

## SECOND ANNOUNCEMENT



**9th International Workshop  
on  
MICROWAVE DISCHARGES:  
Fundamentals and Applications**

7-11 september 2015, Cordoba (Spain)

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### Dear Colleague

The “9th International Workshop on Microwave Discharges: Fundamentals and Applications” will take place in Cordoba (Spain), from Monday 7th to Friday 11th, September 2015 (arrival on September 6th).

The MD-9 Workshop will be held in the Ayre Hotel Cordoba, located just outside the city. The accommodation of the participants will be in the same place.



Sponsored Conference by  
EUROPEAN PHYSICAL SOCIETY

The main purpose is to discuss recent achievements in the study of microwave plasmas, identify directions for future research and promote a close relationship among scientists from different countries.

The scientific program covers all modern aspects of microwave discharges connecting fundamental research and applications.

### General Lectures

Peter Awakowicz (Ruhr-Universität, Bochum, Germany)

“Recent Progress in Barrier Coating Deposition: Microwave Plasma Characteristics and Correlation to Thin Film Properties”

Annemie Bogaerts (University of Antwerp, Belgium)

“Computer modeling of a microwave discharge used for CO<sub>2</sub> splitting”

Francisco M. Dias (Instituto Superior Técnico, Lisboa, Portugal)

“N-doping of graphene by a N<sub>2</sub>-Ar remote plasma”

Marco A. Gigosos (Universidad de Valladolid, Spain)

“Alterations of Stark broadening spectra in microwave discharges. Corrections in plasma diagnostics spectroscopy”

Igor A. Kossyi (Institute of General Physics R. A. S., Moscow, Russia)

“Interaction of powerful microwave beams with the metal-dielectric powder mixtures: physics and applications”

M. Carmen López-Santos (Institute of Materials Science C.S.I.C., Seville, Spain)

“Functionalization of polymeric materials by surface wave plasmas with biomedical applications”

Michel Moisan (Université de Montréal, Canada)

“The power absorbed per electron  $\theta_A$  from the E-field and the power lost per electron under collisions with heavy particles  $\theta_L$  as meaningful physical parameters allowing characterizing and modeling DC, RF and microwave discharges as functions of operating conditions”

Joost van der Mullen (Université Libre de Bruxelles, Belgium)

“Power manipulation and laser agitation”

Vadim .A Skalyga (Institute of Applied Physics R. A. S., N. Novgorod, Russia)

“High current pulsed ECR ion sources”

Elena Tatarova (Instituto Superior Técnico, Lisboa, Portugal)

“Assembling and engineering of 2D carbon nanostructures by plasmas”

Lenka Zajickova (Masaryk University, Brno, Czech Republic)

“Atmospheric pressure microwave torch for synthesis of nanomaterials”

## Tributes

Tribute to the Memory of Prof. Zenon Zakrzewski



Due to his recent death, the International Scientific Committee feels that tribute should be paid to Professor Zakrzewski for his exceptional contribution, both theoretical and experimental, to RF and Microwave sustained plasmas.

During the workshop a General Lecture will be dedicated to Professor Zakrzewski and his heritage. This presentation will be made by Professor Michel Moisan, who has been closely collaborating with Prof. Zakrzewski on a period of almost 25 years.

## Tribute to the Memory of Prof. Carlos M. Ferreira



Recently Prof. Carlos Matos Ferreira, Honorary Member of the International Scientific Committee and founder of the International Workshop on Microwave Discharges: Fundamentals and Applications, died unexpectedly. Due to so unhappy news the ISC wants to dedicate a tribute to his memory and his valuable commitment to our microwave discharges community.

Prof. Francisco M. Dias, coworker for many years in the Instituto Superior Técnico de Lisboa, will dedicate to Prof. Ferreira and his contribution to Microwave Discharges a Lecture during the workshop.

## Topical Lectures

### • Plasma Modeling and Simulation

- "Effect of dielectric tube thickness and permittivity on microwave plasmas sustained by travelling wave"

E. Benova, M. Atanasova, P. Marinova

- "Wave and plasma characteristics of surface-wave-sustained discharges at various geometrical configurations and azimuthal wave modes"

E. Benova, T. Bogdanov, K. Ivanov

- "Resonant energy absorption and collisionless electron heating in surface wave discharges"

J.P. Boeuf, F. Gaboriau, L. Liard

- "Minimalistic self-consistent modeling of planar microwave surface wave discharges"

I. Ganachev, K. Nakamura, H. Sugai

- "Influence of the operating conditions on Ar microwave plasma characteristics: Modeling and experiment"

V. Georgieva, T. Silva, R. Snyders, M-P. Delplancke-Ogletree

- "Multipactor RF breakdown analysis in a parallel-plate waveguide partially filled with a magnetized ferrite slab"

D. González-Iglesias, Á. Gómez, B. Gimeno, A. Vegas, F. Casas, S. Anza, C. Vicente, J. Gil, R. Mata, I. Montero, V. E. Boria, D. Raboso

### • Plasma Diagnosis

- "Emission spectroscopy of dipolar plasma source in low pressure hydrogen"

S. Bechu, A. Lacoste, Yu. A. Lebedev, V. A. Shakhmatov

- "Optical characterization of microwave surfaguide discharge for CO<sub>2</sub> conversion"

N. Britun, T. Silva, T. Godfroid, R. Snyders

- "Study of strongly non-uniform non-equilibrium microwave plasma in nitrogen by means of probe and optical methods"

G.V. Krashevskaya, Yu. A. Lebedev, M.A. Gogoleva

- "Oxygen atomic density measurement in N<sub>2</sub>/O<sub>2</sub> surface-wave plasma using VUV absorption spectroscopy with a compact microwave plasma light source"

M. Nagatsu, R. Tei and X. Yang

#### • Microwave Plasma Generation

- "Mode of production and application range of lengthy microwave torch excited at a considerably subthreshold fields in atmospheric pressure gases"  
A.M.Davydov, K.V.Artem'ev, G.M.Batanov, N.K.Berezhetskaya, S.I.Gritsinin, A.V.Dvoenko, E.M.Konchekov, I.A.Kossyi, K.A.Sarksyan, V.D.Stepakhin, N.K.Kharchev
- "Microwave microdischarges in fibers and capillaries"  
K. Gadonna, O. Leroy, T. Minea
- "Localized microwave interactions with metallic dusty-plasma columns"  
E. Jerby, Y. Meir
- "Microwave excited atmospheric pressure plasma jet using microstrip line for the synthesis of carbon nanomaterials"  
J. Kim and H. Sakakita
- "Problem of microwave breakdown in the vehicle-borne components and way of its prevention"  
I.A.Kossyi, A.M. Anpilov, E.M. Barkhudarov, G.S. Luk'yanchikov
- "Achieving intense maintenance electric field in a discharge such that periodic parametric instabilities are generated"  
M Moisan and H Nowakowska

#### • Microwave Plasma Application

- "Plasma-assisted catalysis for conversion of CO<sub>2</sub> and H<sub>2</sub>O over supported nickel catalysts"  
G. Chen, T. Godfroid, V. Georgieva, T. Silva, N. Britun, R. Snyders, M.P. Delplancke-Ogletree
- "Argon microwave plasmas as sources of vacuum ultraviolet radiation"  
S. Espinho, E. Felizardo, J. Henriques, E. Tatarova and F.M. Dias
- "Microwave sustained plasma microdischarge as power-induced limiter element in microstrip devices"  
L. Liard, R. Pascaud, F. Pizarro, T. Callegari and O. Pascal
- "Surface treatments for controlling the multipactor discharge of microwave components"  
I. Montero, L.Aguilera, L.Olano, M.E.Dávila, L. Galán, D. Raboso
- "Non-thermal microwave plasma dissociation of CO<sub>2</sub> with high energy and conversion efficiencies by chemical equilibrium shift"  
S. Wang, W.A. Bongers, S. Welzel, G. Frissen, T. Minea, P.W.C.Groen, D.C.M. Van den Bekerom, G.J. van Rooij, M.F. Graswinckel, N. den Harder and M.C.M. van de Sanden

Speakers are requested to submit an article at the start of the workshop. The Workshop proceedings will be refereed and published as a book or CD-ROM after the Workshop. The Local Organizing Committee (LOC) will send the proceedings to all registered participants immediately after publishing. For publishing an article in the proceedings it is necessary that at least one of the authors is registered and participates.

## Award

During the Workshop the **2015 MD Student Prize** will be chosen. The International Scientific Committee (ISC) will select the best work presented by PhD students, according to the quality of the scientific content and presentation, irrespective of the topic or whether it is predominantly experimental, computational or theoretical. Eligible students should not be defending their PhD thesis before January 2015. The Award consists of the cost of the registration fee in the Workshop and a certificate.

## Registration Fee

The accommodations of the participants and the accompanying persons have been arranged in the Ayre Hotel Cordoba, just outside the city, the same place where the workshop activities will be held.

The registration fee includes participation in the workshop, one copy of the abstract book and the proceedings, welcome reception, conference banquet, excursion and daily refreshments during the breaks. Full accommodation in single rooms is also included from September 6 (after 12 am) to September 11 (before 2 pm), with breakfast, lunch and dinner.

The fee for accompanying persons includes welcome reception, conference banquet, excursion and full accommodation in single or double rooms.

	Early	Final
Regular	600 €	690 €
Student	480 €	550 €
Accompanying person	415 €	475 €

## Important Deadline Dates

<b>Second Announcement :</b>	10 June 2015
<b>Early Registration :</b>	1 June 2015
<b>Final Registration :</b>	15 July 2015
<b>Workshop :</b>	6 - 11 September 2015

## Contact

**Workshop Web-page:** <http://www.uco.es/md-9>

**e-mail:** [md-9@uco.es](mailto:md-9@uco.es)

**Address:** Departamento de Fisica  
Universidad de Cordoba  
Antonio Gamero  
Campus de Rabanales, Ed. C-2, planta baja  
14071 Cordoba (Spain)



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