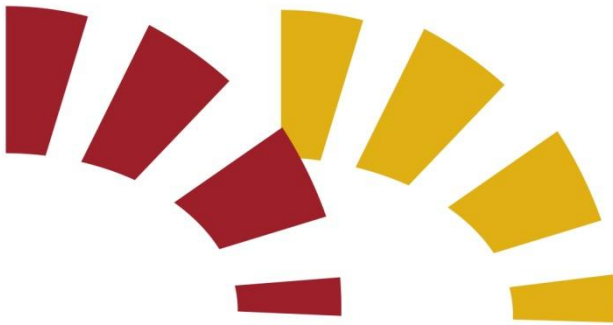




IX

**INTERNATIONAL WORKSHOP
ON
MICROWAVE DISCHARGES:
Fundamentals and Applications**

September 7-11, 2015
Cordoba (Spain)



PROGRAM





**IX INTERNATIONAL WORKSHOP
ON
MICROWAVE DISCHARGES:
Fundamentals and Applications**

Córdoba (Spain)

September 7-11, 2015

Organized by:

*Departamento de Física
Departamento de Física Aplicada
Universidad de Córdoba*

MD-9 PROGRAM

Sunday, 6 September

- 16:00 Registration
19:00 Welcome Party

Monday, 7 September

- 9:00 Registration
10:40 Opening Ceremony

Session: Plasma Theory and Modeling

- 10:55 GL-1. **M. Moisan** (plenary)
11:35 The power absorbed per electron θ_A from the E-field and the power lost per electron under collisions with heavy particles θ_L as meaningful physical parameters allowing characterizing and modeling DC, RF and microwave discharges as functions of operating conditions.
- 11:35 TL-1. **J. P. Boeuf**
12:00 Resonant energy absorption and collisionless electron heating in surface wave discharge
- 12:00 TL-2. **B. Gimeno**
12:25 Multipactor RF breakdown analysis in a parallel-plate waveguide partially filled with a magnetized ferrite slab.
- 13:00 Lunch

Session: Plasma Diagnostics

- 14:30 GL-2. **J. van der Mullen** (plenary)
15:10 Power manipulation and laser agitation.
- 15:10 TL-3. **M. Nagatsu**
15:35 Oxygen atomic density measurement in N₂/O₂ surface-wave plasma using VUV absorption spectroscopy with a compact microwave plasma light source.
- 15:35 TL-4. **N. Britun**
16:00 Optical characterization of microwave surfaguide discharge for CO₂ conversion.
- 16:00 Coffee break

Session: Microwave Plasma Applications & Plasma Theory and Modeling

- 16:25 GL-3. **P. Awakowicz** (plenary)
17:05 Recent progress in barrier coating deposition: Microwave plasma characteristics and correlation to thin film properties.
- 17:05 TL-5. **E. Benova**
17:30 Effect of dielectric tube thickness and permittivity on microwave plasmas sustained by travelling wave.
- 17:30 TL-6. **A. Berthelot**
17:55 Different pressure regimes of a surface-wave discharge in argon: A modelling investigation.
- 19:00 Dinner

Tuesday, 8 September

Session: Microwave Plasma Generation

- 9:00 GL-4. **I. A. Kossyi** (plenary)
9:40 Interaction of powerful microwave beams with the metal-dielectric powder mixtures (physics and applications).
- 9:40 TL-7. **K. Gadonna**
10:05 Microwave discharges in fibers and capillaries.

10:05 TL-8. **A. M. Davydov**
10:30 Mode of production and application range of lengthy microwave torch excited at a considerably subthreshold fields in atmospheric pressure gases.

10:30 Coffee break

Session: Microwave Plasma Applications & Plasma Diagnostics

10:55 GL-5. **L. Zajíčková** (plenary)

11:35 Atmospheric pressure microwave torch for synthesis of nanomaterials.

11:35 TL-9. **J. Palomares**

12:00 State of equilibrium departure of microwave induced plasmas for CO₂ dissociation.

12:00 TL-10. **Yu. A. Lebedev**

12:25 Emission spectroscopy of dipolar plasma source in low pressure hydrogen.

13:00 Lunch

Session: Tributes

14:30 **M. Moisan**

15:10 A tribute to the work achieved by Professor Zenon Zakrzewski at the Université de Montréal.

15:10 **F. M. Dias**

15:35 Tribute to the memory of Professor Carlos Matos Ferreira.

15:35 Coffee break

16:00 Poster Session

18:00

19:00 Dinner

Wednesday, 9 September

9:00 Excursion

13:00 Lunch

Session: Microwave Plasma Applications

14:30 GL-6. **C. López-Santos** (plenary)

15:10 Functionalization of polymeric materials by surface wave plasmas with biomedical applications.

15:10 TL-11. **S. Espinho**

15:35 Argon microwave plasmas as sources of vacuum ultraviolet radiation.

15:35 TL-12. **S. Wang**

16:00 Non-thermal microwave plasma dissociation of CO₂ with high energy and conversion efficiencies by chemical equilibrium shift.

16:00 Coffee break

Session: Microwave Plasma Generation

16:25 TL-13. **M. A. Lobaev**

16:50 Investigation of microwave discharge in cavity reactor excited in the TM₀₁₃ mode.

16:50 TL-14. **I. A. Kossyi**

17:15 Problem of microwave breakdown in the vehicle-borne components and way of its prevention.

17:15 TL-15. **J. Kim**

17:40 Microwave excited atmospheric pressure plasma jet using microstrip line for the synthesis of carbon nanomaterials.

19:00 Dinner

Thursday, 10 September

Session: Microwave Plasma Applications

- 9:00 GL-7. **E. Tatarova** (plenary)
9:40 Assembling and engineering of 2D carbon nanostructures by plasmas.
- 9:40 TL-16. **I. Montero**
10:05 Surface treatments for controlling the multipactor discharge of
microwave components.
- 10:05 TL-17. **G. Chen**
10:30 Plasma-assisted catalysis for conversion of CO₂ and H₂O over
supported nickel catalysts.
- 10:30 Coffee break

Session: Plasma Diagnostics

- 10:55 GL-8. **M. A. Gigoso** (plenary)
11:35 Alterations of Stark broadening spectra in microwave discharges.
Corrections in plasma diagnostics spectroscopy.
- 11:35 TL-18. **J. van der Mullen**
12:00 The key-role of Thomson scattering in the characterization of
microwave plasmas.
- 12:00 TL-19. **M. A. Gogoleva**
12:25 Study of strongly non-uniform non-equilibrium microwave plasma in
nitrogen by means of probe and optical methods.
- 13:00 Lunch

Session: Plasma Theory and Modeling

- 14:30 GL-9. **A. Bogaerts** (plenary)
15:10 Computer modeling of a microwave discharge used for CO₂ splitting.
- 15:10 TL-20. **E. Benova**
15:35 Wave and plasma characteristics of surface-wave-sustained
discharges at various geometrical configurations and azimuthal wave
modes.

- 15:35 TL-21. **I. Ganachev**
16:00 Minimalistic self-consistent modeling of planar microwave surface wave discharges.
- 16:00 TL-22. **V. Georgieva**
16:25 Influence of the operating conditions on Ar microwave plasma characteristics: Modelling and experiment.
- 16:25 Coffee break
- 16:50 International Scientific Committee Meeting
- 19:00 Conference Banquet

Friday, 11 September

Session: Microwave Plasma Generation

- 9:00 GL-10. **V. Skalyga** (plenary)
9:40 High current pulsed ECR ion sources.
- 9:40 TL-23. **E. Jerby**
10:05 Localized microwave interactions with metallic dusty-plasma columns.
- 10:05 TL-24. **M. Moisan**
10:30 Achieving intense maintenance electric field in a discharge such that periodic parametric instabilities are generated.
- 10:30 Coffee break

Session: Microwave Plasma Applications

- 10:55 GL-11. **F. M. Dias** (plenary)
11:35 N-doping of graphene by a N₂-Ar remote plasma.
- 11:35 TL-25. **L. Liard**
12:00 Microwave sustained plasma microdischarge as power-induced limiter element in microstrip devices.
- 12:00 Closing Ceremony
- 13:00 Lunch

NOTES

MD-9. Scientific Program and Timetable

Sunday 6

Monday 7

Tuesday 8

Wednesday 9

Thursday 10

Friday 11

Breakfast

Breakfast

Breakfast

Breakfast

Breakfast

9:00
Registration

9:00 GL-4
I.A. Kossyl

9:00

9:00 GL-7
E. Tatarova

9:00 GL-10
V. Skalyga

9:40 TL-7
K. Gadoma

10:05 TL-8
A.M. Davydov

9:40 TL-16
I. Montero

10:05 TL-17
G. Chen

9:40 TL-23
E. Jerby

10:05 TL-24
M. Moisan

10:40
Opening Ceremony

10:30
coffee break

Excursion

10:30
coffee break

10:30
coffee break

10:55 GL-1
M. Moisan

10:55 GL-5
L. Zajicková

10:55 GL-8
M.A. Gigosos

10:55 GL-11
F. M. Dias

11:35 TL-1
J.P. Boeuf

11:35 TL-9
J. Palomares

11:35 TL-18
J van der Mullen

11:35 TL-25
L. Lard

12:00 TL-2
B. Gimeno

12:00 TL-10
Yu. A. Lebedev

12:00 TL-19
M.A. Gorgoleva

12:00
Closing Ceremony

12:25

12:25

12:25

13:00 lunch

13:00 lunch

13:00 lunch

13:00 lunch

13:00 lunch

14:30 GL-2
J van der Mullen

14:30
Tribute to
Prof. Zdzion Zakrzewski
(M. Moisan)

14:30 GL-6
M.C. Lopez-Santos

14:30 GL-9
A. Bogaerts

15:10 TL-3
M. Nagatsu

15:10
Tribute to
Prof. Carlos M. Ferreira
(F. M. Dias)

15:10 TL-11
S. Espinho

15:10 TL-20
E. Benova

15:35 TL-4
N. Britun

15:35
coffee break

15:35 TL-12
S. Wang

15:35 TL-21
I. Ganachev

16:00
coffee break

16:00

16:00
coffee break

16:00 TL-22
V. Georgieva

16:25 GL-3
P. Awakowicz

16:25 GL-3
Poster Session

16:25 TL-13
M.A. Lobayev

16:25
coffee break

17:05 TL-5
E. Benova

16:50 TL-14
I.A. Kossyl

16:50 TL-15
J Kim

16:50
ISC meeting

17:30 TL-6
A. Berthelot

17:30

17:40

17:40

Registration

Welcome Party

19:00 Diner

19:00 Diner

19:00 Diner

19:00 Conference Banquet