

**ESCMQC 2014**  
**September 10-13<sup>th</sup> 2014, Houffalize, Belgium**

**Wednesday September 10<sup>th</sup>**

**15H00-15H10 : Introduction : Benoît CHAMPAGNE**

**15H10-16H55**

**Session 1 : Joop VAN LENTHE**

Bernie KIRTMAN

*Density functional theory for the response of periodic systems to electric fields based on the vector potential approach*

Daniel CRAWFORD

*On the non-locality of higher-order molecular properties: A challenge for reduced-scaling models*

Gerald KNIZIA

*A clean and simple approach to wave function interpretation*

**16H55-17H15 : Break**

**17H15-19H00**

**Session 2 : Jim TALMAN**

Frank NEESE

*Recent development in pair natural orbital based local coupled cluster methods*

Stefan TAUBERT

*Magnetically induced ring currents in halogenated benzene molecules using effective core potentials*

Christof HÄTTIG

*Explicitly correlated coupled cluster methods with pair natural orbitals*

**19H30 : Dinner**

## Thursday September 11<sup>th</sup>

### 8H30-10H15

#### Session 3 : Michal JASZUNSKI

Christian OCHSENFELD

*Fast quantum-chemical methods for large molecules: from intermolecular interactions to response properties*

Lucas VISSCHER

*Fast approximations for (TD)-DFT(B)*

Sébastien NÉNON

*SCC-DFTB as a tool for the study of optoelectronic properties of interfaces*

### 10H15-10H45 : Break

### 10H45-12H30

#### Session 4 : Daniel PEETERS

Kenneth RUUD

*Analytic calculations of anharmonic effects in vibrational spectroscopy*

Fabrizio SANTORO

*Recent progresses towards the time-dependent calculation of vibronic spectra of flexible and (or) nonadiabatic systems*

Ove CHRISTIANSEN

*Tensor decomposition and vibrational coupled cluster theory*

### 12H30-14H30 : Lunch break

### 14H30-16H50

#### Session 5 : Dage SUNDHOLM

Mariachiara PASTORE

*First principle modelling of structural, optical and charge generation properties of dye/semiconductor heterointerfaces*

Frédéric CASTET

*Charge separation energetics at organic heterojunctions: on the role of structural and electrostatic disorder*

Vincenzo CARRAVETTA

*Surface effects in electron photoemission from solutions: cysteine in water*

Vincent LIÉGEOIS

*Unraveling the vibrational signatures of functionalized surfaces using quantum chemical calculations*

**16H50-17H20 : Break**

**17H20-19H30 : Poster session with flash presentations**

**20H00 : Dinner**

## **Friday September 12<sup>th</sup>**

**8H30-10H15**

**Session 6 : Peter SURJAN**

Markus REIHER

*The first second-generation DMRG program for quantum chemistry*

Sandeep SHARMA

*Recent developments in quantum chemistry using matrix product states (MPS)*

Sebastian WOUTERS

*What can Hartree-Fock theory tell us about the density matrix renormalization group?*

**10H15-10H45 : Break**

**10H45-12H30**

**Session 7 : Antonio RIZZO**

Masayoshi NAKANO

*Theoretical study on nonlinear optical properties in open-shell singlet molecular systems*

Josep M. LUIS

*Advances and future prospects in the theoretical evaluation of vibrational nonlinear optical properties*

Stefan KNIPPENBERG

*An investigation into the (non)linear spectroscopy of small and medium-sized molecules by means of the Algebraic Diagrammatic Construction scheme*

**12H30-14H30 : Lunch break**

**14H30-16H15**

**Session 8 : Christel MARIAN**

Chiara CAPPELLI

*Modeling solvent effects on molecular properties and spectroscopies: continuum or explicit models?*

Daniel ESCUDERO MASA

*Multi-determinantal-based DFT studies of the excited state properties of transition metal (TM) complexes*

Emmanuel FROMAGER

*State-averaged multi-determinant density-functional theory based on ensembles and range separation*

**16H15-16H45 : Break**

**16H45-18H30**

**Session 9 : Alain STRICH**

Fred MANBY

*Distinguishable cluster theory*

Agnes SZABADOS

*Geminals with strong orthogonality – varieties, capabilities*

Zahid RASHID

*A quadratically convergent VBSCF method*

**19H30 : Dinner and concert**

**8H30-10H15**

**Session 10 : Joseph FRIPIAT**

Anna KRAWCZUK

*From electron density studies towards linear optical properties*

Alex TKATCHENKO

*From dispersion interactions to farsighted electron correlation – A unified approach based on atomic response functions*

Yasutaka KITAGAWA

*Theoretical study on electron conductivities of one-dimensional Nickel(II) complexes*

**10H15-10H45 : Break**

**10H45-12H30**

**Session 11 : Daniel P. VERCAUTEREN**

Leeor KRONIK

*Fundamental and optical gaps from Density Functional Theory*

Frank DE PROFT

*Reactivity indices from Density Functional Theory: chemistry from the linear response function*

David J. TOZER

*Molecular binding in post-Kohn–Sham orbital-free DFT*

**12H30-14H00 : Closure, lunch, and departure**