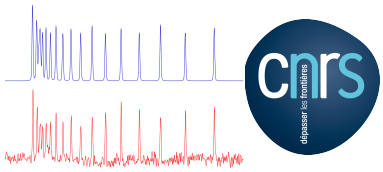
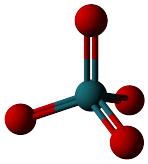
THE TWENTY-EIGHTH COLLOQUIUM ON HIGH RESOLUTION MOLECULAR SPECTROSCOPY



DIJON 2023

28 August – 1 September, 2023

https://blog.u-bourgogne.fr/hrms2023/



Executive Committee

FREDERIC MERKT
Lab. für Physikalische Chemie,
ETH Zürich,
Switzerland

THERESE HUET
Laboratoire PhLAM
Université de Lille
CNRS UMR 8523
France

PAOLO DE NATALE
Istituto Nazionale di Ottica-CNR
Firenze,
Italy

Local Organizer

VINCENT BOUDON &
CLAUDE LEROY
Lab. Interdisciplinaire Carnot de Bourgogne, UMR 6303 CNRS Univ. Bourgogne Franche-Comté, France

Scientific Committee

V. BOUDON
A. CSÁSZÁR
P. DE NATALE
W. E. ERNST
L. HALONEN
T. HUET
I. KLEINER
H. LINNARTZ
F. MERKT
J. ORPHAL
V. PEREVALOV
S. SCHLEMMER
J. TENNYSON
J. VANDER AUWERA
S. WILLITSCH

Local Organizing Committee

V. BOUDON
F. CHAUSSSARD
I. EL BAKKOUCHI
T. GABARD
B. GOURIER
G. GUILLON
P. HARDY
E. HERTZ
P. HONVAULT
G. HOVHANNESYAN
B. LAVOREL
M. LEPERS
C. LEROY
M. LOETE
J. LOPEZ
R. MOMIER
S. PERNOT
C. PRIOU-JACOTOT
C. RICHARD
B. SINARDET
C. VAUTRIN

First Circular: December 2022

The Colloquium will be held at the "Faculté des Sciences Mirande" of the "Université de Bourgogne", 9 avenue A. Savary, DIJON – FRANCE (approximately 20 min by tramway from the train station). The local organization will be undertaken by the "Laboratoire Interdisciplinaire Carnot de Bourgogne" (ICB).

All correspondence should be sent to the secretary of the local organizing committee:

Mme Claire PRIOU-JACOTOT

Laboratoire Interdisciplinaire Carnot de Bourgogne, UMR 6303 CNRS-Université de Bourgogne
9 av. A. Savary, BP 47 870, F-21078 DIJON Cedex – France.
Tel. : +33 3 80 39 61 39, Fax : +33 3 80 39 59 71, E-Mail: **hrms2023@u-bourgogne.fr**.

Scientific Program:

There will be **10 invited lectures** and **3 mini-symposia**. Parallel sessions will be dedicated to **54 contributed lectures given by PhD students, postdocs and young researchers.** There will be 7 **poster sessions**. The covered fields are:

- High resolution rotational, vibrational, and electronic spectroscopy of molecules (radicals, ions, complexes, clusters, ...).
- Molecular dynamics.
- Theory assisting the prediction, simulation, and interpretation of spectra.
- New techniques for high-resolution spectroscopy.
- Applications to atmospheric sciences, astrophysics, planetology, combustion, gas phase biomolecules, metrology and fundamental physics, cold molecules, *etc*.

Important dates:

- 2nd circular: **March 2023**
- Deadline for final registration and submission of abstracts: **June 15, 2023**
- Deadline for final reservation of accommodations: **June 15, 2023**
- 3rd circular with meeting information: **July 2023**

Accommodations:

A limited number of single rooms are available in student dormitories within easy walking distance of the conference site. Participants who prefer to stay in hotels should make the reservations themselves. For this purpose, a link to the official tourism office is available on the homepage of the colloquium (see below). However, these hotels may be located at some distance from the conference site (but easily accessible thanks to the tramway). Hotel reservations should be made quite early, since August is a highly touristic period.

Meals will be available at the campus restaurant. During the conference there will be an excursion combined with a banquet. Moreover, excursions for accompanying persons will be organized.
For participants arriving on Saturday, we offer the possibility to have a student dormitory room for the night from Saturday August 26th to Sunday August 27th.

Abstracts:

We will use a modified version of the Electronic Abstract Submission (EAS) system developed at the Ohio State University. Detailed instructions will be given in the second circular.

When submitting an abstract, **young researchers** (PhD students, postdocs, …) **will be strongly encouraged to apply for giving a contributed lecture** (15-minute talk, including questions).

Fees:

We estimate conference fees to be 350 € (373 US$), with a reduction for students (210 €, 224 US$). This price includes congress participation, colloquium proceedings, welcome on Sunday August 27th in the evening, excursion and banquet. More precise information (including prices for accompanying persons) will be given in the second circular. Fees will increase in case of payment after June 15, 2023.

WARNING: No cash payment will be accepted (only credit card of bank transfer payment is possible).

Amat-Mills Prizes:

As in previous colloquia, two prizes will be awarded, one to the best student talk and one to the best student poster. Instructions for application will be given in the second circular.

"Jon Hougen Travel Award:

Two PhD students will be selected by the HRMS committee to receive 500 euros each to help them to participate the HRMS 2023 Conference in Dijon. Application for the award is upon abstract submission. PhD students from institutions or countries having financial restrictions are encouraged

WWW home page:

The conference has a home page on the World Wide Web to provide up-to-date information:

https://blog.u-bourgogne.fr/hrms2023/

PRELIMINARY PROGRAM OF THE COLLOQUIUM

(Some details may still evolve)

DATES	Aug. 28, 2023	Aug. 29, 2023	Aug. 30, 2023	Aug. 31, 2023	Sept. 1, 2023
Hours	Monday	Tuesday	Wednesday	Thursday	Friday
8:30 **9:00** **10:30** **11:00**	8:30 **Welcome** **Inv. Speakers A** Coffee break **Poster session B**	 **Contrib. Lect. E** Coffee break ***Poster session F***	8:30 **Inv. Speakers I** 10:00 Coffee break 10:30 **Inv. Speakers *J***	 **Inv. Speakers K** Coffee break **Contrib. Lect. L**	 **Poster session P** Coffee break **Inv. Speakers Q**
12:30 – 14:00	Lunch	Lunch	12:00 – Lunch	Lunch	Lunch
14:00 **16:00** **16:30**	**Mini. Symp. C** Coffee break **Contrib. Lect. D**	**Mini. Symp. G** Coffee break **Poster session H** **Exhibitors' talks**	13:45 **Sightseeing tour**	**Mini. Symp. M** *Coffee break* **Poster session N** I	
19:00 – 20:00	**Town Hall reception**	Dinner	**19:00 Banquet** (with Amat-Mills and Hougen prizes)	Dinner	
Evening		**Molecular Physics lecture**	**23:00 Bus to Dijon**	**Poster session O** *Degustation*	

INVITED SPEAKERS

NB: Titles are still preliminary

Plenary Speakers:

- Cristina Puzzarini
  (Università di Bologna, Italy)
  "*Astrochemical challenges: the role of rotational spectroscopy*"

- Takuro Ideguchi
  (University of Tokyo, Japon)
  "*High-speed mid-infrared spectroscopy and microscopy with high signal-to-noise ratio*"

- Clément Lauzin
  (Université Catholique de Louvain, Belgique)
  "*The challenge and the beauty of molecular complexity*"

- Maria Eugenia Sanz
  (King's College London, United Kingdom)
  "New insights on odorants and their complexes by rotational spectroscopy"

- Jeremy Richardson
  (ETH Zürich, Switzerland)
  "*Quantum tunnelling in molecules and clusters*"

- Bryan Changala
  (Harvard-Smithsonian Center for Astrophysics, USA)
  "Theoretical tools for molecular discovery in the laboratory and space"

- Nasser Moazzen-Ahmadi
  (University of Calgary, Canada)
  "*Weakly-bound clusters of atmospheric molecules: Theory and experiment*"

- Irène Ventrillard
  (Université Grenoble Alpes, France)
  "*Ultrasensitive spectroscopy: a journey with optical feedback and resonant cavities to a wide range of applications*"

- Claudio Lenz Cesar
  (Instituto de Fisica - UFRJ; ALPHA Collaboration - CERN)
  "*Laser spectroscopy of hydrogen and antihydrogen: towards a direct CPT test beyond 14 significant figures*"

- Anne L'Huillier
  (Lunds Universitet, Sweden)
  "Laser spectroscopy of hydrogen and antihydrogen: towards a direct CPT test beyond 14 significant figures"

Minisymposium I (Organizers: Stefan Willitsch, Stephan Schlemmer)

Spectroscopy of ions in traps

- Roland Wester
  (Universität Innsbruck, Austria)
  "*Spectroscopy of cold trapped negative ions: from rotations to electronic excitations*"

- Otto Dopfer (Technische Universität Berlin, Germany)
  "*Spectroscopy of cluster cations*"

- Maximilian Beyer
  (Vrije Universiteit Amsterdam, Netherlands)
  "*Towards a hydrogen molecular ion clock*"

- Philipp Schmid
  (Universität zu Köln, Germany)
  "*Leak-out spectroscopy: a new tool for high-resolution spectroscopy*"

Minisymposium II (Organizers: Jean vander Auwera, Stephan Schlemmer, Harold Linnartz)

Spectroscopy in the era of JWST

- Melissa McClure
  (Universiteit Leiden, Netherlands)
  "*Tracing the chemical evolution of ices from dark clouds to exo-cometary reservoirs with JWST*"

- Olivier Berné
  (IRAP Toulouse, France)
  "*First results from JWST observations of the Orion Nebula*"

- Stefanie Milam
  (NASA Goddard Space Flight Center)
  "*Revealing the composition and history of the Solar System with JWST's infrared eyes*"

Minisymposium III (Organizer: Paolo De Natale)

Spectroscopy for quantum technologies

- Giacomo Roati
  (Istituto Nazionale di Ottica, CNR-INO, Italy)
  "*Quantum gases in structured optical potentials*"

- Silke Ospelkaus
  (Leibnitz Universität Hannover, Germany)
  "*Manipulation of heteronuclear ultracold diatomic molecules*"

- Loic Anderegg
  (Harvard University, Cambridge MA, USA)
  "*Laser Cooling of Diatomic and Polyatomic Molecules*"

- Michal Tomza
  (Uniwersytet Warszawski, Poland)
  "*Accurate* ab initio *molecular calculations for ultracold physics experiments*"