



PROGRAM

SUNDAY JUNE 24th 2012

San Giovanni in Monte

16.00 – 18.00 Registration of participants

18.00 Welcome Cocktail

MONDAY JUNE 25th 2012
San Giovanni in Monte

08.30 – 09.00 *Opening Ceremony*

09.00 – 12.50 Session 1

Chair: **G. Soucy, M. S. Benilov**

09.00 – 09.50 Plenary talk I

The induction plasma, four decades of research and development work

M. I. Boulos

09.50 – 10.20 Invited talk I

Spots on cathodes of DC glow and arc discharges: self-organization theory and its applications

M. S. Benilov

10.20 – 10.40 *Coffee Break*

10.40 – 11.00 Oral talk 1

Induction plasma synthesis of nanostructured SOFC cells

Y. Shen, F. Gitzhofer

11.00 – 11.20 Oral talk 2

Influence of processing parameters on the properties of silicon nanoparticles synthesized by radio-frequency induction thermal plasma

M. Boselli, V. Colombo, N. Daniëls, C. Delval, E. Ghedini, M. Gherardi, C. Jaeggi, M. Leparoux, S. Put, P. Sanibondi

11.20 – 11.40 Oral talk 3

A large amount synthesis of nanopowder using modulated induction thermal plasmas synchronized with intermittent feeding of raw materials

Y. Tanaka, T. Tsuke, W. Guo, Y. Uesugi, T. Ishijima, S. Watanabe, K. Nakamura

11.40 – 12.00 Oral talk 4

Diagnostics of an inductively coupled thermal plasma reactor used for nanoparticle synthesis and in-flight functionalization

C. Delval, M. Leparoux, C. Jäggi and C. Deschenaux

12.00 – 12.20 Oral talk 5

Spheroidization of the tungsten carbides with CH₄/CO₂ plasma

L. Pershin, A. Mitrasinovic, J. Mostaghimi

12.20 – 12.50 Invited talk II

High temperature ammonia gas injection during synthesis of single-walled carbon nanotubes by induction thermal plasma

G. Soucy

12.50 – 14.00 *Lunch*

- 14.00 – 18.10 **Session 2**
Chair: **A. Bogaerts, M. Hiramatsu**
- 14.00 – 14.50 Plenary talk II
H₂-CH₄-(0-ε)B₂H₆ microwave plasmas for intrinsic and boron-doped diamond single crystal growth
A. Gicquel
- 14.50 – 15.20 Invited talk III
Synthesis of graphene-based films using microwave plasma enhanced chemical vapor deposition
M. Hiramatsu
- 15.20 – 15.40 Oral talk 6
Novel plasma processing for development of high functional coatings
A. Kobayashi
- 15.40 – 16.00 Oral talk 7
Deposition of metal organic catalytic coating by PEMOCVD for the elaboration of a new microfluidic device
B. Da Silva, C. Guyon, S. Ognier, D. D'Elia, P. Da Costa, D. Bonn, M. Tatoulian
- 16.00 – 16.20 *Coffee Break*
- 16.20 – 16.40 Oral talk 8
Chemical interplay in non-thermal air plasma induced oxidation of mixtures of two different organic pollutants
E. Marotta, M. Schiorlin, V. Shapoval, E. Ceriani, E. Gazza, C. Paradisi
- 16.40 – 17.00 Oral talk 9
Incineration of organic liquid waste by underwater thermal plasma
M. Mabrouk, F. Lemont, J.M. Baronnet
- 17.00 – 17.20 Oral talk 10
Decomposition of 1-decanol emulsion by water plasma at atmospheric pressure
S. Choi, T. Watanabe
- 17.20 – 17.40 Oral talk 11
Decontamination of dissolved organic contaminants by atmospheric dielectric barrier discharge plasma above a flowing water layer
M. Mueller, H. Schikora, A. Montras, J. Alvarez, M. H. Valseo, J. M. Bayona
- 17.40 – 18.10 Invited talk IV
Investigation of plasma-bacteria cell wall interaction by atomic-scale simulations
A. Bogaerts

TUESDAY JUNE 26th 2012
San Giovanni in Monte

08.30 – 12.40 Session 3

Chair: **E. R. Fisher, F. Arefi-Khonsari**

08.30 – 09.20 Plenary talk III

Cold plasma nano-technology
R. d'Agostino

09.20 – 09.50 Invited talk V

Catalyst free plasma assisted copolymerization of poly (ϵ -caprolactone)-poly (ethylene glycol) for biomedical applications
F. Arefi-Khonsari

09.50 – 10.10 Oral talk 12

3D integrated micro solution plasmas and their application to nano materials processing
T. Shirafuji, N. Saito, O. Takai

10.10 – 10.30 *Coffee Break*

10.30 – 10.50 Oral talk 13

Plasma meets chemistry: combined methods for tailored interface design in metal-polymer composites by selective chemical reactions on plasma modified surfaces
R. Mix, S. Hielscher, U. Beck, J. F. Friedrich

10.50 – 11.10 Oral talk 14

Simulation of small-medium and large area PECVD systems for silicon thin films solar cells
E. Amanatides, S. Sfikas, D. Mataras

11.10 – 11.30 Oral talk 15

Structure and electrochemical properties of track-etched membranes with a plasma polymer top layer
L.I. Kravets, S.N. Dmitriev, V. Satulu, B. Mitu, G. Dinescu

11.30 – 11.50 Oral talk 16

Aerosol-assisted atmospheric plasma deposition of hybrid organic-inorganic nanocomposite coatings
F. Fracassi, F. Fanelli, A. M. Mastrangelo

11.50 – 12.10 Oral talk 17

Plasma spray-PVD: plasma characterization and impact on coating properties
G. Mauer, R. Vaßen

12.10 – 12.40 Invited talk VI

Gas-phase ion and neutral energetics and their contributions to plasma-surface interactions
E. R Fisher

12.40 – 14.00 *Lunch*

- 14.00 – 17.00 **Session 4**
Chair: **J. Mostaghimi, J. Schein**
- 14.00 – 14.50 Plenary talk VI
Innovation of plasma spray technology
T. Yoshida
- 14.50 – 15.20 Invited talk VII
Control of wire arc spray process using artificial neural networks in connection with a particle flux imaging system
J. Schein
- 15.20 – 15.40 Oral talk 18
Experimental observation of liquid feedstock behaviour in suspension and solution plasma spraying
A. Joulia, C. Chazelas, M. Vardelle, S. Goutier, P. Fauchais
- 15.40 – 16.00 Oral talk 19
Plasma sprayed coatings generation: experimental study of splat formation
G. Bidron, S. Goutier, P. Denoirjean, M. Vardelle, P. Fauchais
- 16.00 – 16.20 *Coffee Break*
- 16.20 – 16.40 Oral talk 20
Suspension plasma spraying: from liquid/gas interaction to coating building
E. Meillot, D. Damiani, R. Vert, C. Caruyer
- 16.40 – 17.00 Oral talk 21
Fundamental investigation of the solution precursor plasma spray (SPPS) process
G. Bertolissi, C. Chazelas, G.Bolelli, M. Vardelle, L. Lusvarghi, A. Vardelle
- 17.00 – 18.15 **Poster Session 1**
- 17.00 – 19.00 **EU-FP7 SIMBA project workshop**
Industrial needs for nanoparticles and the european Horizon 2020

WEDNESDAY JUNE 27th 2012
San Giovanni in Monte

- 08.30 – 12.40 **Session 5**
Chair: **P. Bruggeman, J. M. Pouvesle**
- 08.30 – 09.20 Plenary talk V
Plasma medicine: fundamentals and applications
A. Fridman
- 09.20 – 09.50 Invited talk VIII
Antitumoral effect of non thermal plasmas produced by a plasma gun: plasma treatment alone or in combination with chemotherapy
J. M. Pouvesle
- 09.50 – 10.10 Oral talk 22
Cell repulsive/cell adhesive behavior on films deposited by an atmospheric pressure DBD fed with TEGDME aerosol
G. Da Ponte, E. Sardella, F. Fanelli, R. Gristina, P. Favia
- 10.10 – 10.30 *Coffee Break*
- 10.30 – 10.50 Oral talk 23
Hydrogen peroxide production using ambient pressure microplasmas
C. A. Vasko, T. H. M.v.d. Ven, P. Bruggeman
- 10.50 – 11.10 Oral talk 24
Influence of ultrasonic irradiation on ozone generation in a dielectric barrier discharge
J. Drews, Y. Kusano, F. Leipold, A. Bardenshtein, N. Krebs
- 11.10 – 11.30 Oral talk 25
Functionalization of CNTs in the afterglow of a cold atmospheric pressure plasma jet: comparison of aerosol and dry particle injection
U. Lommatzsch, D. Kolacyak, J. Ihde
- 11.30 – 11.50 Oral talk 26
The anti-fouling properties of plasma polymerized mercapto thin films on dental implants
H. Goktas, D. Cokeliler, A. Ozkan, P. Imirzalioglu
- 11.50 – 12.10 Oral talk 27
Plasma assisted combustion of propane
L. M. Martini, G. Dilecce, M. Scotoni, P. Tosi
- 12.10 – 12.30 Oral talk 28
Multi-imaging techniques for the characterization of a nanopulsed DBD system for biomedical applications
M. Boselli, V. Colombo, E. Ghedini, M. Gherardi, R. Laurita, A. Liguori, F. Rotundo, P. Sanibondi, A. Stancampiano
- 12.30 – 13.00 Invited talk IX
Cold atmospheric pressure RF plasma jets: the diagnostic challenge
P. Bruggeman
- 13.00 – 14.30 *Lunch*
- 14.30 – 20.00 **RAVENNA TOUR**

THURSDAY JUNE 28th 2012
San Giovanni in Monte

- 08.30 – 12.40 **Session 6**
Chair: **A. Surov, T. Freeman**
- 08.30 – 09.20 Plenary talk VI
Plasmas and polymers: a personal perspective
M. R. Wertheimer
- 09.20 – 09.50 Invited talk X
Microsecond-pulsed DBD plasma induces chondrogenic differentiation in mesenchymal cells
T. Freeman
- 09.50 – 10.10 Oral talk 29
Liquid mediated effects on cells, bacteria, and model membranes by plasma-born reactive species
M. U. Hammer, H. Tresp, M. Hänsch, J. Winter, Th. von Woedtke, K.D. Weltmann, S. Reuter
- 10.10 – 10.30 *Coffee Break*
- 10.30 – 10.50 Oral talk 30
Characterisation of an Ar-H₂-O₂ ICP by OES: measurement of the atomic concentrations of H and O
J. Altenberend, G. Chichignoud, Y. Delannoy
- 10.50 – 11.10 Oral talk 31
Large-scale synthesis of high quality and high purity carbon nanotubes by liquid precursor plasma spraying (LPPS)
K. S. Kim, C. Kingston, D. Ruth, M. Barnes, B. Simard
- 11.10 – 11.30 Oral talk 32
The investigation of movement dynamics of an AC electric arc attachment along the working surface of a hollow cylindrical electrode under the action of gas-dynamic and electromagnetic forces
A.V. Surov, S. D. Popov, E.O. Serba, G. V. Nakonechny, V. A. Spodobin, R. V. Ovchinnikov, I. I. Kumkova
- 11.30 – 11.50 Oral talk 33
Electrode temperature measurements of multi-phase AC arc by high-speed video camera
M. Tanaka, T. Ikeba, Y. Liu, T. Matsuura, and T. Watanabe
- 11.50 – 12.10 Oral talk 34
Experimental observations of arc-anode attachment in steam-argon-air environment
O. M. Chumak, A. Mašláni, M. Hrabovský
- 12.10 – 12.40 Invited talk XI
The investigation of parameters of an AC electric arc, burning in a mixture of steam and air in the three-phase high-voltage plasma torch
P. G. Rutberg
- 12.40 – 14.00 *Lunch*

- 14.00 – 17.00 **Session 7**
Chair: **J. Heberlein, T. Kavka**
- 14.00 – 14.50 Plenary talk VII
Plasma predictions: past, present and future
J. J. Lowke
- 14.50 – 15.20 Invited talk XII
Experimental study of anode processes in plasma arc cutting
T. Kavka
- 15.20 – 15.40 Oral talk 35
Self-consistent computational modelling of arc welding, including the influence of metal vapour
A. B. Murphy
- 15.40 – 16.00 Oral talk 36
Gas mixtures in plasma tungsten arc welding
M. Schnick, U. Fuessel, A. Spille-Kohoff, A. B. Murphy
- 16.00 – 16.20 *Coffee Break*
- 16.20 – 16.40 Oral talk 37
Surface-controlled droplet oscillations in gas metal arc welding
B. Bachmann, E. Siewert, J. Schein
- 16.40 – 17.00 Oral talk 38
Plasma arc cutting: research status
T. Renault
- 17.00 – 18.15 **Poster Session 2**

FRIDAY JUNE 29th 2012
San Giovanni in Monte

- 08.30 – 12.40 **Session 8**
Chair: **A. Gleizes, M. Shigeta**
- 08.30 – 09.20 Plenary talk VIII
Model based design for non-equilibrium plasmas: reality, expectation or fantasy
M. J. Kushner
- 09.20 – 09.50 Invited talk XIII
Time-dependent 3-D simulation of a DC-RF hybrid thermal plasma
M. Shigeta
- 09.50 – 10.10 Oral talk 39
RF – Plasmatorches – History Constructions Application
S. Dresvin, J. Amouroux
- 10.10 – 10.30 *Coffee Break*
- 10.30 – 10.50 Oral talk 40
Treatment of energy equations in OpenFOAM based two temperature oxygen plasma model
D. Osterhouse, J. V. R. Heberlein
- 10.50 – 11.10 Oral talk 41
Calculation of the net emission coefficient of air thermal plasma at very high pressure
T. Billoux, Y. Cressault, Ph. Teulet, A. Gleizes
- 11.10 – 11.30 Oral talk 42
Detailed numerical simulation of single-walled carbon nanotube synthesis in a radio-frequency induction thermal plasma system
S. Arabzadeh Esfarjani, S. B. Dworkin, J. Mostaghimi, K S. Kim, C. T. Kingston, B. Simard, G. Soucy
- 11.30 – 11.50 Oral talk 43
Exploring chemical and thermal non-equilibrium in nitrogen arcs
S. Ghorui, A.K. Das
- 11.50 – 12.10 Oral talk 44
Hydrogen properties of excited atoms and molecules under RF plasma conditions
J. Amouroux, S. Dresvin
- 12.10 – 12.40 Invited talk XIV
Transport coefficients and radiation properties of air-Al thermal plasmas
A. Gleizes
- 12.40 – 14.00 *Launch*

14.00 – 16.30 **Session 9**

Chair: **E. Ghedini, S. Longo**

14.00 – 14.30 Invited talk XV

Models of low pressure hydrogen plasma sources for material science and energy generation

S. Longo

14.30 – 14.50 Oral talk 45

Time-resolved characterization of a pulsed discharge in a stationary bubble

P. Vanraes, A. Nikiforov, M. Lessiak, C. Leys

14.50 – 15.10 Oral talk 46

Fundamental aspects and applications of laser induced plasmas in liquids

A. De Giacomo, M. Dell'Aglio, O. De Pascale, R. Gaudioso, M. Lawrence-Snyder, S. M. Angel

15.10 – 15.30 Oral talk 47

Computer modeling of metal-ceramic plasma coatings formation

O.P. Solonenko, V.A. Blednov, V.I. Iordan

15.30 – 15.50 Oral talk 48

Increased momentum delivered to a flow due to ion-neutral collisions

A. Fruchtman, G. Makrinich

15.50 – 16.10 Oral talk 49

Optimized HIPIMS discharge geometry for wire treatment

O. V. Vozniy, D. Duday, A. Lejars, T. Wirtz

16.10 – 16.30 Oral talk 50

Laser induced breakdown spectroscopy: a new technique for the analysis of molten silicon

R. Benrabbah, S. Darwiche, D. Morvan

16.30

CLOSING CERIMONY

POSTER SESSIONS

Poster Session 1

(These posters are shown from Monday 25 June at 1.00 pm to Wednesday 27 June at 1.00 pm)

PS1.1

Thermal plasma diagnostics by moiré deflectometry

G. de Izarra, C. de Izarra

PS1.2

Up-scaling metal nanoparticle production by means of arc discharge

M. Stein, M. Rouenhoff, D. Kiesler, F. E. Kruis

PS1.3

On the measurement of electron number density in laser-induced plasmas

S. Legnaioli, G. Lorenzetti, V. Palleschi, L. Pardini, A. De Giacomo

PS1.4

Influence of the process frequency on surface modification of polypropylene by air dielectric barrier discharge (DBD)

K. G. Kostov, T. M. C. Nishime, L. R. O. Hein, A. Toth

PS1.5

Effects of atmospheric pressure plasma treatment on metal surfaces

V. Prysiaznyi, M. Cernak

PS1.6

Vacuum laser produced plasma for analytical application in fusion technologies

S. Almagiva, L. Caneve, F. Colao, R. Fantoni, G. Maddaluno

PS1.7

Observation of the Tailoring of the EEDF with Variation of the Molar Fraction of O₂ in Argon Plasma Using OES

S. H. Park, H. J. Rho, J. M. Choe, G. H. Kim

PS1.8

Investigation of nanosecond discharge in pressurized air sustained by high-voltage pulses with different rise-times

S. Yatom, D. Levko, J. Z. Gleizer, V. Vekselman, Ya. E. Krasik

PS1.9

Measurement of electron energy distribution function using optical emission spectroscopy

H.J. Roh, S.H. Park, N.K. Kim, G.H. Kim

PS1.10

Generation of nano roughness on fiber materials by atmospheric plasma treatment

I. Kulyk, M. Scapinello, M. Stefan

PS1.11

Spectroscopic investigation of multiple Boltzmann distributions of various atomic and ionic states in an expanding H₂O-Ar dc arc jet

V. Sember, A. Mašláni

PS1.12

Long-term stability of visible light responsible TiO₂ treated with H₂-plasma

S. Kogoshi, S. Araki, S. Yazawa, K. Watarai, H. Araya, N. Katayama, Y. Kudo

PS1.13

Using atmospheric plasma spraying and suspension plasma spraying processes for optical application coating developments

J. Marthe, E. Meillot, F. Enguehard, J. Jeandel

PS1.14

Microstructure and tribological properties of APS sprayed nanostructured and conventional Al₂O₃/TiO₂ coatings

W. Zórawski, A. Góral, O. Bokuvka

PS1.15

Molybdenum arc –sprayed coatings: model of splat solidification and micro-structure development

Y. Mebdoua, F. Malki, A. Vardelle, D. Gobin, P. Fauchais

PS1.16

Stability improvement of the icephobic PTFE coatings prepared by RF plasma sputtering

R. Jafari, M. Farzaneh

PS1.17

Study of RF-excited diethylene glycol dimethyl ether plasmas by mass spectrometry

M. A. Algatti, R. P. Mota, P. W. P. Moreira Júnior, R. Y. Honda, M. E. Kayama, K. G. Kostov

PS1.18

Modification of the surface properties of tetrafluoroethylene-co-perfluoropropylvinylether copolymer by DC discharge

A. B. Gilman, M. Yu. Yablokov, M. S. Piskarev, N. M. Surin, N. A. Shmakova, A. A. Kuznetsov

PS1.19

Water-cooled gliding arc source used for adhesion improvement of glass-fibre-reinforced polyester

Y. Kusano, B. F. Sørensen, T. L. Andersen, F. Leipold, M. Salewski, Z-W Sun, J. Zhu, Z-S Li, M. Alden

PS1.20

Polymer particle coating process using gliding arc discharge coupled with spouted bed

H. Lee, S. Kodama, H. Sekiguchi

PS1.21

Protective SiO:CH films deposited by PECVD at 13.56 or 27.12MHz

M.G. Muresan, L. Zajíčková, V. Pekar, V. Buršíková, A. Charvátová Campbell, M. Valtr, V. Perina

PS1.22

Hexamethyldisilazane plasma thin film treated by atmospheric dielectric barrier discharge

M. E. Kayama, A. L. Santos, F. V. P. Kodaira, K. G. Kostov, M. A. Algatti, R. Y. Honda, R. P. Mota, R. A. B. Silva, M. B. Siqueira, K. A. Campos

PS1.23

Low pressure plasma processes used to control the osteoblast cells colonization inside 3D scaffolds

F. Intranuovo, M. Domingos, A. Gloria, R. Gristina, P. J. Bartolo, P. Favia

PS1.24

Plasma deposited materials for micro fuel cells technology

F. Fracassi, A. Milella, R. d'Agostino

PS1.25

Control the hydrophobicity of nanoparticle surfaces by depositing amorphous hydrogenated carbon and fluorocarbon polymer films obtained by a low-pressure plasma

A. Shahravan, T. Matsoukas

PS1.26

Surface modification of polyester fabric by non-thermal plasma treatment

R. C. Lima da Silva, C. Alves Jr, J. H. Nascimento, J. Neves, V. Teixeira

PS1.27

Afterglow microwave plasma surface treatment of EPDM rubber for adhesion improvement

J.V. Maia, F.P. Pereira, M. Massi, S.A.C. Mello, J.C.N. Dutra, H.S. Maciel, A.S. da Silva Sobrinho

PS1.28

Efficiency of inductively torch plasma operating at atmospheric pressure on destruction of chlorinated liquid wastes- A path to the treatment of radioactive organic halogen liquid wastes.

G. Kamgang-Youbi, K. Poizot, F. Lemont

PS1.29

Diagnostic analysis of free burning and constricted arcs and the interaction with metallic materials

E. Siewert, J. Schein

PS1.30

Anode jet characteristics of argon-hydrogen arc under atmospheric pressure

M. Tanaka, T. Shimizu, F. Liang, T. Watanabe

PS1.31

Erosion rates of contacts materials in low voltage switching devices

K. Hernández, M. Masquère, M. Razafinimanana, J-J. Gonzalez

PS1.32

Effect of nucleation temperature on metal boride nanoparticle synthesis in RF thermal plasma processing

Y. Cheng, S. Choi, T. Watanabe

PS1.33

Synthesis of single-walled carbon nanotubes with different catalysts using induction thermal plasma technology: experimental and thermodynamical studies

Y. Alinejad, A. Shahverdi, G. Soucy

PS1.34

Single wall carbon nanotubes synthesis by electric arc: correlation between plasma characteristics and products morphology for various chamber volumes

V. Ramarozatovo, M. Razafinimanana, M. Monthieux, F. Valensi, M. Masquère

PS1.35

Heterogeneous C-N carbon nanotube synthesis by electric arc

V. Ramarozatovo, M. Razafinimanana, M. Monthieux, F. Valensi, T. P. Roge, V. Serin, R. Arenal, S. Joulié, M. Masquère

PS1.36

Deposition of cobalt and alumina nanoparticles in plasma-chemical reactor

A. G. Astashov, A. V. Samokhin N. V. Alekseev, M. A. Sinaiskiy, N. F. Korovkina

PS1.37

Polymerization of 1-Naphthylamine by DC discharge

Alla B. Gilman, Mikhail Yu. Yablokov, Maria Augustyniak-Jablokov, Krzysztof Tadyszak, Alexander A. Kuznetsov

PS1.38

Synthesis of carbon structures from Ar-C₂H₂ and Ar-H₂-C₂H₂ plasma

L. Marcinauskas, A. Grigonis, V. Valincius

PS1.39

CH₄-CO₂ dry reforming in a plug flow DBD reactor

L M Martini, G Dilecce, G. Guella and P Tosi

PS1.40

In-flight particle measurement of glass raw materials in hybrid heating of twelve-phase AC arc with oxygen burner

Y. Liu, M. Tanaka, T. Ikeba, S. Choi, T. Watanabe

PS1.41

Production of TiN thin films in cathodic cage discharge

N. F. Daudt, J. C. P. Barbosa; M. B. Pereira, M. Massi, C. Alves

PS1.42

Plasma synthesis and sintering of SiC powder

Z. Károly, Sz. Klébert, P. Fazekas, J. Szépvölgyi

PS1.43

Spark plasma sintering of Si₃N₄/CNTs composites

C. Balázs, O. Tapasztó, Z. Károly, P. Kun, K. Balázs, J. Szépvölgyi

PS1.44

Metal/plasma polymer nanocomposite coatings for sensor applications

M. Drabik, E. Körner, M. Amberg, D. Hegemann

PS1.45

Deposition of zinc oxide thin films by reactive magnetron sputtering for piezoresistive sensors

G. W. A. Cardoso, M. Massi, M. A. Fraga, C. Alves, A. S. da Silva Sobrinho

PS1.46

Thermal plasma at low and atmospheric pressure for basic research on the oxidation mechanism of C/C-SiC composite

G. Petraconi, R. J. Silva, L. I. Charakhovski, C. Otani, H. S. Maciel, A. R. Marquesi

PS1.47

Study of fault arc established between a cable and a composite plate in aeronautics conditions

H. El Bayfa, F. Valensi, M. Masquere, A. Gleizes

PS1.48

Biomass gasification by electric arc on melted glass

I. Carlesi, M. Mabrouk, C. Lafon, F. Lemont, J.M. Baronnet

PS1.49

Production of hydrogen rich syngas by steam plasma gasification of biomass

M. Hrabovsky, M. Hlina, M. Konrad, V. Kopecky, O. Chumak, T. Kavka, A. Maslani

PS1.50

Long life time electrodes for alternating current plasma torches, diagnostics of their condition

V. E. Kuznetsov, V. N. Shiryaev, A. A. Safronov, R. V. Ovchinnikov, O. B. Vasilieva, J. D. Dudnik

PS1.51

Hydrogen production using the steam-plasma gasification process of the used car tires

V. A. Kuznetsov, V. E. Popov, A. S. Lerner, I. I. Kumkova

PS1.52

Gas decomposition in a plasma-catalyst two-stage reactor

J.-O. Lee, W. S. Kang, Y.-H. Song, D. H. Lee, K. T. Kim, M. Hur, Y.-K. Park, J.-S. Chang, W. C. Choi

PS1.53

Adsorption and non thermal plasma regeneration of acetone on TiO₂: influence of air humidity

S. Loganathan, F. Thévenet, P. Gravejat, A. Rousseau

PS1.54

Removal of mercury from diatomite sorbent powder by oxygen low-pressure hollow cathode discharge

G. Petraconi, C. Otani, A. C. Cruz, A. R. Coutinho

PS1.55

Plasma gasification of organic containing substances as a promising way of development of alternative renewable power engineering

Ph.G. Rutberg, A.N. Bratsev, V.A. Kuznetsov, I.I. Kumkova, V.E. Popov

PS1.56

Decomposition of chlorobenzene in RF thermal plasma

P. Fazekas, E. Bódis, A. Keszler, Zs. Czégény, J. Szépvölgyi

PS1.57

The sorption kinetics of plasma polymerized polyaniline thin films to volatile organic compounds

H. Goktas, Z. Ozbek, Z. Demircioglu, R. Capan

PS1.58

Degradation of m-cresol in aqueous solution by dielectric barrier discharge

B. Jaramillo-Sierra, A. Mercado-Cabrera, R. Lopez-Callejas, R. Peña-Eguiluz, S. Barocio, R. Valencia-Alvarado, B. Rodríguez-Méndez, A. Muñoz-Castro, A. de la Piedad-Beneitez

PS1.59

Ionization of CO₂ and mixtures of CO₂/H₂S using plasma of radio frequency

M. G. Neira-Velázquez, E. Hernández-Hernández, Y. Perera-Mercado, A. Y. Ruíz-Martínez, C. G. Hernández-Ramos

PS1.60

Single step plasma nanotexturing of silicon: antireflective and photovoltaic behaviour

F. Palumbo, R. Di Mundo, M. Ambrico, P. Ambrico, R. d'Agostino

PS1.61

Syngas production by plasma treatments of alcohols, bio oils and wood

K. Arabi, O. Aubry, A. Khacef, J.-M. Cormier

PS1.62

Deposition of silicon thin films at high deposition rates with hollow cathode source

P. Dimitrakellis, E. Amanatides, D. Mataras, D.E Rapakoulis

PS1.63

Recalcitrance of sugarcane bagasse pretreated plasma before lignocellulose hydrolysis

L. V. Santos, K. K. Sakane, P.M. Santos, R. S. Pessoa, P. M. S. C. M. Leite, T. M. B. Campos, G. J. M. Rocha, J. G. C. Pradella, P. Gilberto, H. S. Maciel

PS1.64

Study on surface treatment of poly-dimethylsiloxane using discharge with bare electrodes and dielectric barrier discharge

M. K. Han, K. Y. Lee, C. S. Ha, T. H. Kim, D. H. Kim, H.-J. Lee, H. J. Lee

PS1.65

Comparison of a planar and a cylindrical magnetron sputter with a two-dimensional particle-in-cell simulation

M. Y. Hur, H. W. Bae, B. S. Yang, J. Y. Lee, H.-J. Lee, H. J. Lee

PS1.66

Analysis of standing wave effects in large area high-frequency capacitive coupled plasmas using FDTD method

J. S. Kim, S. W. Hwang, I. C. Song, H.-J. Lee, H. J. Lee

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Surface functionalization of textiles by sputter coating

J. Koprowska, B. Wisniewski, A. Szwugier

Poster Session 2

(These posters are available from Thursday 28 June at 8.30 am to Friday 29 June at 5.00 pm)

PS2.1

Net emission coefficient of CO₂-Cu thermal plasmas: role of copper and of the molecules

T. Billoux, V.F. Boretskij, Y. Cressault, A.N. Veklich, A. Gleizes

PS2.2

Calculation of the pressure rise due to sparking around a bolt fastener when an aircraft is struck by lightning

T. Billoux, Ph. Teulet, Y. Cressault, A. Gleizes, M. Masquère, I. Revel, B. Lepetit, G. Peres

PS2.3

Simulation of high-power thermal arcs in air: importance of the plasma overpressure

L. Chemartin, B. Peyrou, P. Laland, B. G. Chéron

PS2.4

Calculation of the photo-ionisation cross sections and radiative recombination rate coefficients for N₂, N₂⁺, CO and CO⁺ molecules

R. Dhouioui, Ph. Teulet, Y. Cressault, H. Ghalila, N.E. Jaïdane

PS2.5

Mean absorption coefficients for SF₆ + PTFE arc plasmas

N. Bogatyreva, M. Bartlova, V. Aubrecht

PS2.6

Numerical analysis on synthesis of aluminium nitride in thermal plasma processing

T-H Kim, D-W Park

PS2.7

The influence of turbulence and radiative transfer method on characteristics of a hybrid-stabilized argon-water electric arc

J. Jeništa, H. Takana, H. Nishiyama, M. Bartlová, V. Aubrecht, P. Krenek

PS2.8

Stability of near-anode layers of high-pressure arc discharges

M. S. Benilov, U. Hechtfisher

PS2.9

Sheath vs. arc-column voltages in high-pressure arc discharges

M. S. Benilov, L. G. Benilova, H-P Li, G-Q Wu

PS2.10

Effect of Joule heat generation in cathodes of high-pressure arc discharges

M. S. Benilov, M. D. Cunha

PS2.11

Stabilization of arc fluctuation in DC plasma torch

Y-G Jin, G-H Kim

PS2.12

The electrical discharge characteristics of the 3.5 KJ electrothermal plasma gun experiment

F. Diab, Gamal M. El-Aragi, Gamal El-Kashef, A. H. Saady

PS2.13

Tomographic investigations of instabilities in thermal plasma jet

J. Hlína, J. Gruber, J. Šonšký

PS2.14

The investigation of an electric arc in the long cylindrical channel of the powerful high-voltage AC plasma torch

Ph. G. Rutberg, S. D. Popov, A. V. Surov, E. O. Serba, Gh. V. Nakonechny, V. A. Spodobin, A. V. Pavlov

PS2.15

A novel 2.45 GHz/200 W microwave plasma jet for high temperature applications above 3600 K

C. Schopp, F. Nachtrodt, H. Heuermann, U. W. Scherer, D. Mostacci, T. Finger, W. Tietsch

PS2.16

The design and properties of arc heaters for gas heating

J. Šenk, I. Jakubová, O. M. Chumak

PS2.17

E-H mode transition of a high power inductively coupled plasma torch at atmospheric pressure with a metallic cooling tube

J. Altenberend, G. Chichignoud, Y. Delannoy

PS2.18

Radiation of transient high-current arcs: energy measurement in the optical range

J.M. Bauchire, D. Hong, H. Rabat, G. Riquel

PS2.19

Contribution to the study of the glow to arc transition in 100 mbar argon

R. Landfried, Ph. Dessante, M. Kirkpatrick, T. Leblanc, E. Odic, Ph. Teste

PS2.20

Simulation of charged and excited particle transport in the low-current discharge in argon-mercury mixture

G.G. Bondarenko, M.R. Fisher, V.I. Kristya

PS2.21

Micro-scale simulations of pure CO₂ splitting in dielectric barrier discharges

R. Aerts, A. Bogaerts

PS2.22

Extended fluid model of a dc glow discharge with nonlocal ionization source term

I. Rafatov, E. A. Bogdanov, A. A. Kudryavtsev

PS2.23

Study of glow discharge positive column with dust particles in neon

D. N. Polyakov, V. V. Shumova, L. M. Vasilyak

PS2.24

Dynamic trap is a tool to catch charge dust particles at atmospheric pressure and create the Coulomb crystal

L.V. Deputatova, V.I. Molotkov, V.N. Naumkin, V.Ya. Pecherkin, L.M. Vasilyak, V.I. Vladimirov, V.E. Fortov

PS2.25

Modelling self-organization in dc glow microdischarges with the use of COMSOL Multiphysics

P. G. C. Almeida, M. S. Benilov, M. J. Faria

PS2.26

Use of non-local plasma of helium microdischarge for gas impurities detection

A. A. Kudryavtsev, P. M. Pramatarov, M. S. Stefanova, N. A. Khromov, R. A. Peeva

PS2.27

Collisional plasma acceleration in a radial plasma source

G. Makrinich, A. Fruchtmann

PS2.28

Spectroscopic study of atmospheric pressure microwave plasma 915 MHz at high argon flow rate

R. Miotk, B. Hrycak, M. Jasinski, J. Mizeraczyk

PS2.29

Numerical studying an influence of concentration of ultra-fine TiC inclusions on pulsed electron-beam treatment of plasma cermet coatings

O.P. Solonenko, V.E. Ovcharenko, A.A. Golovin, Yu.F. Ivanov

PS2.30

Numerical modelling of arc plasma torch: Inclusion of electrodes in the computational domain

M. Alaya, C. Chazelas, G. Mariaux, A. Vardelle

PS2.31

Modeling of thermal conductivity of porous thick thermal barrier coatings

A.Kocaman, Ö. Keles

PS2.32

Comparison of the light output efficiency of a XeCl dielectric barrier discharge excilamp between a pulsed voltage and pulsed current waveforms by using one dimensional diff-diffusion model

Le Thanh Doanh, Sounil Bhosle, Georges Zissis

PS2.33

Inactivation of different types of fungi by low-temperature plasma

H.Ghomi, S. Zahedi Azad, N. Navab Safa

PS2.34

Reactive species in liquids after treatment with a shielded atmospheric pressure plasma jet

H. Tresp, M. U. Hammer, J. Winter, A. Schmidt-Bleker, M. Dünbnier, M. A. Ch. Hänsch, K. Wende, K. Masur, Th. von Woedtke, K.-D. Weltmann, S. Reuter

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BCD plasma inactivation of *P. aeruginosa* and *E. coli*

H. Ghomi, S. Mohades, H. Dabiri, N. Navab Safa

PS2.36

Improvement of biomedical properties of track-etched membranes for their application in the surgery of refractory glaucoma

L.I. Kravets, T.V. Ryazantseva, V.M. Elinson

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Effect of air DBDs plasma process on eukaryotic cell line behavior

D. Pignatelli, R. Gristina, G. Dilecce, B.R. Pistillo, R. d'Agostino, S. De Benedictis, P. Favia

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RF-plasma deposition of PEO-like coatings on PCL scaffolds: an approach to guide cell colonization

R. A. Salama, R. Gristina, A. N. Habib, G. H. Waly, R. d'Agostino, P. Favia, E. Sardella

PS2.40

Study of space-resolving emission spectroscopy of atmospheric plasma jet in water

Y. Takemura, N. Yamaguchi

PS2.41

Shock waves in water at low energy pulsed electric discharges

Ph.G. Rutberg, V.A. Kolikov, M.E. Pinchuk, A.G. Leks, R.V. Dolinovskaya, V.N. Snetov, A.Yu. Stogov

PS2.42

Dynamics of bubble generated by low energy pulsed electric discharge in water

Ph.G. Rutberg, V.A. Kolikov, M.E. Pinchuk, A.G. Leks, R.V. Dolinovskaya, V.N. Snetov, A.Yu. Stogov

PS2.43

Three-dimensional carbon dc arc discharges models for nanostructure production

E. Tam, A. B. Murphy

PS2.44

Direct synthesis of sulfur nanocrystals obtained by cold plasma of hydrogen sulfide

E. Hernández-Hernández, M.G. Neira-Velázquez, Y. Perera-Argenis, C. A. Ávila Orta, A. R. Y. Ruiz-Martínez, C. G. Hernández-Ramos

PS2.45

Arc Motion in an alternating magnetic field imposed obliquely

R. Akiho, K. Takeda, M. Sugimoto

PS2.46

Amplitude variation of oscillating arc with the frequency of an alternating magnetic field

H.Okubo, K.Takeda, M.Sugimoto

PS2.47

Gas ratio effects on etch rate and profile uniformity in an Ar/CF₄ capacitively coupled plasma

S. Zhao, A. Bogaerts

PS2.48

Spacecraft-plasma interactions in Saturn's magnetosphere

V. V. Yaroshenko, W. J. Miloch, H. M. Thomas, G. E. Morfill

PS2.49

Thrust performance of dielectric barrier discharge plasma actuator

Y. Shin

PS2.50

Molecular dynamics simulations of the impact of plasma species on nickel catalyst surfaces for plasma catalysis applications

W. Somers, E.C. Neyts, A. Bogaerts

PS2.51

Microwave plasma and microwave plasmatron for industrial using

A.M. Danylenko, N.V. Danylenko, B. Ibrahimoglu, I. Ibrahimoglu

PS2.52

Optimized NH₃ decomposition by operating mode control of rotating arc

K.-T. Kim, H. S. Kang, D. H. Lee, Y-H Song, I. M. Kim

PS2.53

Non thermal plasma assisted hydrocarbon conversion into hydrogen and carbon suboxide without CO₂ emission

F. Odeyemi, M. Pekker, A. Rabinovich, A. Fridman

PS2.54

Bismuth oxide, gadolinium oxide and molybdenum oxide multilayer thin films deposition by reactive magnetron sputtering

A. Iljinis, V. Adomonis

PS2.55

Pyrogas conversion into syngas with non equilibrium plasma

F. Odeyemi, A. Rabinovich, A. Fridman

PS2.56

Spectroscopic characterization of plasma generated by waveguide-supplied coaxial-line-based nozzleless microwave source

B. Hrycak, R. Miotk, M. Jasinski, J. Mizeraczyk

PS2.57

Aluminum surface analysis after exposed to dense electrothermal lancer plasma

F. Diab, Gamal M. El-Aragi, Gamal El-Kashef, A. H. Saady

PS2.58

Comparing the effects of different atmospheric pressure non-equilibrium plasma sources on PLA oxygen permeability

M. Boselli, V. Colombo, M. G. De Angelis, E. Ghedini, M. Gherardi, R. Laurita, M. Minelli, P. Sanibondi, A. Stancampiano

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Fluid-dynamic characterization of atmospheric pressure non-equilibrium plasma sources for biomedical applications

M. Boselli, V. Colombo, E. Ghedini, M. Gherardi, R. Laurita, A. Liguori, P. Sanibondi, A. Stancampiano

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Transition from non-uniform to uniform discharge in nanosecond pulsed FE-DBD and linear corona non-equilibrium plasmas

M. Boselli, V. Colombo, E. Ghedini, M. Gherardi, R. Laurita, A. Liguori, P. Sanibondi, A. Stancampiano

PS2.61

Effluent composition, thermal output and fluid-dynamics of a dual gas plasma needle device for biomedical applications: Part I

M. Boselli, V. Colombo, E. Ghedini, M. Gherardi, R. Laurita, A. Liguori, P. Sanibondi, A. Stancampiano

PS2.62

Effluent composition, thermal output and fluid-dynamics of a dual gas plasma needle device for biomedical applications: Part II

M. Boselli, V. Colombo, E. Ghedini, M. Gherardi, R. Laurita, A. Liguori, P. Sanibondi, A. Stancampiano

PS2.63

Diagnostics and modelling for the optimization of precursor evaporation in silicon nano-particle synthesis by radiofrequency induction thermal plasma

V. Colombo, C. Delval, E. Ghedini, M. Gherardi, M. Leparoux, P. Sanibondi

PS2.64

Microstructural analysis of high current hafnium cathodes during first plasma arc cutting cycles

F. Rotundo, C. Martini, C. Chiavari, L. Ceschini, A. Concetti, E. Ghedini, V. Colombo, S. Dallavalle

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RF thermal plasma treatment of dredged sediments: vitrification and silicon extraction

V. Colombo, E. Ghedini, M. Gherardi, V. Mani, P. Sanibondi, B. Vazquez

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3-D time-dependent modeling of an AC electric arc furnace for steelmaking

V. Colombo, P. Frittella, E. Ghedini, E. Malfa, P. Sanibondi, G. Solari