

SERG/GRES News

May 15, 2010

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Looking forward to CSSE 2010!

We have prepared this newsletter as we wait eagerly for our 2010 gathering in Montreal. The SERG sessions at CSSE this year will bring together scholars from across Canada as well as international visitors. Further information about the conference and the individual sessions are included on pages 3 and 4. Please mark your calendars so that you can join us for the Annual General Meeting, Monday, May 31 at 10:00 a.m. in Room H-621 and later that evening for the annual Science Education dinner at Restaurant Les Infidèles at 6:30 p.m. We look forward to this year's gathering of friends and colleagues.

See you soon in Montreal!

Sincerely,
Azza Sharkawy, Marie-Claire Shanahan, Trudy Bergere, Hagop Yacoubian
SERG Executive 2009-2010



Nous avons préparé ce bulletin avec beaucoup d'anticipation pour notre rassemblement à Montréal. Les sessions de GRES à la SCÉE cette année réunira des chercheurs de partout au Canada ainsi que les visiteurs internationaux. De plus amples informations sur la conférence et les sessions individuels sont inclus aux pages trois et quatre. Nous espérons que vous pouvez nous rejoindre pour l'assemblée générale annuelle, le lundi 31 mai à 10h00 à la salle H-621 et, plus tard pour le dîner annuel de l'enseignement des sciences au Restaurant Les Infidèles à 18h30.

A bientôt à Montréal!

Cordialement,
Azza Sharkawy, Marie-Claire Shanahan, Trudy Bergere, Hagop Yacoubian
Directeurs 2009-2010 de GRES

SERG President's Message

Greetings Everyone

I hope the academic year of 2009/10 was a very productive one for all of you!

One of the initiatives the executive has worked on this past year (and will be celebrating at the AGM!) has been drafting of the graduate student paper and travel bursary awards. Graduate student paper awards were adjudicated by the executive on the basis of the comments and rankings generated by the SERG review process and will cover registration fees for Congress and CSSE. This year, 3 graduate students will be recognized at the AGM for their outstanding papers:

Robert Bechtel, from the University of Alberta, for his paper, *Analysis of public discourse: Understanding how language use can broaden or narrow the gap between Western science and Aboriginal narratives;*

Gul Shahzad Sarwar, from the University of Ottawa, for her paper, *Comparing two types of remedial instructions (written concept-oriented exercises and multimedia concept-oriented instruction) to address learners' misconceptions using structural assessment of knowledge in the domain of physics; and*

Yuen Sze Michelle Tan, from the University of British Columbia, for her paper, *Connecting biology teachers' professional development to the enactment of a new genetics curriculum – the 'Learning Study' approach.*

Two graduate students applied for the graduate student travel bursary this year. The winner was chosen based on a lottery system (I am thankful to my colleague, Derek Berg for choosing the name out of a bag). We will look forward to congratulating Sharon Pelech, of the University of Calgary, at the AGM, for winning this year's travel bursary. We hope that more graduate students will take advantage of this opportunity and apply for this award in future years.

Our website (<http://www.sergcanada.ca>) has continued to evolve over the year thanks to Roland van Oostveen and Shawn Bullock of the University of Ontario Institute of Technology. They continue to welcome your suggestions and feedback. Please visit the site and bring your feedback to the AGM or email them to Roland and Shawn.

I am grateful to have had the opportunity to work with SERG over the past few years. It has been a very rewarding experience on many fronts. My sincerest thanks to each and every one of the executive members: Marie-Claire, for her hard work preparing for our upcoming conference in Montreal and her continued efforts coordinating our newsletter; Trudy Bergere (Secretary/Treasurer) and Hagop Yacoubian (Graduate Student Representative), for all their thoughtful and generous contributions to our online deliberations over the year; and Wendy Nielsen (Past President) for all her continued support and inspiration. Many thanks too to all the members of SERG who continue, each in their unique ways, to contribute to making SERG a vibrant and growing community.

I look forward to seeing you at the AGM on Monday (May 31st). Come enjoy some light refreshments and bring your questions and reflections on recent initiatives and ideas for new initiatives including our ongoing goal of making SERG a more accessible and inclusive community.

See you in Montreal everyone!
Azza Sharkawy

SERG Conference Chair Report

Thank you to all SERG members who submitted proposals for this year's conference. It was a pleasure to receive such a wide variety of proposals. Narrowing down the papers to fit the allotted 7 sessions was a difficult task. A huge thank you to all of the reviewers who volunteered their time to provide feedback on the proposals. Your contribution to our conference program has been invaluable. As a result of the review process, we will be hosting six regular sessions including sessions related to assessment, equity, environmental education, literacy, culture and teacher education. We will also be hosting one symposium session focusing on nature of science and STSE approaches. These sessions are an excellent reflection of the academic diversity of the Canadian science education community.

While in Montreal, I hope that you will all be able to join us to celebrate and receive thanks for all of your hard work at the Science Education Dinner on Monday, May 31 at 6:30 p.m. We have a reservation at Restaurant Les Infidèles 771 Rue Rachel Est (www.lesinfideles.ca). Note that while there are no vegetarian options listed on the menu available online, there will be vegetarian dishes available. Also, note that this is a bring your own wine restaurant. If you wish to enjoy some delicious wine with your dinner be sure to stop by a local corner store or an SAQ liquor store to buy some to bring with you. There are two locations of the SAQ close to the restaurant and both the restaurant and the stores can be reached on the metro. The closest stop is Mont-Royal.

Be sure to sign up for the dinner at the CSSE welcome desk so that we can confirm the number of people for our reservation. I look forward to seeing you there!

Cheers,
Marie-Claire Shanahan



SERG Sessions at CSSE May 23-26

Preconference / Précongrès Saturday, May 29 / samedi 29 mai

SERG is hosting a pre-conference session on Friday, May 28, 2010, from 9am to 4pm. Wendy Nielsen and Garry Hoban from the University of Wollongong in Australia will lead the workshop where science educators will be introduced to a new teaching approach that uses a form of stop-motion animation called "Slowmation" (abbreviated from Slow-motion Animation) that simplifies the normally complex process of making animations. This approach was developed by Garry Hoban to help pre-service primary education students engage with science content.

DAY 1 / JOUR 1 Saturday, May 29 / samedi 29 mai

8:30 - 9:45 / 8 h 30 - 9 h 45

Science Learning and Assessment / Apprentissage et évaluation en science

Chair / Prés. : G. Michael Bowen (MSVU)

Room / Salle H-521

Construction d'une échelle d'appréciation de l'investigation scientifique en laboratoire à l'aide de la modélisation Rasch /
Construction of a Hands-on Science Investigation Scale Using Rasch Modeling
Eric Dionne (Ottawa)

The Efficacy of a Mathematical Academic Centre for Excellence / L'efficacité d'un centre d'excellence en mathématiques
Peter D. MacMillan (UNBC), Jennifer Hyndman (UNBC), Vivian Fayowski (UNBC)

Understanding Student Learning Through Personal Conceptions of Nature of Science in a Post-Secondary Science Classroom /
Comprendre l'apprentissage des étudiants à travers leurs conceptions personnelles de la nature de la science dans un cours de science au postsecondaire
Trudy Leigh Bergere (UBC), Samson Madera Nashon (UBC)

Multimodal Science Learning Through Creating Digital Animations: A Case Study of Preservice Primary Teachers / Apprentissage multimodal de la science à travers la créations d'animations numériques : une étude de cas portant sur la formation à l'enseignement au primaire
Garry Hoban (Wollongong), Wendy Nielsen (Wollongong), David MacDonald (Wollongong), Brian Ferry (Wollongong)

Comparing Two Types of Remedial Instructions (Written Concept-Oriented Exercises and Multimedia Concept-Oriented Instruction) to Address Learners' Misconceptions Using Structural Assessment of Knowledge in the Domain of Physics / Comparaison entre deux types de méthodes orthopédagogiques (exercices écrits et multimédia) pour corriger les idées fausses des apprenants à l'aide de l'évaluation de la structure des connaissances dans le domaine de la physique
Gul Shahzad Sarwar (Ottawa), David Trumpower (Ottawa)

10:00 - 11:15 / 10 h - 11 h 15

Science Teachers and Teacher Development / Les professeurs de science et la formation à l'enseignement

Chair / Prés. : Joan M. Chambers (Lakehead)

Room / Salle H-539-1

Évolution du sentiment d'efficacité en sciences d'enseignants participant à des communautés d'apprentissage / The Evolution of Efficacy in Science of Teachers Involved in Learning Communities
Liliane Dionne (Ottawa), Christine Couture (UQAC), Lorraine Savoie-Zajc (UQO)

Science Teacher Identity and Professional Practice: Does Collaborative Action Research Make a Difference? / L'identité des professeurs de sciences et leur pratique professionnelle : la recherche-action concertée fait-elle une différence?

Karen Goodnough (MUN), Pamela Osmond (Nove Central School District), Darron Kelly (MUN)

Exploring STSE in a Science Lesson: A Case of Lesson Study / Explorer les sujets STSE dans une leçon de science : une étude de cas portant sur l'analyse des leçons

Isha DeCoito (York), Maurice DiGiuseppe (UOIT)

Addressing Numeracy in the Science Classroom: A Case of Lesson Study / La numératie dans un cours de science : une étude de cas portant sur l'analyse des leçons

Maurice DiGiuseppe (UOIT), Isha DeCoito (York)

Connecting Biology Teachers' Professional Development to the Enactment of a New Genetics Curriculum – The 'Learning Study' Approach / La formation continue des professeurs de biologie et la prestation d'un nouveau cours en génétique : l'approche de l'étude de l'apprentissage

Yuen Sze Michelle Tan (UBC)

1:15 - 2:45 / 13 h15 - 14 h 45

Identity, Perceptions, and Equity / Identité, perceptions et équité

Chair / Prés. : Jerine Pegg (Alberta)

Room / Salle H-762

Science Literacy for All: The Need to Achieve Both Equity and Excellence in Science Teaching / La culture scientifique pour tous : la nécessité d'atteindre à la fois l'équité et l'excellence dans l'enseignement des sciences

Yovita Gwekwerere (Laurentian)

Collaboration in Refining the Science Program for an Aboriginal Internet-Based High School

Anthony Bartley (Lakehead), Eli Pivnick (Keewatinook Internet High School), (Lakehead)

Reproducing the Science Student Role: Representation and Enactment in Student Discourse / Reproduire le rôle de l'élève dans un cours de science : une analyse du discours des élèves

Marie-Claire Shanahan (Alberta), Robert Bechtel (Alberta), Gregory Henkelman (Alberta)

Identity, Culture, Nature of Science: A Study of Canadian and Indian Science Teachers' Positionings in School Science Discourse / Identité, culture et nature de la science : une étude des positions des professeurs de science canadiens et indiens dans leurs discours sur la science à l'école

Anjali Abraham (McGill)

Understanding the Role Newspaper Media Portrayals of Science May Have in Perpetrating Classroom Stereotypes of Science / Le rôle des représentations de la science dans les journaux sur la perpétuation en classe de stéréotypes au sujet de la science

Ali Manning and G. Michael Bowen (MSVU)

DAY 3 / JOUR 3

Monday, May 31 / lundi 31 mai

10:00-11:15 / 10h00-11h15

SERG Annual General Meeting / Assemblée générale annuelle GRES

Room / Salle H-621

1:15 - 2:45 / 13 h 15 - 14 h 45

Science and Culture / Science et culture

Chair / Prés. : Isha DeCoito (York)

Room / Salle H-619

A Comparative Study of Teachers' Use of Science Textbooks in Canada and China / L'utilisation de manuels de science par des enseignants en Chine et au Canada : une étude comparative

George Zhou and Geri Salinitri (Windsor), Zheng Peng (China National Curriculum and Teaching Material Research Institute), Xiejun Song (Liaocheng Institute of Research in Teaching), Marian Manavathu (Windsor)

Analyse comparative de deux communautés d'apprentissage en science et technologie en Ontario et au Québec : objets de discussion et activité réflexive

Christine Couture (UQAC), Liliane Dionne (Ottawa), Lorraine Savoie-Zajc (UQO)

La diversité ethnoculturelle dans les programmes de sciences et technologie de l'Ontario : une analyse comparative des programmes français et anglais de la 1^{ère} à la 8^{ème} année

Donatille Mujawamariya (Ottawa)

Kenyan Students' Resonance with Contextualized Science: Critical Reflections on Traditional Science Curriculum and Instruction / Des élèves kenyans en phase avec la science contextualisée : réflexions critiques sur le curriculum et l'enseignement traditionnels en science

Samson Nashon (UBC), David Anderson (UBC)

Analysis of Public Discourse: Understanding How Language Use Can Broaden or Narrow the Gap Between Western Science and Aboriginal Narratives / L'analyse du discours public : comprendre comment l'utilisation du langage peut augmenter ou réduire l'écart entre la science occidentale et les récits des autochtones

Robert Bechtel (Alberta)

6:30 p.m. / 18h30

SERG Science Education Dinner/Dîner de GRES

Restaurant Les Infidèles

771 Rue Rachel Est

(514) 528-8555

www.lesinfideles.ca

DAY 4 / JOUR 4

Tuesday, June 1 / mardi 1 juin

10:00 - 11:15 / 10 h - 11 h 15

Literacy and Science / Littérature et science

Chair / Prés. : Samson Nashon (UBC)

Room / Salle H-619

An Assessment of a Professional Development Initiative to Enhance Reading in the Secondary Science Classroom / L'évaluation d'une initiative de formation continue en vue d'améliorer la lecture dans les cours de science au secondaire

Léonard Rivard (CUSB)

Secondary Science and Mathematics Teachers' Beliefs Regarding Content Area Literacy / Les croyances des professeurs de science et de mathématiques au secondaire au sujet de la littératie du contenu

Jerine Pegg (Alberta), Anne Adams (Idaho)

Preliminary Data Analysis: Middle School Students' Construction of Visual Representations from Science Text / Analyse des données préliminaires: Construction des étudiants de représentations visuelles de la science du texte

Christine Tippett (Victoria)

A Comprehensive Analytic Framework for Scientific Inquiry / Un cadre analytique complet pour des enquêtes scientifiques

Hagop Yacoubian (Alberta), Sun Joo Hur (Alberta), Yu Lei (Alberta), Carolyn Freed (Alberta), Linda Phillips (Alberta), Stephen Norris (Alberta)

Fostering Vocabulary Development Through Science Trade Books / La promotion du développement du vocabulaire par le biais d'ouvrages de science d'intérêt général

Sun Joo Hur (Alberta), Yu Lei (Alberta), Michelle Miller (Alberta), Hagop Yacoubian (Alberta), Carolyn Freed (Alberta), Linda Phillips (Alberta), Stephen Norris (Alberta)

1:15 - 2:45 / 13 h 15 - 14 h 45

Environmental Education and Science Outside the Classroom / Éducation en matière d'environnement et science en dehors de la classe

Chair / Prés. : Julieta de los Santos (Alberta)

Room / Salle H-613

The Interdisciplinary Nature of Climate Change Education: Teacher Challenges and Connected Understandings / La nature interdisciplinaire des cours sur les changements climatiques : les défis des enseignants et les savoirs branchés

Joan M. Chambers (Lakehead)

Possibilities for Outdoor Education Centres as Sites for Place-Based Education / Les possibilités pédagogiques in situ offertes par les centres d'éducation en plein air

Gabriel Roman Ayyavoo (OISE-IEPO/UT), Erminia Pedretti (OISE-IEPO/UT)

Science Literacy in the Making: A Look at Diverse Urban Youths' Forms of Participation and Intercultural

Positioning in Community Science Programs / La culture scientifique en gestation : un regard sur diverses formes de participation de jeunes en milieu urbain et de positionnement interculturel dans des programmes de science communautaires

Jrene Rahm (Montréal), Anne Gorry (Montréal), Fasal Kanouté (Montréal), Audrey Lachaine (Montréal), Itzel Vazquez (Montréal)

3:00 - 4:15 / 15 h - 16 h 15

Analysing NOS/STSE Issues at Multiple Levels of Formal Science Education in Canada / Les enjeux reliés à la nature de la science et à l'approche STSE dans l'enseignement des sciences au Canada

Symposium / Colloque

Chair / Prés. : Wendy Nielsen (Wollongong)

Disc / Comm. : J. Lawrence Bencze (OISE-IEPO/UT)

Room / Salle H-609

Science Education and Participatory Citizenship Through Social Activism: Intersecting in the 21st Century /

L'enseignement des sciences et la citoyenneté participative à travers l'activisme social au XXI^e siècle

Erin Sperling (OISE-IEPO/UT)

Teaching Anatomy in Tertiary Education with the STSE Approach / L'enseignement de l'anatomie au postsecondaire à l'aide de l'approche STSE

Klodiana Kolomitro (OISE-IEPO/UT)

SERG 2010 AGM Draft Agenda

1. Approval of Agenda
2. Approval of Minutes of 2009 Meeting
3. Business arising from 2009 AGM
 - a) New position: Graduate student representative position
 - b) Graduate student paper awards/travel bursary
 - Presentation of awards
 - Discussion of wording/criteria
 - c) Translation/Inclusion of more French
4. Reports
 - a) President: Azza Sharkawy
 - b) VP/Conference Chair: Marie-Claire Shanahan
 - c) Secretary-Treasurer: Trudy Bergere
 - d) Communications/Website: Roland Van Oostveen
5. New Business
 - a) Goals/Initiatives for next year?
 - d) Any other business?
6. Nominations and Elections

President: succession as per Constitution (Marie-Claire Shanahan)

Vice President:

Secretary/Treasurer:

Graduate Student Representative:

Communications/Website:
7. Motion to Adjourn