Programme of the 20th ICCE
Chemistry in the ICT Age

3-8 August 2008
Mauritius

Date	Morning				Afternoon					Evening
	9.00-11.00	11.00-11.30	11.30-12.30	12.30-13.30	13.30-14.30	14.40-15.40	15.40-16.00	16.00-17.00	17.00-18.00	19.00 onwards
Sunday 3rd August					Registration					Welcome Reception
Monday 4th August	Plenary Lectures	Tea/ Coffee Break	Opening Ceremony	Plenary Lecture	Lunch	Oral Sessions/ Symposia	Tea/ Coffee Break	Oral Sessions/ Symposia		Entertainment Evening

Date	Morning				Afternoon				Evening
	9.00-10.00	10.00-10.30	10.30-12.30	12.30-13.30	13.30-15.40	15.40-16.00	16.00-17.00	17.00-18.00	19.00 onwards
Tuesday 5th August	Plenary Lecture	Tea/ Coffee Break*	Oral Sessions	Lunch	Plenary Lecture + Oral Sessions/ Symposia/ Workshop	Tea/ Coffee Break	Oral Sessions/ Symposia/ Workshop		Conference Banquet
Wednesday 6th August	One Day Conference Tour								
Thursday 7th August	Plenary Lecture	Tea/ Coffee Break	Oral Sessions	Lunch	Plenary Lecture + Poster Session/ Oral Sessions/ Symposia/ Workshop	Tea/ Coffee Break	Poster Session/ Symposia/ Workshop	Chem History Performance	Participants Night
Friday 8th August	Plenary Lecture	Tea/ Coffee Break	Oral Sessions	Lunch	Plenary Lecture + Oral Sessions/ Symposia	Tea/ Coffee Break	Oral Sessions/ Symposia	Closing Session	

*** Group Photograph**

Sunday 3rd August 2008

Venue	14.00-18.00	19.00 onwards
Le Méridien	Registration	
Spice Garden		Welcome Reception

Monday 4th August 2008

Venue	9.00-11.00	11.30-12.30	12.30-13.30	13.30-14.30	14.40-17.00	19.00 onwards
Chamarel 1	Plenary Lectures	Opening Ceremony	Plenary Lecture	Lunch	Chemistry at Secondary Level	
Bel Air					Chemistry at Tertiary Level	
Wolmar					Symposium: Chemical Education Reform in the Global Age: SATL Vision	
Nicoliere					Modern Technologies in Chemistry Education	
University of Mauritius						Entertainment Evening

Tuesday 5th August 2008

Venue	9.00-10.00	10.00-10.30	10.30-12.30	12.30-13.30	13.30-14.30	14.40-17.00	19.00 onwards
Chamarel 1	Plenary Lecture	Group Photograph	Chemistry at Secondary Level	Lunch	Plenary Lecture	Chemistry at Secondary Level	
Bel Air			Chemistry at Tertiary Level			Chemistry at Tertiary Level	
Wolmar			Green Chemistry & Arts and Chemistry Education			Symposia: Process Oriented Guided Inquiry Learning (POGIL)/ Increasing the Popularity and Relevance of School Chemistry	
Nicoliere			Research in Chemistry Education			Workshop: Ethics, Chemical Security and Safety for Chemists	
Grand Ocean							Conference Banquet

Wednesday 6th August 2008

8.00-18.00
Conference Tour

Thursday 7th August 2008

Venue	9.00-10.00	10.30-12.30	12.30-13.30	13.30-14.30	14.40-17.00	17.00-18.00	19.00 onwards
Chamarel 1	Plenary Lecture	Chemistry at Secondary Level	Lunch	Plenary Lecture	Symposium: Structural Models and Chemical Understanding	CHEM HISTORY	
Chamarel 2					Poster		
Bel Air		Chemistry at Secondary Level			Workshop: Understanding the Air and Water Environment		
Wolmar		Chemistry at Tertiary Level			Chemistry Education/ Workshop: Teaching Advanced Chemistry Courses: Challenges and Approaches		
Nicoliere		ICT and Chemistry Education			Workshop: Lowering Students' Activation Energy for Learning Chemistry		
Spice Garden							Participants Night

Friday 8th August 2008

Venue	9.00-10.00	10.30-12.30	12.30-13.30	13.30-14.30	14.40-17.20	17.30-18.00
Chamarel 1	Plenary Lecture	Chemistry at Secondary and Tertiary Level & Public Understanding of Chemistry	Lunch	Plenary Lecture	Chemistry at Tertiary Level	Closing
Bel Air		Chemistry at Secondary and Tertiary Level			Chemistry at Tertiary Level & Research in Chemistry Education	
Wolmar		Chemistry Teacher Education			Symposium: Best Practices in Professional Development for Teachers	
Nicoliere		Research in Chemistry Education and Science Education				

Detailed Programme

3rd August 2008

14.00-18.00	**Registration at Le Méridien Hotel**
19.00-20.30	**Welcome Reception at Spice Garden Hotel**

4th August 2008

Plenary Lectures Venue: Chamarel 1	
	Chairperson: P. Ramasami
9.00-10.00	I-2: P. Mahaffy *Communicating the Chemistry of Climate Change with ICT and Paraffin*
10.00-11.00	I-3: L. L. Jones *How Technology Can Help Students to Visualize the Molecular World Without Inducing Misconceptions About Chemistry*
11.00-11.20	**Tea/Coffee Break**
Opening Ceremony Venue: Chamarel 1	
	Chairperson: H. Li Kam Wah
11.30-11.40	*Welcome Address* P. Ramasami
11.40-11.50	*Address by Representative of IUPAC* P. Mahaffy
11.50-12.00	*Address by Vice-Chancellor of the University of Mauritius* I. Fagoonee
12.00-12.15	*Address by Director, International Cooperation and Assistance Division, OPCW* K. Mworia
12.15-12.30	*Address by Minister of Education and Human Resources* Honourable Dharambeer Gokhool
12.30-13.30	I-1: R. Hoffmann *Chemistry's Essential Tensions: Different Ways of Looking at a Science*
13.30-14.30	**Lunch**

Parallel Oral Sessions	
Venue: Chamarel 1 **Chemistry at Secondary Level**	
	Chairperson: S. Ladage
14.40-15.00	O-144: L. Schoen *Science Across the World, Exploring Science Locally. Sharing Insights Globally*
15.00-15.20	O-173: M.-H. Chiu and C.-C. Chou *Experiences and Challenges of Science Across the World (SAW) in Taiwan*
15.20-15.40	O-263: E. Steenberg and K. M. Ngcoza *South Africa - Our Role in the Science Across the World Community*
15.40-16.00	**Tea/Coffee Break**
16.00-16.20	O-150: L. Schoen *Young Ambassadors for Chemistry*
16.20-16.40	O-160**:** M.-H. Chiu *Experiences and Challenges of Young Ambassadors for Chemistry (YAC) in Taiwan*
16.40-17.00	O-264: E. Steenberg and K. M. Ngcoza *Young Ambassadors for Chemistry – the South African Experience*
Venue: Bel-Air **Chemistry at Tertiary Level**	
	Chairperson: E. Åkesson
14.40-15.00	O-104: R. Azmat and F. Uddin *A New Method for the Reduction of Dye by UV/Visible Maltose System in Photochemical Reaction*
15.00-15.20	O-110: N. Noroozi-Pesyan *A New Rule for the Specification of Absolute Configuration of Organic Complex Chiral Systems as: Hexahelicenes, trans-Cyclooctenes, etc. (Noroozi's Rule)*
15.20-15.40	O-116: M. Peris *Chemistry in the Classroom: Examples of Didactic Games to Motivate Students*
15.40-16.00	**Tea/Coffee Break**
16.00-16.20	O-119: G. H. Shafiee, A. Sadjadi and S. W. Ng *High Level Ab Initio Bench Mark Computations on Weak Interactions. $(H_2)_2$ Dimer Revisited*
16.20-16.40	O-189: D. A. Katz *Active Chemistry: A Workshop on Activities and Small Scale Experiments for Classroom Instruction*
16.40-17.00	O-229: V. Y. Sosnovskikh and B. I. Usachev *Construction of Heterocycles as an Important Part of Chemical Education*

Venue: Wolmar **Symposium: Chemical Education Reform in the Global Age: SATL Vision**	
	Chairperson: A. F. M. Fahmy
14.40-15.00	Introduction by A. F. M. Fahmy
15.00-15.20	O-114: A. F. M. Fahmy, M. El-Hashash and W. A. Abdou *Using Systemic Approach to Teaching and Learning Heterocyclic Chemistry*
15.20-15.40	O-232: J. J. Lagowski *SATL Learning Theory and the Physiology of Learning*
15.40-16.00	**Tea/Coffee Break**
16.00-16.20	O-266: B. M. Awad *New Methodologies in Teaching and Learning Chemistry: E-Learning and Systemic Approach*
16.20-16.40	O-269: H. A. H. Albar *Systemic Relationship Between Scientific Research and Industry is Reflected on the Educational Culture to Build Sustainable Development in Saudi Arabia*
16.40-17.00	O-273: L. Cardellini *Stretching the Mind: Strategies for Solving Chemical Problems*
Venue: Nicoliere **Modern Technologies in Chemistry Education**	
	Chairperson: Z. M. Lerman
14.40-15.00	O-132: M. Dehestani *Depicting Atomic Orbitals using Mathematica Program*
15.00-15.20	O-212: N. Srisawasdi, J. P. Suits and L. L. Jones *Use of a Computer Simulated Experiment to Enhance Students' Conceptual Learning of Hydrogen Bonding and Water Contact Angle*
15.20-15.40	O-220: L. Kvitek, J. Soukupova, M. Kratochvilova, A. Panacek, R. Prucek and T. Nevecna *Nanotechnology in Chemistry Teaching*
15.40-16.00	**Tea/Coffee Break**
16.00-16.20	O-222: L. L. Jones and S. Akaygun *Revealing the Dynamic Nature of Equilibrium Through the Use of Dynamic Computer Visualizations*
16.20-16.40	O-225: R. Wehrens, W. Melssen, T. G. Bloemberg, P. W. T. Krooshof, B. Üstün and L. M. C. Buydens *Computer-Assisted Teaching of Chemometrics*
16.40-17.00	O-248: C. Osborne *Kinetic Theory Animations – Helping Chemistry Teachers Teach Correct Science*

5th August 2008

Plenary Lecture	
Venue: Chamarel 1	
	Chairperson: P. Mahaffy
09.00-10.00	I-4: H. F. Schaefer III *Lesions in DNA Subunits: Foundational Studies of Molecular Structures and Energetics*
10.00-10.30	**Tea/Coffee Break** **+** **GROUP PHOTO**
Parallel Oral Sessions	
Venue: Chamarel 1 **Chemistry at Secondary Level**	
	Chairperson: L. Schoen
10.30-10.50	O-103: H. D. Barke and T. Doerfler *Acids and Bases: Diagnosis and Prevention of Misconceptions*
10.50-11.10	O-108: J.-W. Lin and M.-H. Chiu *A National Study on Investigating the Taiwan High School Students' Alternative Conceptions in Chemical Equilibrium and Acids and Bases*
11.10-11.30	O-126: H. Gulińska *The Application of New Theories in Chemical Education*
11.30-11.50	O-136: I. I. Naqvi, M. Nazir and R. Khattak *Whole is Mole*
11.50-12.10	O-141: J. H. Apotheker *Introducing a Context Based Curriculum in The Netherlands*
12.10-12.30	O-147: S. Ladage and S. Narvekar *Indian National Chemistry Olympiad Examination Implications for Teaching and Learning of Chemistry*
Venue: Bel-Air **Chemistry at Tertiary Level**	
	Chairperson: L. L. Jones
10.30-10.50	O-124: R. Bissessur *Teaching Materials Chemistry at a Primarily Undergraduate Institution*
10.50-11.10	O-159: K. Yamaguchi, Y. Sasamura and B. T. Newbold *Hand-Made Molecular Model for Understanding SN Reaction in the Classroom*
11.10-11.30	O-128: J. Reijenga and E. Vinken *Self-Reflection on Professional Competences in Chemical Engineering Education*
11.30-11.50	O-131: R. K. Thareja *Synthesis and Characterization of Nanoparticles and Nanocrystalline Functional Films*

11.50-12.10	O-139: R. D. Kankariya and S. B. Ghoderao *To Develop Interest in Chemistry Through Miraculous Demonstrations*
12.10-12.30	O-216: A. V. George, S. C. Barrie, R. B. Bucat, M. A. Buntine, G. T. Crisp, I. M. Jamie, S. H. Kable and J. R. Read *What Makes a Laboratory Activity a Good Learning Experience for Students? Evidence from the ACELL Project*
Venue: Wolmar **Green Chemistry & Arts and Chemistry Education**	
	Chairperson: S. Jhaumeer-Laulloo
10.30-10.50	O-109: S. K. Airee *Green Chemistry in the Context of Curricular, Extra-Curricular and Community Outreach Activities*
10.50-11.10	O-135: Z. M. Lerman and D. Morton *Using the Arts and Computer Animation to Make Chemistry Accessible to All in the 21st Century*
11.10-11.30	O-138: M. Karpudewan, Z. Hj Ismail and N. Mohamed *Enhancing the Pre-Service Teachers' Self-Determined Intrinsic Motivation Through Green Chemistry Experiments*
11.30-11.50	O-200: M. Abdullah, Z. Hj Ismail and N. Mohamed *Development of Methods of Food Analysis Using a Microscale Approach*
11.50-12.10	O-205: Y. Dahlman and M. Boman *Associative Learning Through Art Activities*
12.10-12.30	O-252: H. Traore *Initiatives to Implement Green Chemistry Across The Undergraduate Chemistry Curriculum at the University of Wisconsin-Whitewater*
Venue: Nicoliere **Research in Chemistry Education**	
	Chairperson: J. Reijenga
10.30-10.50	O-102: D. M. Wilson *A Tablet PC Based Chemistry Curriculum and Assessment Database for Teaching Complex Chemistry Processes and Identifying Student Misconceptions*
10.50-11.10	O-105: M. W. Tausch *All You Need is Light: Curriculum Modernization in Chemical Education*
11.10-11.30	O-107: K. Green, G. Szteinberg, and G. Weaver *Authentic Laboratory Experiences and Students` Development of Scientific Process Skills*
11.30-11.50	O-163: A. Gokhale *Effective Strategies to Increase Women Participation in Science and Technology in the ICT Age*

11.50-12.10	O-249: J. Reimer, K. Edström, G. Carlsson, E. Åkesson, H. C. Becker, J. van Stam, T. Österman and M. Elmgren *KUL – A Project to Enhance Quality in Chemistry Education in Sweden by Use of a Benchmarking Process*
12.10-12.30	O-278: E. Åkesson and M. Elmgren *Bologna and Beyond – Opportunities and Obstacles*
12.30-13.30	**Lunch**
Plenary Lecture	
Venue: Chamarel 1	
	Chairperson: M. G. Bhowon
13.30-14.30	I-5: A. J. Olson *Back to the Future: Grasping Molecular Biology with Tangible Interfaces*
Parallel Oral Sessions	
Venue: Chamarel 1 **Chemistry at Secondary Level**	
	Chairperson: L. Mammino
14.40-15.00	O-153: H. P. Drummond and M. Selvaratnam *Intellectual Skills Needed for the Effective Learning and Application of Chemical Knowledge*
15.00-15.20	O-234: S.-L. Chung and M.-H. Chiu *Using Project-Based Learning and Multi-Representative Modeling to Engage Students in Learning and Changing Ideal Gas Conceptions*
15.20-15.40	O-270: S. Han, J. Nam, H. Han, S. Sim, H. Kim, H. Hwang, H. Park and S. Park *Enjoy Chemistry Experiments Safely With Syringe!*
15.40-16.00	**Tea/Coffee Break**
16.00-16.20	O-162: E. Steenberg and M.-H. Chiu *Evaluation of YAC Workshops – Trialling of Questionnaires in Grahamstown, South Africa and Using Modified Questionnaires in Taiwan – Part 1*
16.20-16.40	O-227: M.-H. Chiu and E. Steenberg *Evaluation of YAC Workshops: Piloting Questionnaires for Assessing their Effectiveness in Taiwan – Part 2*
16.40-17.00	O-165: B. Palmer *Further Examples of Children's Alternative Conceptions of Physical and Chemical Change Obtained from Historical Sources*

Venue: Bel-Air Chemistry at Tertiary Level	
	Chairperson: H. A. H. Albar
14.40-15.00	O-148: L. Ravishankar and S. Ladage *Laboratory Courses in Organic Chemistry: A Case Study*
15.00-15.20	O-149: K. Ahmed, F. Uddin and R. Azmat *Photodecoloration of Thionine with D-Galactose by UV/Visible Radiation in Aqueous Methanolic Medium*
15.20-15.40	O-156: R. Rüffler and G. Job *Chemical Potential from the Beginning*
15.40-16.00	**Tea/Coffee Break**
16.00-16.20	O-157: Y. H. Chung *Heralding Calamity of Global Warming and Chemistry Role Through a Chorus*
16.20-16.40	O-158: Y. Orlik and M. Hagerat *System of Amusing Chemical Experiments and its Use for Development of High Order Capacities on Students*
16.40-17.00	O-242: J. Lipkowski *Non-Stoichiometry of Inclusion-Type Supramolecular Compounds*
Venue: Wolmar **Symposium: Process Oriented Guided Inquiry Learning (POGIL)**	
	Chairperson: K. E. Butler
14.40-15.00	O-213: J. Sarquis *Implementing POGIL: One Step at a Time*
15.00-15.20	O-243: M. R. Soriano and D. Barbiric *POGIL ChemActivities: Colligative Properties*
15.20-15.40	O-244: A. B. Lees *Non-Linear POGIL for Developing Cumulative Skills and Multi-Disciplinary Chemical Concepts for Nonscience Majors*
15.40-16.00	**Tea/Coffee Break**
16.00-16.20	O-251: K. E. Butler *POGIL in an Advanced Organic Chemistry Course*
Venue: Wolmar **Symposium: Increasing the Popularity and Relevance of School Chemistry**	
16.20-17.00	O-262: A. Hofstein, R. Mamlok-Naaman, J. Holbrook, M. Ranikmae, W. Graber and C. Bolte *Increasing the Popularity and Relevance of School Chemistry*

Venue: Nicoliere Workshop: Ethics, Chemical Security and Safety for Chemists	
	Chairperson: A. Hay
14.40-15.05	Session 1: What Ethical Issues do Chemists need to Consider? If we are to Teach Ethics to Chemists what should be Covered and what case Studies would be Appropriate? Introduction
15.05-15.30	Workshop
15.30-15.40	Feedback
15.40-16.00	**Tea/Coffee Break**
16.00-16.25	Session 2: What Safety Requirements and Security Restrictions should be in Place for Staff and Students Working in Laboratories?
16.25-16.50	Workshop
16.50-17.00	Feedback

6th August 2008: Conference Tour Free for All Registered Participants and Accompanying Persons

7th August 2008

Plenary Lecture	
Venue: Chamarel 1	
	Chairperson: M.-H. Chiu
09.00-10.00	I-6: P. Atkins *The Future of the Book*
10.00-10.30	**Tea/Coffee Break**
Parallel Oral Sessions	
Venue: Chamarel 1 **Chemistry at Secondary Level**	
	Chairperson: M. W. Tausch
10.30-10.50	O-168: M.-H. Chiu and C.-K. Liu *Designing a Research Instrument for Investigating Students' Conceptions about Models and Modeling*
10.50-11.10	O-170: C.-K. Liu, C.-W. Lai and M.-H. Chiu *Teaching and Learning the Conception of Material in Chemistry Education*
11.10-11.30	O-183: E. E. P. Gayon *Functional Chemical Literacy and Functional Science Literacy Among High School Students*
11.30-11.50	O-185: A. A. Alnajjar and O. M. E. El-Dusouqui *Role of Language and Multiple Intelligence Skills in Communicating Chemistry*
11.50-12.10	O-188: I. Parchmann and the CHiK and CHEMOL teams *Context-Based Approaches in Schools and Science Laboratories – Learning Opportunities for Students and Teachers*
12.10-12.30	O-191: N. Srisawasdi, T. Kerdcharoen, B. Panijpan and P. Ruenwongsa *Nose Simulator: A Tool for Teaching and Learning the Chemistry of Smell Using Electronic Nose Technology*
Venue: Bel-Air **Chemistry at Secondary Level**	
	Chairperson: M. Z. Hoffman
10.30-10.50	O-166: A. Douquia and F. B. Narod *A Study on the Use of Concept Maps in the Teaching of "Chemical Periodicity" at the Upper Secondary Level*
10.50-11.10	O-169: L. B. Bruck, S. L. Bretz and M. Towns *Characterizing the Level of Inquiry in Laboratory*
11.10-11.30	O-190: S.-J. Lee and L. Farh *Probing Students' Modeling Capability on Nanotechnology Through Cognitive Apprenticeship*
11.30-11.50	O-219: P. G. Edwards and P. Hollamby *Uncovering Chemical Secrets – An Integrated Approach to Accessing University Infrastructure in the Support of Secondary Education*

11.50-12.10	O-236: J. Stohner and M. Quack *Education About the Use of Quantities, Units and Symbols in Chemistry: The Earlier The Better*
12.10-12.30	O-203: F. Wakabayashi, H. Matsuhashi, K. Yamagata, Y. Nishimura, W. Ueda and H. Hattori *Dye Syntheses Using Zeolites as a Solid Acid Catalyst: A New Introductory Experiment of Green and Sustainable Chemistry at Secondary School Level*
Venue: Wolmar **Chemistry at Tertiary Level**	
	Chairperson: R. T. Ramessur
10.30-10.50	O-125: L. Mammino *Teaching Physical Chemistry in Disadvantaged Contexts: Challenges, Strategies and Responses*
10.50-11.10	O-171: K. Wallace, B. Davidowitz and M. Rollnick *Building a Community: Improving the First-Year Chemistry Laboratory Experience*
11.10-11.30	O-174: B Davidowitz and G Chittleborough *Using Chemical Diagrams to Facilitate Teaching and Learning in First-Year University Chemistry Courses*
11.30-11.50	O-175: J. van Houten *"Jeopardy" in the Inorganic Classroom – Teaching Descriptive Chemistry Using a Television Game Show Format*
11.50-12.10	O-258: T. Wright, S. Hamilton, M. Rafter, S. Howitt and T. Anderson *Making Chemistry Personal: Using the Molecular Life Sciences as a Context for the Chemistry Curriculum*
12.10-12.30	O-178: R. M. Hartshorn, T. Damhus, A.T. Hutton, E. Nordlander, J. Reedijk and M. J. Scott *Preferred IUPAC Names (PINs) for Inorganic Compounds*
Venue: Nicoliere **ICT and Chemistry Education**	
	Chairperson: S. Baxi
10.30-10.50	O-235: P. Hollamby *Improving Teaching and Learning using ICT – a 'DIY' Approach*
10.50-11.10	O-127: M. Miranowicz *Platform Moodle in Teachers Training*
11.10-11.30	O-276: L.-Y. Fu and C.-L. Chang *Our Big Rivers: A Cross-Cultural Collaborative Water Monitoring Project Involving Teenagers with ICT*
11.30-11.50	O-239: P. Holzhauser *The 3rd Collection of Competition Tasks from International Chemistry Olympiads*
11.50-12.10	O-271: S. M. Muthwii and D. G. Mugo *Can the Dream Come True? The Challenges of the Use of ICT in the Teaching of Chemistry in Kenya*

12.10-12.30	O-275: C.-C. Chou *The Use of Government's Website Resources in the Environmental Chemical Education - A Concrete Action Scheme*
12.30-13.30	**Lunch**
Plenary Lecture	
Venue: Chamarel 1	
	Chairperson: M. Mocerino
13.30-14.30	I-7: V. Hunma *Chemistry Education for Socially Responsible and Sustainable Development: What are the Challenges for a Developing Country?*
Parallel Symposium, Workshops and Poster Session	
Venue: Chamarel 1	
14.40-17.00	**Symposium: Structural Models and Chemical Understanding** *H. D. Barke and H. Wirbs*
Venue: Bel-Air	
14.40-17.00	**Workshop: Understanding the Air and Water Environment** *B. J. Akoobhai, J. D. Bradley and E. Steenberg*
Venue: Wolmar	
14.40-15.00	O-257: M. Rollnick *Using Self Study to Learn to Teach New Chemistry Topics in the Curriculum – Case Studies from South Africa*
15.00-15.20	O-154: A. Rade *The Effectiveness of Lecture Demonstrations to Enhance Learning of Chemistry*
15.20-17.00	**Workshop: Teaching Advanced Chemistry Courses: Challenges and Approaches** *L. Mammino*
Venue: Nicoliere	
14.40-17.00	**Workshop:** Lowering Students' Activation Energy for Learning Chemistry *A. Sarquis and L. Hogue*
Venue: Chamarel 2	
15.00-17.00	**Poster Session**
15.40-16.00	**Tea/Coffee Break**
Venue: Chamarel 1	
17.00-18.00	**CHEMHISTORY PERFORMANCE** *K. Axberg and S. Olsson*

8th August 2008

Plenary Lecture	
Venue: Chamarel 1	
	Chairperson: V. Hunma
09.00-10.00	I-8: J. D. Bradley *Substances, Molecules and Symbols in the ICT Age*
10.00-10.10	Address by M.-H. Chiu *Chairperson of 21st ICCE*
10.10-10.30	**Tea/Coffee Break**
Parallel Oral Sessions	
Venue: Chamarel 1 **Chemistry at Secondary and Tertiary Level** **&** **Public Understanding of Chemistry**	
	Chairperson: L. Cardellini
10.30-10.50	O-247: D. Norton *Introducing Sustainability: A Case Study in Alternative Fuels*
10.50-11.10	O-253: Ph. G. Boesch *The 1869 & 1871 Periodic Tables of D. I. Mendeleeff and Afterwards*
11.10-11.30	O-259: P. K. S. Prakash and D. V. Prabhu *Indian Association of Chemistry Teachers – The Torchbearer of Chemistry Education*
11.30-11.50	O-134: Z. M. Lerman *Chemistry and Chemical Education as a Bridge to Peace*
11.50-12.10	O-155: W.-T. Hung *A Study of Chemistry Experiment Design and Assessment in the Chemistry Course at Elementary Level*
12.10-12.30	O-210: L. B. Bruck, M. Fay, S. L. Bretz and M. Towns *Mapping the Dimensions of the Undergraduate Chemistry Laboratory*
Venue: Bel-Air **Chemistry at Secondary and Tertiary Level**	
	Chairperson: S. K. Airee
10.30-10.50	O-133: Z. M. Lerman *Visualization: The Key to the Future of Learning*
10.50-11.10	O-198: M. Potgieter *Do First-Year Chemistry Students Know What They Don't Know? Exploring Accuracy of Calibration Through Confidence-Performance Relationships*
11.10-11.30	O-194: H. Jalali, L. Hanlan and J. P. Canal *The Use of Writing-Intensive Learning as a Communication and Learning Tool in an Inorganic Chemistry Laboratory Course*

11.30-11.50	O-268: M. Z. Hoffman *Problem-Solving in Calculator-Free General Chemistry*
11.50-12.10	O-196: A. Ikuo, Y. Yoshinaga and H. Ogawa *Calculation of Potential Energy in "F + HCl → HF + Cl" Reaction and its Application*
12.10-12.30	O-117: F. Marais and R Gummow *The Use of Structured Worksheets as a Tool to Target Identified Learning Difficulties of First Year Chemistry Students*
Venue: Wolmar **Chemistry Teacher Education**	
	Chairperson: J. J. Lagowski
10.30-10.50	O-277: K. K. Srivastava *Development of a Teaching Programme for Professional Clinical Biochemists*
10.50-11.10	O-115: S. M. Al-Balushi *Guided Imagery to Enhance Omani Prospective Science Teachers' Use of the Particulate Nature of Matter in their Explanations*
11.10-11.30	O-161: E. Steenberg and J. D. Bradley *Using Two-Dimensional Molecular Drawings to Evaluate Teachers' Conceptual Change in Chemistry*
11.30-11.50	O-215: B.-J. Ahn, S.-W. Oh, W.-H. Kang and W. Chang *Changes of Science Teacher Re-Education Program for High Schools in Korea*
11.50-12.10	O-245: M. Mocerino, S. Yeo and M. Zadnik *Preparing Chemistry Teaching Assistants For First Year Laboratories*
12.10-12.30	O-254: P. Mimero and ECTN Collaborators *Chemistry in Europe and ECTNA: EChemTest, Eurolabels, What's New?*
Venue: Nicoliere **Research in Chemistry Education and Science Education**	
	Chairperson: D. A. Katz
10.30-10.50	O-240: S. Schmid, A. Yeung, A. V. George and M. M. King *Designing Effective E-Learning Environments – Should We Use Still Pictures, Animations or Interactivity?*
10.50-11.10	O-241: A. Yeung, S. Schmid, A. V. George and M. M. King *The Personalisation Hypothesis in the Design of E-Learning Environments*
11.10-11.30	O-113: M. Sözbilir *Development of Chemistry Education Research in Turkey: A Comparison of Chemistry Education Research Papers with Internationally Published Papers*

11.30-11.50	O-172: C. S. Reiners and J. Bruns *Reflection on Nature of Science (NOS) Aspects by Teaching Scientific Inquiry. An Explicit and Reflective Activity-Based Approach to Enhance Prospective Teachers' Understanding of NOS*
11.50-12.10	O-223: J. Soukupova and L. Kvitek *Popularisation of Chemistry Among Young People or Even Science Can Be Fun*
12.10-12.30	O-265: R. Toerien, G. Sheridan and J. Case *How Do We Get Learners to 'Talk Science' in the Classroom?*
12.30-13.30	**Lunch**
Plenary Lecture	
Venue: Chamarel 1	
	Chairperson: M. Towns
13.30-14.30	I-9: S. Baxi *Community Based Collaborative ICT Strategies for Science Education*
Parallel Oral Sessions	
Venue: Chamarel 1 **Chemistry at Tertiary Level**	
	Chairperson: D. Norton
14.40-15.00	O-192: J. P. Canal and T. Ramnial *The Chemistry of Carbenes and Their Metal Complexes: An Undergraduate Laboratory Experiment*
15.00-15.20	O-180: P. Grunwald *Investigations Into the Behavior of Enzymes and Cells by Conductivity Measurements*
15.20-15.40	O-145: C. Osborne *The Periodic Table of Data - A New Way of Visualising Chemical Data*
15.40-16.00	**Tea/Coffee Break**
16.00-16.20	O-195: S. Lavieri and J. P. Canal *SIA@SFU (Science in Action at Simon Fraser University)*
16.20-16.40	O-230: R. T. Ramessur *Networked Learning for an Online Coastal Zone Management Module*
16.40-17.00	O-120: C. Osborne *New Electronic Resources from the Royal Society of Chemistry*

Venue: Bel-Air Chemistry at Tertiary Level & Research in Chemistry Education	
	Chairperson: F. B. Narod
14.40-15.00	O-140: Y. H. Chung *Teaching Thermodynamic Relations Using a Story and the Two-Dimensional Cartesian Coordinate System*
15.00-15.20	O-218: M. N. Khan and A. Sarwar *Role of Activity Coefficient in the Kinetic Study of the Oxidation of Xylenol Orange by Hydrogen Peroxide*
15.20-15.40	O-221: M. T. S. R. Gomes, I. N. Gaio and J. A. B. Oliveira *An Interdisciplinary Laboratory Session for Final Year Chemistry Students: Determination of Equilibrium Constants*
15.40-16.00	**Tea/Coffee Break**
16.00-16.20	O-226: S. J. Mahmood, A. ul Haq, N. Taj, R. Azmat and F. Uddin *Arsenic, Fluoride and Nitrate in Drinking Water: The Problem and its Possible Solution*
16.20-16.40	O-193: F. S. Lee *Effect of Student Attitudes, Weekly Problem-Solving Sessions, and Prerequisite Course on Student Performance in a Second-Year, Service Organic Chemistry Course*
16.40-17.00	O-122: V. Nesterenko *L'Importance de l'Éducation Chimique pour la Solution des Problèmes Écologiques*
17.00-17.20	O-187: M. Sultan and H. Tahir *Removal of Basic Dye Methylene Blue by Using Biosorbents Ulva lactuca and Sargassum*

Venue: Wolmar Symposium: Best Practices in Professional Development for Teachers	
	Chairperson: L. Hogue
14.40-15.00	O-121: D. A. Katz *Professional Development: Strategies and Activities for Pre-Service and In-Service Teachers*
15.00-15.20	O-130: M. Schallies *(TSP) Teacher – Scientist – Partnerships: A Tool For Professional Development*
15.20-15.40	O-146: A. Sarquis and L. Hogue *Professional Development in Chemistry - Miami University Style*
15.40-16.00	**Tea/Coffee Break**
16.00-16.20	O-201: L. Bröll, J. Friedrich and M. Oetken *What to Learn in Learning Laboratories? An Analysis of How to Enhance Professional Competence of Teachers in Primary School*
16.20-16.40	O-112: V.-A. S. I. Langvik *Challenge, Inspire, Question, Enlighten – A Formula to Success in Teachers' Professional Development?*
16.40-17.00	O-207: V.-M. Vesterinen and M. Aksela *Future Chemistry Teachers' Views on the Nature of Chemistry*
17.30-18.00	**Closing Session**
Venue: Chamarel	
	Chairperson: H. Li Kam Wah
17.30-18.00	Closing Address by P. Ramasami