotic Lesion Changes in Mice**
Lyne Sleiman (Supervisor: Dr. Robert S. Beanlands)
- P-18 Right Ventricular Metabolic Imaging in Experimental Pulmonary Artery Hypertension**
Stephanie Thorn (Supervisors: Dr. Jean N. DaSilva and Dr. Michael Gollob)
- P-19 A 3D Partial Volume Correction Strategy for Quantitative Cardiac Mouse PET Imaging**
Tyler Dumouchel (Supervisor: Dr. Rob deKemp)
- P-20 Myocardial Blood Flow And Cardiac Angiotensin II Type 1 Receptor Expression in a Rat Model of Transient Ischemia**
Kumiko Mackasey (Supervisor: Jean N. DaSilva)
- P-21 Parkin Functions in a Novel Vesicular Pathway Governing Mitochondrial Quality Control**
Vincent Soubannier (Supervisor: Dr. Heidi McBride)
- P-22 Changes in the Mechanical Properties of the Artery Wall with Over-expression of Heat Shock Protein 27: Clues to Understanding Lesion Stability?**
Charles Cuerrier (Supervisor: Dr Edward O'Brien)



- P-23 Pharmacokinetics of a recombinant Atrial Natriuretic Factor Fusion Protein**
Cody Sarch (Supervisor: Dr. Mercedes L. Kuroski deBold)

Clinical Science Poster Presentations

Judges: Dr. Ross Davies, Dr. Renee Hessian, Dr. Peter Wilkes, Dr. Rob Beanlands

- P-24 Use of Bilateral Internal Thoracic Artery During Coronary Artery Bypass Graft Surgery in Canada: The BITA Survey**
Stefano Mastrobuoni (Supervisor: Dr. Fraser D. Rubens)
- P-25 Assessment of Left Ventricular Diastolic Function Using Cardiac Computed Tomography**
Mustapha Kazmi (Supervisor: Dr. Benjamin J. Chow)
- P-26 Stress Thallium Myocardial Perfusion Imaging Using a New Dedicated Solid State Cardiac SPECT Camera Compared to Conventional SPECT**
Vikas Tandon (Supervisor: Dr. Terrence D. Ruddy)
- P-27 Standards and Quality Assurance for the Multicenter PET Rubidium ARMI (Alternative Radiopharmaceutical for Myocardial Imaging) Trial**
Jennifer Renaud, Cardiac PET, Cardiac Imaging Research Analyst
- P-28 In Patients with Normal Relative Perfusion Imaging, is there a Relationship Between Calcium Score and Myocardial Flow Reserve?**
Ilias Mylonas (Supervisor: Dr. Robert S. Beanlands)
- P-29 Prevalence and Clinical Significance of Functional Mitral Stenosis after Mitral Valve Repair for Myxomatous Mitral Regurgitation**
Kristen Chen (Supervisor: Dr. Kwan Chan)
- P-30 Preoperative Anemia is a Risk Factor For Mortality and Morbidity Following Aortic Valve Surgery**
Elsayed Elmistekawy (Supervisor: Dr Munir Boodhwani)
- P-31 R in V1 as a Predictor of Response to CRT**
Mark Perrin (Supervisor: Dr. David Birnie)
- P-32 Genetic Testing for CYP2C19*2 but not for PON-1 QQ Carrier Status Predicts High On-Clopidogrel Platelet Reactivity in Patients Undergoing Percutaneous Coronary Interventions**
Sandro Goncalves (Supervisor: Dr. Derek So)



Allied and Population Health Poster Presentations

Judges: Dr. Michele de Margerie, Mary Dalipaj, Penelope Turton, Danielle Simpson

P-33 Implementation of Automatic Referral To Cardiac Rehabilitation: Predictors Of Participation

Amy E. Mark (Supervisor: Dr. Robert Reid)

P-34 Patient Satisfaction with an Interactive, Voice Response-Mediated, Follow-Up and Triage System for Smoking Cessation

Ashley Armstrong (Supervisor: Dr. Robert Reid)

P-35 Varenicline Versus Nicotine Replacement Therapy for Smoking Cessation in Patients Hospitalized with Coronary Artery Disease: A Pilot Randomized Trial

Debbie Aitken, APN, Smoking Cessation, Minto Prevention and Rehabilitation Center

P-36 The Quit Smoking Program (QSP) at the University of Ottawa Heart Institute: Design, Patient Characteristics and Outcomes

Debbie Aitken, APN, Smoking Cessation, Minto Prevention and Rehabilitation Center

P-37 Healthcare Professionals Knowledge and Attitudes about Smoking Cessation Before Implementation of the Ottawa Model for Smoking Cessation

Jana Kocourek, Project Coordinator and Laura Jones, Data Analyst, Minto Prevention and Rehabilitation Center

P-38 Get With the Guidelines – 4 Years Later

Lorraine Montoya, BSN, MAdEd, Regional Program Educator, Minto Prevention and Rehabilitation Center

P-39 Smoking and Cerebrovascular disease: A Systematic Review on the Effectiveness Of Smoking Cessation Interventions (SCI) in Increasing Quitting Rates in Patients with Cerebrovascular Disease

Rojiemiahd (RJ) Edjoc (Supervisor: Dr. Robert Reid)

P-40 QUIT – A Pilot Trial of Standardized Counselling and Cost Free Pharmacotherapy for Smoking Cessation in Secondary Stroke Prevention

Sophia Gocan, Smoking Cessation Specialist, Primary Care Smoking Cessation Program, Minto Prevention and Rehabilitation Center



AWARDS PRESENTATION

17:30

Presenter: Dr. Andrew Pipe, Chief, Division of Prevention and Rehabilitation

Doris & Howard Polk Award for the Best Clinical Presentations

Best Basic Science Awards Presentation

Best Allied and Population Health Awards Presentation

The Howard & Doris Polk Award was established by their family in 1995 in honour of their 50th wedding anniversary and in appreciation and gratitude to the Heart Institute for helping to extend Howard and Doris's lives.

Special thanks are extended to the judges and abstract reviewers who participated in the 24th Annual UOHI Research Day.

Basic Science

Oral Presentation Judges: Dr. R. McPherson, Dr. T. Lagace, Dr. R. Milne

Poster Presentation Judges: Dr. A. Stewart, Dr. P. Burgon, Dr. E. Suuronen, Dr. D. Sparks, Dr. M. Kuroski-deBold, Dr. G. Small, Dr. G. Wells, Dr. T. Ruddy

Abstract Reviewers: Dr. H. McBride, Dr. M. Kuroski deBold, A. Teng, M. Ouimet

Clinical Science

Oral Presentation Judges: Dr. D. So, Dr. M. Ruel, Dr. D. Stewart, L. Chen

Poster Presentation Judges: Dr. R. Davies, Dr. R. Hessian, Dr. P. Wilkes, Dr. R. Beanlands

Abstract Reviewers: Dr. L. Mielniczuk, Dr. I. Burwash, Dr. G. Small, Dr. M. Sadek

Allied and Population Health

Oral Presentation Judges: Dr. A. Mark, Dr. R. Reid, R. Davies, E. Helis

Poster Presentation Judges: Dr. M. de Margerie, M. Dalipaj, P. Turton, D. Simpson

Abstract Reviewers: Dr. G. Fodor, Dr. H. Marchand, Dr. S. Papadakis, K.A. Mullen



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Special thanks are also extended to the Organizing Committee:

Trainees: Dr. G. Small, Dr. M. Sadek, A. Teng, M. Ouimet, K.A. Mullen, J. Thackeray

Advisors: Dr. T. Ruddy, Dr. R. Beanlands, Dr. P. Burgon

Support: L. Bennet, M. Korim, I. Moroz

We Are Grateful to the Polk Family for Their Support