



XXIX

**INTERNATIONAL CONFERENCE ON
PHENOMENA IN IONIZED GASES**

July 12-17, 2009 Cancún, México



Aerial Photo courtesy of Cancun Convention and Visitors Bureau

FINAL ANNOUNCEMENT

Dear colleague,

The International Scientific Committee and the Local Organizing Committee of ICPIG 2009 are pleased to invite you to participate in the XXIX International Conference on Phenomena in Ionized Gases (ICPIG), which will be held in Cancún, México, on July 12-17, 2009.

The XXIX ICPIG will cover a wide range of the fundamental and applied aspects of ionized gases. This conference emphasizes interdisciplinary research and fosters exchange between different communities.

Please visit our website for all details of this Conference at <http://www.icpig2009.unam.mx>

GENERAL INFORMATION

The XXIX ICPIG will be held in Cancún, state of Quintana Roo, México, from 12-17 July, under the sponsorship of

International Union of Pure and Applied Physics
Universidad Nacional Autónoma de México
Universidad Autónoma Metropolitana, Rectoría
Universidad Autónoma Metropolitana, Azcapotzalco
Instituto de Ciencias Físicas, UNAM
Institute of Physics, Publishing, United Kingdom
Consejo Mexiquense de Ciencia y Tecnología
Instituto de Ciencia y Tecnología del Distrito Federal
Wiley, VCH
Aeroméxico

Organizadora Nacional de Congresos y Eventos, SA, ONCE, is the conference manager.

Conference location and dates

The XXIX ICPIG will take place at the Cancún Convention Centre, which is located in the Hotel Zone of Cancún (www.cancuncenter.com)

The Conference will start with Registration at the Cancún Convention Centre on Sunday, 12th July, 12:00 – 22:00, and will end with the Closing Ceremony at 12:45 pm on the 17th July.

Travel to Cancún

Details of Cancún's airport and airlines arriving at it are given in the website (<http://www.icpig2009.unam.mx>)

Transportation between Cancún's airport and the hotels

There will be a transportation service between the airport and the hotels, provided by a local travel agency. If you are interested in this service, please use the following link:

<http://www.cancuntravelcenter.com/Tours/ICPIG-Meeting-2009-Transfer/>

\$14.00 US per person-Minimum 2 persons

You may request the Shared Transportation Service and be charged for just one person, subject to having to wait until there is at least a second person arriving. Chances are that it will be a rather short waiting since most conference members are coming on the same dates. To select this option, please state it on the "Requests" dialog box in the "Tour Details" section. The charge will be for just one person, notwithstanding that the immediate reply to your booking will show a \$28 US charge."

Private Transportation

\$39.00 US per van-From 1 to 4 people

\$49.00 US per van-From 5 to 7 people

SCIENTIFIC PROGRAMME

Detailed information on the conference topics is provided at our Website

www.icpig2009.unam.mx.

The scientific programme will consist of 10 invited general, 24 topical lectures, two parallel Workshops and Poster presentations, and two prize lectures, namely, the Von Engel and the IUPAP Plasma Physics Young Scientist Prizes.

Conference topics

A. FUNDAMENTALS

1. Elementary processes and fundamental data
2. Thermodynamics and transport phenomena
3. Plasma wall interactions, electrode and surface effects
4. Collective and Nonlinear Phenomena

B. MODELLING, SIMULATION AND DIAGNOSTICS

5. Modeling and simulation techniques
6. Plasma diagnostic methods

C. PLASMA SOURCES AND DISCHARGE REGIMES

7. Astrophysical, geophysical and other natural plasmas
8. Low pressure plasmas
9. High frequency discharges
10. Non-equilibrium plasmas and microplasmas at high pressures
11. Thermal plasmas
12. Complex and dusty plasmas, ion-ion plasmas

D. APPLICATIONS

13. Plasma processing of surfaces and particles
14. High pressure and thermal plasma processing
15. Plasma lamps and radiation sources
16. Medical, biological, environmental and aeronautical applications
17. Plasma power and pulsed power technology, particle sources

For further details, please refer to the Conference website, www.icpig2009.unam.mx

Invited lectures

R. Cabrera-Trujillo	México	Helium and hydrogen charge exchange collisions at keV energies
G. Cunge	France	Reaction mechanisms in industrial silicon plasma etch reactors
V. Fortov	Russia	Extreme states of plasmas on earth and in space
E. Kettlitz	Germany	Comparison of surface and volume breakdown in high pressure xenon model lamps
A. Kono	Japan	Plasma boundary phenomena in electronegative plasmas
U. Kortshagen	United States	The physics of semiconductor nanocrystal synthesis in plasmas and applications in renewable energy technology
J. Meichsner	Germany	Reactive plasma-surface interaction
H. Pécseli	Norway	Observations of low frequency electrostatic waves and turbulence in the ionospheric E-region
J.R. Sanmartín	Spain	A review of electrodynamic tethers for science applications
J. Woolsey	UK	Shocks and particle acceleration in magnetized laser plasmas for astrophysics

Topical lectures

B.M. Annaratone	France	Collective effects in complex plasma
A. Bourdon	France	Modeling and simulation of repetitively pulsed streamer discharges between pin electrodes in preheated air at atmospheric pressure
A. Fredriksen	Norway	The formation of beams and instabilities in Njord - a new plasma device for space related experiments
M.J. Faria	Portugal	Understanding bifurcations encountered in numerical modelling of current transfer to cathodes of DC glow and arc discharges
V. Giovangigli	France	Multicomponent transport in weakly ionized mixtures

F.J. Gordillo-Vázquez	Spain	Vibrational kinetics of air plasmas induced by Sprites in the mesosphere of the Earth
V. Guerra	Portugal	Atom recombination at surfaces in plasmas
J.G. Han	Korea	Microstructure control of thin film by plasma diagnostics in magnetron sputtering
Y. Hayashi	Japan	Developments of fine-particle plasma systems for basic and application researches
I. Kessels	Netherlands	Plasma assisted atomic layer deposition of ultrathin oxide and metal films
Y. Krasik	Israel	Underwater electrical wire explosion
K. Kutasi	Hungary	UV radiation in Ar-O ₂ , N ₂ -O ₂ and Ar-O ₂ -N ₂ microwave discharges and post-discharges
V. Law	Ireland	Non-invasive VHF monitoring of atmospheric pressure plasma
Z. Machala	Slovakia	Bio-decontamination by DC discharges at atmospheric pressure: various spectroscopic methods for identification of microbial inactivation mechanisms
M. Mozetic	Slovenia	Plasma techniques for nanotechnologies
G. Malovič	Serbia	Mass analysis of atmospheric pressure discharges
B. Mitu	Romania	Plasma techniques for nanostructured carbon materials synthesis
A. Napartovich	Russia	The value of swarm data for practical modeling of plasma devices
L. Overzet	United States	Direct injection of liquid precursors into low pressure plasmas
S. Paulussen	Belgium	Plasma assisted conversion of greenhouse gases
J. Rahel	Czech Rep.	Use of volume and surface barrier discharges for material treatment: A comparison
R.M. Sankaran	United States	Microplasma synthesis of nanoparticles
S. Shinohara	Japan	Large area high density helicon plasma source
V. Zorin	Russia	Plasma generated by millimeter wave beams. Study and applications

Workshops

A

Nonequilibrium phenomena in ion, electron and positron transport in gases: Data needs and applications, will review the state of the art of our knowledge of electron, positron and ion interaction processes in gases. The talks will focus on charged particle transport and reactions in electric and magnetic fields, measurement and calculation of cross sections and swarm data, and their applications in industry and medicine.

Z. Petrovič and J. de Urquijo, Organizers.

P. Fonte	Portugal	The physics and technology of gaseous particle detectors
A. Juárez	México	Ion transport, cross sections and reactivity in gases
O. Šašič	Serbia	Low energy electron scattering cross sections and transport coefficients
R. White	Australia	Transport of positrons and electrons in gases
M. Yousfi	France	Basic data needed for atmospheric pressure non thermal plasma investigations in environmental and biological applications

B

Non-thermal plasma physics relevant to fusion, will review the vital role played by the physics of the edge plasma in fusion devices, since it bridges hot-fusion core and wall materials and is crucial for both plasma confinement and the life-time of the first wall. Recent advances, plasma diagnostics and future challenges will be revised.

J. Herrera and U. Fanz, Organizers.

G. Cartry	France	Hydrogen plasma interaction with materials of interest for ITER
S. Krasheninnikov	United States	Multifaceted physics of edge plasma in magnetic fusion devices
G. Van Oost	Belgium	The plasmatron VISION I for Plasma-Wall interaction studies at SCK•CEN with deuterium/tritium plasma
G. Lombardi	France	Experimental investigations and modeling of low-temperature plasma reactor for simulating discharges such as those expected under a Tokamak divertor dome

Prizes

Von Engel Prize

*The ICPIG 2009 Von Engel Prize recipient is **Prof. Lev D. Tsendin** for his outstanding contribution to the understanding of the physical kinetics of low pressure gas discharges, by introducing a non-local treatment.*

2009 IUPAP Young Scientist Prize in Plasma Physics

*This prize will be bestowed by the IUPAP Commission-16 on Plasma Physics in the area of Low-Temperature Plasma Physics to **Dr. Timo Gans**, in recognition of his outstanding contribution, at an early stage of his career, in developing very imaginative and highly sophisticated optical diagnostics which allowed deep understanding of the dynamics of low-temperature plasmas, which are widely used in microelectronics, photonics and many other emerging applications.*

ICPIG 2009 Poster Prizes

The International Scientific Committee of ICPIG will select the three best posters presented by PhD students, irrespective of the topic, or whether they concern predominantly experimental, computational or theoretical.. In addition to the quality of the scientific content and graphical presentation of the poster, the compliance with the related paper will be taken into account.

Thanks to the kindness of Wiley-VCH Verlag GmbH the Poster Prizes will consist of

1st prize: 1 year free-subscription of one or their relevant Journals as well as a book voucher of 200 €

2nd prize: a book voucher to the value of 150 €

3rd prize: a book voucher to the value of Euro 100 €

Contributed papers

There will be two poster sessions, on Monday 13 and Thursday 16 July respectively, from 13:30 to 15:30, presenting all contributed papers. Presenting participants are requested to put up their posters before 11:00 am of their day of presentation (coffee break is a good time to do so). Participants are expected to remove their posters by 9 a.m. on the day following their presentation.

Poster stands are 1 m wide by 2 m height, suitable for an A0 size poster format. The posters can be attached with transparent adhesive tape, which will be available. No tacks should be used.

CONFERENCE PROGRAMME

The conference programme is being sent out with this announcement and will also be available on the website for downloading (pdf). A printed version will be distributed to all participants at registration.

BOOK OF ABSTRACTS

The book of abstracts contains a collection of all abstracts from General Invited, Topical, Prize and Workshop talks, as well as of all contributed papers to be presented in the poster sessions.

The book of abstracts will be available for downloading on the website of ICPIG 2009 in pdf format.

We strongly recommend browsing this 144 page-long book by using the SEARCH tool of Adobe Acrobat. The same applies for the Conference Programme.

CONFERENCE PROCEEDINGS

The conference proceedings will be provided at registration to all participants on a compact disc, containing the full-length contributed papers, together with the abstracts of all General Invited, Topical, Prize and Workshop lectures. The General Invited, Topical, Prize and Workshop lectures will be

published in a special issue of the prestigious journal *Plasma Sources Science and Technology* (Impact Factor 2.6). All manuscripts will be subjected to the strict peer-review process arranged by the Institute of Physics (IOP).

CONFERENCE LOGISTICS

ICPIG participants are requested to wear their badges at all times, while attending the sessions, coffee breaks and social events.

Oral presentations will be delivered using a computer and an LCD projector. Talks should be prepared using Microsoft PowerPoint or Adobe Acrobat files, and should be submitted on a CD or downloaded from a USB memory one day ahead of each session. Speakers are encouraged to preview their presentations.

REGISTRATION

The registration office will be open on Sunday, 12 July from 12 am to 10 pm. From Monday 13 to Wednesday 15 July, it will be open from 8:30 am to 12:30 pm and 2:30 to 5:30 pm.

Payment at the time of registration

All participants who will be paying at registration for their registration fee, banquet or accompanying person fee, are encouraged to pay cash. Paying with a Credit Card will only be possible through Pay Pal (a computer will be dedicated to do this in the registration site). Please note the following rates

Regular	550	US Dollars
Student	275	
Accompanying person	75	
Banquet	45	

The registration fee entitles the participant to all conference materials and lectures, coffee breaks, welcome reception and excursion. For accompanying persons, their fee entitles them to enjoy the welcome reception and the excursion.

The deadline for cancellations leading to **full fee reimbursement is 5 July, 2009**. No reimbursement will be possible after this date. There will be an administrative charge for cancellation.

Currencies

Foreign currencies accepted are US Dollars, Euros or UK Pounds and Mexican pesos, and will be converted to US dollars at current exchange rate.

ACCOMMODATION

A block of rooms has been reserved at the venue NH Krystal hotel. Those participants wishing to book a room in this hotel, please contact Miss Renné Doderó at renee@once.com.mx

The rates are as follows (per night)

Single	131 USD
Double	148 USD
Triple	188 USD
Quadruple	228 USD

These rates are inclusive of all taxes, tips and buffet breakfast (eat as you like). All rooms are air conditioned, with cable TV and wireless internet.

INTERNET ACCESS (Conference Centre)

Several computers will be located in a room dedicated to internet use for all participants. There will be wireless internet in the conference areas.

SOCIAL EVENTS

The social programme of the conference includes the welcome reception, conference banquet and excursion.

Welcome reception (Sunday)

All participants are invited for a welcome reception at the terrace of the Cancún Convention Centre, from 7 to 9 pm. A choice of Mexican (Yucatán) food, snacks, soft drinks, beer and wine will be offered.

Conference excursion (Wednesday)

The conference excursion, included in the fee, will go to Chichén Itzá, which is one of the most emblematic sites of the Mayan Civilization.

The buses for Chichén Itzá will depart at 12:45 pm sharp on Wednesday. A light lunch will be offered on the bus. There will be a 2-hour guided tour at the site, followed by dinner at around 5:30-6:00 pm. We will return to the archeological site at 8:00 pm for a Sound and Light performance.

All registered participants and registered accompanying persons will be given a special ticket for this excursion, which they must produce at the time of boarding the bus. Please, make sure to have this ticket available. Boarding the bus may be refused otherwise.

Banquet (Thursday)

The conference banquet is arranged for Thursday 16, from 8:30 to 11:30 pm, by the swimming pool of the NH Krystal hotel, and very close to the place where the waves break. The deadline for reservations is Monday 13 July, 3 pm.

Other visits around Cancún

Additionally, a choice of visits to natural parks and archeological sites will be offered for accompanying persons wishing to visit ecological parks and archeological places. Please see the website for more details, or have a look at www.cancuntravelcenter.com

The travel agents from Cancún Travel Centre will have a stand close to the poster sessions area.

POST- ICIPIG EVENTS

The Workshop on Dense Magnetised Plasmas will take place at the NH Krystal Hotel, from 3:30 to 9:30 pm, on Friday, 16 July. Interested participants are advised to contact Dr. Julio Herrera for further details, and/or refer to our website.

BANKS

There are several banks nearby the NH Krystal and Best Western hotels (e.g. HSBC). Automatic Telling Machines can provide you with local currency from your credit card. If you wish to cash traveler's cheques, the production of your passport will be requested.

HEALTH AND SAFETY IN CANCUN

A list of hospitals and telephones for emergencies has been added to the Conference Programme.

All participants are encouraged to take care of their valuables (money, credit cards, passports). Cancún is a very safe place, but pickpockets may be around, as in almost every tourist place in the world. Please, enquire with the hotel about safes. In particular, rooms at the NH Krystal hotel are provided with a safe.

		Schedule for ICPIG 2009.						
		Sunday 12	Monday 13	Tuesday 14	Wednesday 15	Thursday 16	Friday 17	
8	30	REGISTRATION (12:00 - 22:00)	REGISTRATION					
	45		OPENING					
9	0		Kono	Cunge	Kettlitz	Woolsey	Pecséli	
	15							
10	30		Cabrera-Trujillo	Meichsner	Kortshagen	Fortov	Sanmartín	
	45							
11	0		COFFEE	COFFEE	COFFEE	COFFEE	COFFEE	
	15		TA1 - TA3	TB1 - TB3	TA4 - TA6	TB4 - TB6	TA7 - TA9	TB7 - TB9
12	30							VON ENGEL PRIZE LECTURE
	45							
13	0		LUNCH	LUNCH			LUNCH	POSTER PRIZES
	15							ICPIG 2009
14	30		POSTER SESSION A	WORKSHOP A	WORKSHOP B			CLOSURE
	45							
15	0			COFFEE			POSTER SESSION B	
	15							
16	30			WORKSHOP A	WORKSHOP B			COFFEE
	45							
17	0							IUPAP YSP PRIZE LECTURE
	15							
18	30							
	45							
19	0	WELCOME RECEPTION						
	15							
20	30							
	45						BANQUET	

INTERNATIONAL SCIENTIFIC COMMITTEE

Representative	Geographical areas
Jean-Paul Booth, <i>Chairman</i>	France , Andorra, Spain, Portugal and North Africa
Annemie Bogaerts	Belgium , Luxembourg and Netherlands
Rod Boswell	Australia , India, Indonesia, New Zealand, Polynesia, and South Africa
Nicholas Braithwaite	United Kingdom and Ireland
Domenico Bruno	Italy , Greece, Israel
Gary Eden	United States , Canada, México, Central and South America
Ursel Fantz	Germany , Austria, Lichtenstein, Switzerland
Poul Michelsen	Denmark , Finland, Norway and Sweden
Zoran Petrović	Serbia , Bosnia-Herzegovina, Bulgaria, Croatia, Montenegro, Romania, Slovenia
Yosuke Sakai	Japan , China, Korea and Taiwan
Milan Simek	Czech Republic , Poland, Hungary and Slovakia
Andrey Starostin	Russia , Armenia, Belarus, Georgia, Ukraine and the other new states of the former Soviet Union

LOCAL ORGANIZING COMMITTEE

J. de Urquijo	Chair, UNAM	G. Koenigsberger	UNAM
E. Basurto	UAM	H. Martínez	UNAM
J. L. Hernández-Ávila	UAM	M. Pacheco	ININ
J. Herrera	UNAM	A. Robledo	UAM
A. Juárez	UNAM		

SCIENTIFIC SECRETARIAT

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