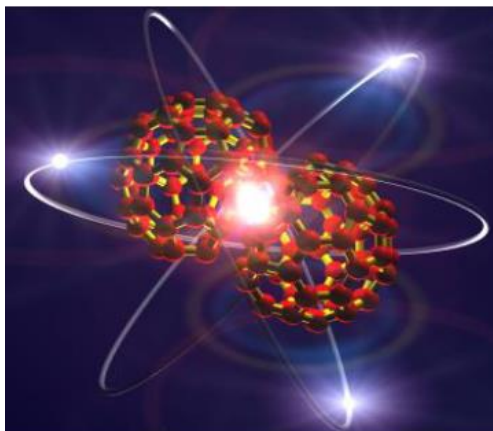


The Ninth International Symposium “Atomic Cluster Collisions”



ISACC 2019

Canterbury Cathedral Lodge & University of Kent
Canterbury, United Kingdom
July 31 - August 03, 2019



SECOND ANNOUNCEMENT

Scope

The ninth International Symposium "Atomic Cluster Collisions" (ISACC 2019) will take place on **July 31 - August 03, 2019** at Canterbury Cathedral Lodge and the University of Kent (Canterbury, United Kingdom). The ISACC 2019 is co-organized by [the University of Kent](#) and [MBN Research Center](#), Frankfurt am Main, Germany.

ISACC started as an international symposium on atomic cluster collisions in St. Petersburg, Russia in 2003. The second ISACC was held at the GSI, Darmstadt, Germany in 2007. Both symposia were satellites of the International Conferences on Photonic Electronic and Atomic Collisions (ICPEAC). The third ISACC returned to St. Petersburg in 2008 and was organized as a separate conference. The fourth ISACC took place in Ann Arbor, Michigan, USA in 2009; the fifth ISACC - in Berlin, Germany in 2011; the sixth - in Wuhan, China in 2013; the seventh - in Madrid, Spain in 2015. All four conferences were ICPEAC satellites. The eighth symposium was held in Varadero, Cuba in 2017. The ninth ISACC symposium will be held just after the ICPEAC 2019 (Normandy, France, July 23-30, 2019).

The ISACC 2019 will promote the growth and exchange of scientific information on the structure, properties and dynamics of complex atomic, molecular, cluster, nanoscopic and biological systems studied primarily by means of photonic, electronic and atomic collisions. Particular attention will be devoted to dynamical phenomena, many-body effects taking place in clusters, nanostructures, molecular and biological systems, which include problems of fusion and fission, fragmentation, collective electron excitations, phase transitions, radiation damage, and many more. Both experimental and theoretical aspects of cluster physics uniquely placed between nuclear physics on one hand and atomic, molecular and solid state physics on the other will be subject of the symposium. Particular attention will be devoted to the utilization of advanced computational techniques and high performance computing in studies of collisions involving complex molecular systems. Links of the ISACC topics to novel and emerging technologies will be an important focus of ISACC 2019.

Finally, ISACC 2019 will provide a platform to host discussions about current research, technological challenges and related initiatives within the ISACC Topical Areas.

Topical Areas of ISACC:

- Structure and dynamics of atomic and molecular clusters, and nanoparticles
- Structure and dynamics of biomolecules
- Cluster structure and dynamics on a surface
- Cluster-molecule interactions, reactivity and nanocatalysis
- Clustering in systems of various degrees of complexity
- Clusters and biomolecules in external fields: electric, magnetic, laser etc.
- Electron and photon cluster collisions
- Ion-cluster collisions
- Collision processes with biomolecules
- Cluster and biomolecular research with Free Electron Lasers

Scientific Programme

The scientific programme for ISACC 2019 will consist of interdisciplinary sessions which will include invited lectures, review talks and progress reports. PhD students and young researchers are encouraged to submit their contributions and participate in the conference. A number of hot topic reports will be selected by the International Advisory Committee of the ISACC 2019 from the submitted abstracts. Other contributions will be presented in a poster session.

Important Dates

Distribution of the first announcement	September 17, 2018
Distribution of the second announcement	March 15, 2019
Deadline for abstract submission	June 01, 2019
Deadline for early-bird registration and hotel reservation	June 01, 2019
Deadline for registration	July 01, 2019
Distribution of the final announcement	July 01, 2019

ISACC 2019 Program

Wednesday, July 31, 2019 (Canterbury Cathedral Lodge)

12 ⁰⁰ – 16 ⁰⁰	Participants registration
14 ⁰⁰ – 14 ¹⁵	ISACC 2019 Opening Nigel J. Mason and Andrey V. Solov'yov
14 ¹⁵ – 16 ¹⁵	<u>Afternoon session I: Structure and dynamics of atomic clusters and nanoparticles</u>
16 ¹⁵ – 16 ⁴⁵	Coffee break
16 ⁴⁵ – 18 ¹⁵	<u>Afternoon session II: Structure and dynamics of biomolecules</u>
19 ⁰⁰ – 22 ⁰⁰	<u>Welcome reception</u>

Thursday, August 01, 2019 (Canterbury Cathedral Lodge)

9 ⁰⁰ – 11 ⁰⁰	<u>Morning session I: Electron and photon cluster collisions</u>
11 ⁰⁰ – 11 ³⁰	Coffee break
11 ³⁰ – 13 ⁰⁰	<u>Morning session II: Collisions with biomolecules</u>
13 ⁰⁰ – 14 ³⁰	Lunch
14 ³⁰ – 16 ⁰⁰	<u>Afternoon session I: Cluster structure and dynamics on a surface</u>
16 ⁰⁰ – 16 ³⁰	Coffee break
16 ³⁰ – 18 ⁰⁰	<u>Poster session</u>

Friday, August 02, 2019 (Canterbury Cathedral Lodge)

9 ⁰⁰ – 11 ⁰⁰	<u>Morning session I: Ion-cluster collisions</u>
11 ⁰⁰ – 11 ³⁰	Coffee break
11 ³⁰ – 13 ⁰⁰	<u>Morning session II: Clustering in systems of various degrees of complexity</u>
13 ⁰⁰ – 13 ¹⁵	Conference photo
13 ¹⁵ – 14 ³⁰	Lunch
14 ³⁰ – 16 ⁰⁰	<u>Afternoon session I: Cluster-molecule interactions, reactivity and nanocatalysis</u>
16 ⁰⁰ – 16 ¹⁵	Coffee break
16 ¹⁵ – 18 ⁰⁰	<u>Conference tour</u>
19 ⁰⁰ – 22 ³⁰	<u>Conference dinner</u>

Saturday, August 03, 2019 (Darwin Conference Suite, Darwin College, the University of Kent)

9 ⁰⁰ – 11 ⁰⁰	<u>Morning session I: Clusters and biomolecules in external (electric, magnetic, laser) fields</u>
11 ⁰⁰ – 11 ³⁰	Coffee break
11 ³⁰ – 13 ⁰⁰	<u>Morning session II: Cluster and biomolecular research with Free Electron Lasers</u>
13 ⁰⁰ – 13 ¹⁵	ISACC 2019 Closing

Confirmed Speakers

Andreas Alberg-Fløjborg, University of Southern Denmark, Denmark
Ion collisions on cell membranes: the early stages of ion beam cancer therapy

Rodolphe Antoine, Université de Lyon, France
Collision induced dissociation and collision cross sections of gold nanoclusters

Sadia Bari, European XFEL GmbH, Deutsches Elektronen-Synchrotron (DESY), Germany
Site-selective ionization of proteins and the influence of structure

Eleanor Campbell, University of Edinburgh, United Kingdom
Molecular Maracas: a multi-state molecular switch based on Li@C₆₀

Henrik Cederquist, Stockholm University, Sweden
Decays of metal dimer anions in an ion-beam storage ring

Himadri Chakraborty, Northwest Missouri State University
Matter (ions) and antimatter (positrons) collisions with fullerene nanomolecules

Jean-Patrick Connerade, Imperial College London, United Kingdom
The value of K-matrix theory for all systems held together by coulombic forces

Pablo de Vera, MBN Research Center, Germany
Monte Carlo and molecular dynamics simulation of electron beam-induced chemistry on surfaces

Michael Dingfelder, East Carolina University, United States
Track-structure simulations in nanometer geometries

Brendan Dromey, Queen's University Belfast, United Kingdom
Studying nascent proton-driven radiation chemistry in H₂O in real time using laser-based sources

Sam Eden, the Open University, United Kingdom
Tracing radiation-induced reaction products to specific neutral isomer and cluster precursors

Andrew Ellis, University of Leicester, United Kingdom
Molecular clusters and cluster ions in helium nanodroplets

Ilya Fabrikant, University of Nebraska–Lincoln, United States
Recent advances in the theory of electron attachment to molecules and clusters

Linda Feketeová, Claude Bernard University Lyon, France
Evaporation of water molecules from excited water nanodroplets

Jon Golding, The Open University, United Kingdom
Element choice for nanoparticle radiosensitisers

Armin Götzhäuser, University of Bielefeld, Germany
Functional carbon nanomembranes for applications in electronics and filtration

Paul-Antoine Hervieux, University of Strasbourg, France
Magnetic moment generation in metallic nanostructures via the plasmonic inverse Faraday effect

Suvasthika Indrajith, CIMAP-GANIL, France
Energetic processing of hydrocarbons molecular species by ionizing radiation towards the formation of cyclic species

Manfred Kappes, Karlsruhe Institute of Technology, Germany
Novel applications of ion trapping techniques for cluster science

Shiv N. Khanna, Virginia Commonwealth University, United States
Superatoms as tunable chemical dopants for two-dimensional semiconductors

Jozef Lengyel, Technische Universität München, Germany
Effect of cluster environment on electron- and ion-mediated chemistry: from atmospheric chemistry to nanocatalysis

Nigel J. Mason, University of Kent, United Kingdom
Molecular clusters in plasmas and surface chemistry

Andreas Mauracher, University of Innsbruck, Austria
Gold complexes in helium droplets

Richard Palmer, Swansea University, United Kingdom
Nanoparticle beam deposition: A novel route to the solvent-free creation of heterogeneous catalysts

Mathias Rapacioli, Université Paul Sabatier, France
Modelling charge and excitation resonance in polycyclic aromatic hydrocarbon clusters

Jan-Michael Rost, Max Planck Institute for the Physics of Complex Systems, Germany
TBA

Thomas Schlathölder, University of Groningen, the Netherlands
Interactions of gas-phase biomolecular ions with fast ions and with soft X-ray photons

Jefferson Shinpaugh, East Carolina University, United States
Ion-induced electron emission from metal surfaces with applications to nanoparticle radiosensitizers

Andrey V. Solov'yov, MBN Research Center, Germany

Collision induced multiscale dynamics of MesoBioNano systems as seen with MBN Explorer and MBN Studio

Mark Stockett, Stockholm University, Sweden

The threshold displacement energy of buckminsterfullerene C_{60} and formation of the endohedral defect fullerene $He@C_{59}$

Eric Suraud, Université Paul Sabatier, France

On the inclusion of dissipative effects in cluster dynamics

Eugene Surdutovich, Oakland University, United States

Multifragmentation of Ar clusters by protons and heavier ions as a way to observe ion-induced shock waves

Hidetsugu Tsuchida, Kyoto University, Japan

Role of secondary electrons from ionized water molecules in biomolecular damage in water by ionizing radiation

Kiyoshi Ueda, Tohoku University, Japan

Atomic cluster experiments at SACLA, an XFEL in Japan

Alexey Verkhovtsev, German Cancer Research Center / MBN Research Center, Germany

Computational studies of collision-induced processes with complex molecular systems

Xin Wang, University of Groningen, the Netherlands

Soft X-ray photofragmentation of gas phase oligonucleotides

Roland Wester, University of Innsbruck,

Reactions of hydrated ions studied with crossed-beam imaging

Conference Venue and Travel Information

The Conference will be hosted by [the Canterbury Cathedral Lodge](#) (on July 31 - August 02) and [Darwin College](#) of the University of Kent (on August 03), Canterbury, United Kingdom.

Canterbury is one of the UK's oldest cities (predating Roman arrival) befitting its role as capital of Kent, the Gateway to the United Kingdom from Europe, hence easy travel links from ICPEAC. Canterbury and its cathedral is also the ecclesiastical centre of the Church of England.



Canterbury is located approximately 100 kilometres to the south-east from London and 30 kilometres to the north from Dover. You can get to Canterbury **(i)** by train from London-City or London-Heathrow airports; **(ii)** by EUROSTAR train from Paris, Lille or Calais; and **(iii)** by ferry from Caen via Portsmouth.

By plane from:

- London City Airport: take a train to Stratford International and then change to a Southeastern train to Canterbury.

- London Heathrow Airport: take a tube to London-Victoria or St Pancras and then change to a Southeastern train to Canterbury.

The train schedule and tickets to Southeastern rail can be found at <https://www.southeasternrailway.co.uk>.

By EUROSTAR train:

Take the Eurostar train to Ashford International, and then change to a Southeastern train to Canterbury.

The train schedule and tickets for Eurostar can be found at <https://www.eurostar.com> and for Southeastern train at <https://www.southeasternrailway.co.uk>.

By ferry:

There are regular ferry routes from Caen or Le Havre to Portsmouth (<https://www.directferries.com>), which is located about 190 km from Canterbury. The train connections from Portsmouth to Canterbury (via London) could be checked at <https://ticket.southernrailway.com>.

Registration

Participants of ISACC 2019 should fill in [the electronic registration form](#) at the Conference website, www.isacc-portal.org/. The created account should be used for the payment procedure.

Level of participation	Conference fee	
	before June 01, 2019	after June 01, 2019
Regular participant	360 Euro	450 Euro
Student participant	300 Euro	350 Euro

The fee includes the book of abstracts, coffee breaks, lunches, conference reception and conference dinner. The payment to the order of "ISACC2019" should be made

By bank transfer to

Bank account name: MBN Research Center gGmbH
Bank name: Deutsche Bank
Branch address: Hauptstr. 5, 61462 Koenigstein, Germany
IBAN: DE15500700240137588000
BIC: DEUTDEDBFRA

Please quote your **NAME** and **ISACC2019** on the transfer. Please ensure there are no charges to us.

Accommodation

Befitting its role as a pilgrimage centre the city of Canterbury has a wide range of accommodation from student halls on campus to 4/5* hotels in the city as well as many Bed and Breakfast.

A limited number of rooms have been reserved for conference participants at the following hotels:

You can book a room directly at [the Canterbury Cathedral Lodge](#) (symposium location for July 31 - August 02) for 100 -132 pounds per night. Make your booking via e-mail: tania.allin@canterburycathedralodge.org, referring to the ISACC2019.

Cheaper single rooms (47 pounds per night) are available on the campus of the University of Kent (symposium location on August 03). You can book a room directly using the link <http://www.kent.ac.uk/holidays> and the promotion code "ISACC19".

The rooms will be reserved for conference participants until June 01, 2019. We therefore advise the participants to register for the conference and the hotel at the earliest convenience.

Abstract Submission

Abstracts should be submitted electronically not later than **June 01, 2019**. Please send your abstracts to isacc.conference@gmail.com with the title "ISACC 2019 Abstract".

The abstract should not exceed two pages. The abstract template is available for download [here](#).

Social Program

Event	Date / Time
Welcome reception	Wednesday, July 31, 19 ⁰⁰ - 22 ⁰⁰
Conference tour	Friday, August 02, 16 ¹⁵ - 18 ⁰⁰
Conference dinner	Friday, August 02, 19 ⁰⁰ - 22 ³⁰

The guided conference tour will be organized around the historical centre of Canterbury.

Official Invitation and Visa

Conference participants are advised to check the visa requirements for travel to United Kingdom.

Conference Language

The language of the conference is English.

ISACC 2019 Topical Issue of EPJD

A Topical Issue of the [European Physical Journal D: Atomic, Molecular, Optical and Plasma Physics](#) dedicated to ISACC 2019 will be published. All conference participants are encouraged to submit their novel results to this Topical Issue. Submission deadline is November 30, 2019.

International Advisory Committee

- Andrey Solov'yov (MBN Research Center, Germany) **Chair**
- Catherine Bréchnignac (Laboratoire Aime Cotton, CNRS, France)
- Michel Broyer (University of Lyon, France)
- Jean-Patrick Connerade (Imperial College London, United Kingdom)
- Francesco Gianturco (University of Innsbruck, Austria)
- Bernd Huber (Centre Interdisciplinaire de Recherche Ions Lasers, CIRIL - GANIL, France)
- Julius Jellinek (Argonne National Laboratory, USA)
- Shin Khanna (Virginia Commonwealth University, USA)
- Thomas Möller (Technical University of Berlin, Germany)
- Eric Suraud (Université Paul Sabatier, France)

Organizing Committee

- Nigel Mason (University of Kent, United Kingdom), **Co-Chair**
- Sharon Humm (University of Kent, United Kingdom), **Local Organising Committee Secretary**
- Andrey Solov'yov (MBN Research Center, Germany), **Co-Chair**
- Pablo de Vera (MBN Research Center, Germany)
- Andrei Korol (MBN Research Center, Germany)
- Irina Solovyeva (MBN Research Center, Germany)
- Alexey Verkhovtsev (MBN Research Center, Germany)

Sponsors

The conference will be held under the auspices of the following sponsors:

- University of Kent, Canterbury, United Kingdom
- MBN Research Center, Frankfurt am Main, Germany

Contact Information

Prof. Nigel J. Mason, OBE

ISACC 2019 Co-chair

School of Physical Sciences

University of Kent

Canterbury, CT2 7NH

United Kingdom

Phone: +44 (0)1227 823321

E-mail: N.J.Mason@kent.ac.uk

Website: www.kent.ac.uk/physical-sciences

Prof. Dr. Andrey V. Solov'yov

ISACC 2019 Co-chair

MBN Research Center

Altenhöferallee 3

60438 Frankfurt am Main

Germany

Phone: +49-(0)69-34875600

Fax: +49-(0)69-34875628

E-mail: solovyov@mbnresearch.com

Website: www.mbnresearch.com

ISACC Conference Series Web Portal

Updated information on the conference series is available at www.isacc-portal.org

Conference e-mail

isacc.conference@gmail.com