



E.O. PATON ELECTRIC WELDING INSTITUTE

The Third Central European Symposium on Plasma Chemistry

August 23 – 27, 2009

PROGRAMME

**National Taras Shevchenko University of Kyiv
Kyiv, UKRAINE**

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III Central European Symposium on Plasma Chemistry

August 23 – 27, 2009

Taras Shevchenko National University of Kyiv, Radio Physics Faculty
UKRAINE

PROGRAMME

August 23, 2009 (Sunday)

12.00 - 17.00	Registration at the Hotel of Postgraduate Institute
16.00 - 18.00	Registration at the Radio Physics Faculty
18.00 - 20.00	Welcome party*

August 24, 2009 (Monday)

08.00 – 08.45	Breakfast*
08.45 – 09.00	SYMPOSIUM OPENING CEREMONY
SYMPOSIUM SESSION	
09.00 – 09.40	Invited lecture - Jen-Shih Chang Fuel reforming characteristics of electrohydrodynamic atomization- flow stabilized pulsed corona discharge radical shower systems
09.40 – 10.20	Invited lecture – Peter Bruggeman Optical emission spectroscopy of plasmas in and in contact with liquids
10.20 – 11.00	Invited lecture – Matti Laan □ Laser induced breakdown spectroscopy for surface studies
11.00 – 11.20	Coffee break
11.20 – 11.40	Oral presentation – Jaroslaw Diatczyk Power consumption of gliding arc discharge plasma reactor
11.40 – 12.00	Oral presentation – Kirill Catsalap Self-reversed emission lines of neutral copper as a tool for diagnostics of DC arc plasma
12.00 – 12.20	Oral presentation – Zdenko Machala Temporally resolved emission spectroscopy of transient spark discharges
12.20 – 14.00	Lunch*
14.00 – 14.40	Invited lecture – Mindong Bai Plasma conversion of CH ₄ into liquid products, H ₂ and NH ₃ based on strong electric-field ionization discharge at environmentally friendly condition
14.40 – 15.20	Invited lecture – Mirko Cernak In-line plasma treatment of textile materials
15.20 – 15.40	Oral presentation – Vyacheslav Shcherbakov Measuring system for investigation of heterogeneous plasma during plasma spraying
15.40 – 16.00	Coffee break
16.00 – 16.20	Oral presentation – Elena Filimonova Modeling of low temperature inflammation initiated by discharge in hydrocarbon-air mixtures
16.20 – 16.40	Oral presentation – Ihar Khvedchyn Plasma processing of liquid hydrocarbons with technical hydrogen and acetylene producing
16.40 – 17.00	Oral presentation – Albina Tropina Numerical simulation of spark-ignition process
17.00 – 18.00	POSTER SESSIONS I
18.00 – 19.00	Supper*
19.00 – 20.00	POSTER SESSIONS I

August 25, 2009 (Tuesday)

08.00 – 09.00	Breakfast*
SYMPOSIUM SESSION	
09.00 – 09.40	Invited lecture – Yuriy Akishev Physics and chemistry of non-thermal plasma relevant to polymer surface treatment at atmospheric pressure
09.40 – 10.20	Invited lecture – Nicolas Gherardi SiO _x containing layers deposited by atmospheric pressure townsend discharge and atmospheric pressure glow discharge
10.20 – 11.00	Invited lecture – František Krčma Influence of metallic vapors on the nitrogen post-discharge
11.00 – 11.20	Coffee break
11.20 – 11.40	Oral presentation – Vadym Prysiashny ATR-FTIR and TOF LDI MS study of atmospheric pressure plasma activated aluminium surface
11.40 – 12.00	Oral presentation – Serguei Filatov Surface plasma treatment: technique and characterization
12.00 – 12.20	Oral presentation – Alexey Goncharov Plasmaoptical magnetron: new results and applications
12.20 – 13.20	Lunch*
13.20 – 18.00	Excursion
19.00	Conference Dinner

August 26, 2009 (Wednesday)

08.00 – 09.00	Breakfast*
SYMPOSIUM SESSION	
09.00 – 09.40	Invited lecture – Miroslaw Dors Destruction of freons using atmospheric pressure microwave plasma sources
09.40 – 10.20	Invited lecture – Ester Marotta Advanced oxidation of organic pollutants induced by atmospheric plasmas in air
10.20 – 11.00	Invited lecture – Serguei Filatov Advances plasma chemical technology for carbon nanomaterial synthesis and functionalization
11.00 – 11.20	Coffee break
11.20 – 11.40	Oral presentation – Yongxia Sun Toluene decomposition in an air mixture in an electron beam generated non-thermal plasma reactor and its by-products identification
11.40 – 12.00	Oral presentation – Natalia Minkova Modeling of classical Coulomb systems under consideration of finite instrumental resolution scales
12.00 – 12.20	Oral presentation – Victor Zhovtyansky Criterion of electric arc plasma nonequilibrium due to radiation effects
12.20 – 14.00	Lunch*
14.00 – 14.20	Oral presentation – Vyacheslav Tsiolko Features of the <i>Bac. subtilis</i> spores inactivation by UV radiation of cold hollow cathode discharge plasma
14.20 – 14.40	Oral presentation – Igor Smyaglikov Time-spatial structure and parameters of a carbon arc plasma at lowered pressure
14.40 – 15.00	Oral presentation – Tomas Czapka Removal efficiency of volatile organic compounds in low-temperature plasma reactors
15.00 – 15.20	Oral presentation – Anatoly Shchedrin Plasma kinetics in electrical discharge in mixture of ethanol with air in plasma chemical reactor in regime with one solid electrode
15.20 – 15.40	Oral presentation – Valery Virko Control of methane plasma outflow from a magnetic field enhanced inductively coupled plasma
15.40 – 16.00	Coffee break
16.00 – 16.20	Oral presentation – Andriy Bandura Alloying and modification of structural materials under pulsed plasma treatment
16.20 – 16.40	Oral presentation – Bai Xiyao Removal of SO ₂ from gas streams by oxidation of using plasma-generated hydroxyl radicals
16.40 – 17.00	Oral presentation – Zhang Zhitao Non- equilibrium plasma source and its diagnoses based on the strong electric-field discharge at an atmospheric pressure
17.00 – 18.00	POSTER SESSIONS II
18.00 – 19.00	Supper*
19.00 – 20.00	POSTER SESSIONS II

August 27, 2009 (Thursday)

08.00 – 09.00	Breakfast*
SYMPOSIUM SESSION	
09.00 - 09.40	Invited lecture – Antonin Brablec Underwater diaphragm discharge for textile treatment
09.40 - 10.20	Invited lecture – Leanid Simonchik Generation of non-thermal high-pressure plasmas using glow discharges in three-electrode configuration
10.20 – 11.30	CLOSING CEREMONY
12.20 – 13.20	Lunch*

- All breakfasts, lunches, suppers will be in the university cafeteria at the Radio Physics Faculty.

24.08.09	First part of the day 9:00 – 12:20	Jerzy Mizeraczyk
24.08.09	Second part of the day 14:00 – 17:00	Yurij Akishev
25.08.09	First part of the day 9:00 – 12:20	Eugen Martysh
26.08.09	First part of the day 9:00 – 12:20	Alexey Goncharov
26.08.09	Second part of the day 14:00 – 17:00	Serguei Filatov
27.08.09	First part of the day 9:00 – 10:20	Konstantin Shamrai

POSTER SESSION I (Monday), August 24, 2009, 17:00 – 20:00

P1. Yuriy Lelyukh

DETERMINATION OF PARAMETERS OF STATIONARY SPHERICAL GLOW DISCHARGE

P2. Sergey Leshkov

LANGMUIR PROBE DIAGNOSTICS OF HOLLOW CATHODE PLASMA JET SYSTEM:
RADIAL DISTRIBUTION OF PLASMA PARAMETERS

P3. Igor Smyaglikov

DIAGNOSTICS OF THE CATHODIC-ARC EROSIVE PLASMA DURING DEPOSITION OF
DIAMOND-LIKE CARBON FILMS

P4. Lucie Polachova

ANALYSIS OF THE PRODUCTS OF THE REACTION BETWEEN NITROGEN AND
METHANE GENERATED IN THE GLIDING ARC DISCHARGE

P5. Vladimir Gorin

SIMPLEST MATHEMATICAL MODEL OF CURRENT-VOLTAGE CHARACTERISTIC FOR
NORMAL GLOW DISCHARGE

P6. Vladimir Gorin

NON-LOCAL EQUATION FOR THE SOURCE OF IONIZATION IN GLOW DISCHARGE
AND HOLLOW CATHODE DISCHARGE

P7. Vladimir Gorin

ELECTRO-MECHANICAL RESONANCE IN THE MONO-DISPERSED DROPPED FLOW

P8. Anatoly Shchedrin

PLASMA KINETICS IN ELECTRICAL DISCHARGE IN MIXTURE OF ETHANOL WITH AIR
IN PLASMA CHEMICAL REACTOR IN REGIME WITH BOTH SOLID ELECTRODES

P9. Oleksandr Kravchenko

THE INFLUENCE OF THE ELECTRON EMISSION ON CATHODE LAYER IN LOW
PRESSURE GLOW DISCHARGE

P10. Sergey Sidoruk

PULSED DISCHARGE IN A GAS CHANNEL WITH LIQUID WALL

P11. Lilia Kislitsa

SPECTRA OF PLASMA SECONDARY DISCHARGE SUPPORTED BY THE TRANSVERSE
ARC IN A MIXTURE OF ARGON+ETHANOL

P12. Irina Prysiazhnevych

PLASMA PARAMETERS OF THE ATMOSPHERIC PRESSURE DISCHARGE IN AIR
CHANNEL WITH WATER WALL

P13. Vitaliy Yukhymenko

REFORMING OF ETHANOL IN PLASMA - LIQUID SYSTEM WITH DISCHARGE IN GAS
CHANNEL WITH LIQUID WALL

P14. Sergey Olzewski

COMBINED AFFECTING OF ULTRASONIC FIELD AND PLASMA DISCHARGE IN A GAS CHANNEL WITH A LIQUID WALL TO THE WATER-PHENOL SOLUTIONS

P15. Olena Solomenko

COMBINED AFFECTING OF ULTRASONIC FIELD AND PLASMA OF DISCHARGE IN A GAS CHANNEL WITH A LIQUID WALL TO THE DISTILLED WATER

P16. Valeriy Chernyak

OPTICAL DIAGNOSTICS of plasma in GLIDING ARC WITH STAINLESS STEEL ELECTRODES

P17. Oksana Solomenko

FEATURES OF PROCESSING OF METALS EMISSION SPECTRA WITH LOW-RESOLVED MULTIPLIET STRUCTURE FOR PLASMA DIAGNOSTIC

P18. Maksym Verovchuk

PROPERTIES OF THE TRANSVERSAL ARC PLASMA IN AIR + ETHANOL MIXTURE

P19. Olga Samchuk

EXCIMER IONS' GENERATION IN THE NE-XE PULSE MICRODISCHARGE INSIDE THE DIELECTRIC CELL

P20. Ivan Maruschak

TWO-DIMENSIONAL MODELING FO DUST CLOUDS IN SHEATH

POSTER SESSION II (Wednesday), August 26, 2009, 17:00 – 20:00

P21. Marek Bryjak

DIELECTRIC BARRIER DISCHARGE PLASMA IN MODIFICATION OF POROUS POLYMER MEMBRANES

P22. Irena Gancarz

PLASMA BONDING OF PDMS TO GLASS/LTCC FOR MICROFLUIDIC APPLICATION

P23. Elena Kuvaldina

PROCESSES OF SURFACE OXIDATION AND DESTRUCTION OF POLY(PROPYLENE) AT ACTION OF WATER VAPOR PLASMA AND ITS FLOWING AFTERGLOW

P24. Aleksandr Komarov

TRIBOFORMATION OF SURFACE STRUCTURE OF FULLERENES CONTAINING CERAMICS

P25. Georgij Marynsky

PLASMA-ARC UNIT FOR TREATMENT OF LIQUID WASTE AND ORGANIC CONTAINING WATER EMULSION

P26. Farshad Sohbatzadeh Lonbar

BACTERIAL BROAD-SPECTRUM STERILIZATION USING AFTERGLOW OF A NON-THERMAL PLASMA AT ATMOSPHERIC PRESSURE

P27. Roman Bogdanov

THE COMPARISON OF THE PLASMA ENHANCED METHODS OF SINGLE-WALLED CARBON NANOTUBES FABRICATION

P28. Vyacheslav Tsiolko

POLYIMIDE TREATMENT BY DIELECTRIC BARRIER DISCHARGE FOR ALIGNMENT OF LIQUID CRYSTALS

P29. María del Carmen Quintero

DESTRUCTION OF VOCS BY A HELIUM ARGON AND AIR MICROWAVE PLASMA TORCH

P30. Lyudmila Shmeleva

DETERMINATION OF DESTRUCTION THRESHOLDS OF THE SURFACE BY LASER IRRADIATION

P31. Vera Sazavska

CLEANING OF CORROSION LAYERS FORM IRON BY RF LOW PRESSURE HYDROGEN PLASMA

P32. Dilyana Gospodinova

INVESTIGATION ON DIELECTRIC BARRIER DISCHARGE SURFACE ACTIVATION EFFECTS

P33. Mikhail Nedelko

ELECTRICAL DISCHARGE PLASMA ASSISTED SYNTHESIS AND MODIFICATION OF COMPOSITE NANOPARTICLES IN LIQUIDS

- P34. Antonio Rodero-Serrano**
EXPERIMENTAL VERIFICATION OF A 2-D MODEL FOR AXIAL INJECTION TORCH
- P35. Irina Filatova**
DECONTAMINATION OF SURFACES BY LOW-PRESSURE RF PLASMA
- P36. Oleg Nedibalyuk**
BUTT COPPER ARC IN HYDROGEN
- P37. Valery Semenyuk**
MULTIFUNCTIONAL DISCHARGE SYSTEM FOR PRECISE PLASMA-CHEMICAL PROCESSING OF MICRO AND NANO ELECTRONICS MATERIALS
- P38. Lucia Bónová**
MODIFICATION OF ALUMINIUM SURFACE BY DIELECTRIC COPLANAR SURFACE BARRIER DISCHARGE
- P39. Anatoly Kuzmichev**
OPTICAL NANOGRADIENT COATING DEPOSITION BY REACTIVE PULSE MAGNETRON SPUTTERING
- P40. Iuliia Veremii**
GENERATION OF CNM IN THE PLASMA OF SECONDARY DISCHARGE
- P41. Ida Babich**
INFLUENCE OF ELECTRIC ARC DISCHARGE PLASMA ON ELECTRODE SURFACE PROCESSES. I. COMPOSITE ELECTRODES ON COPPER BASE
- P42. Viacheslav Boretskij**
PLASMA OF ELECTRIC ARC DISCHARGE PLASMA IN A GAS FLOW
- P43. Anatoly Veklich**
INFLUENCE OF ELECTRIC ARC DISCHARGE PLASMA ON ELECTRODE SURFACE PROCESSES. II. COMPOSITE ELECTRODES ON SILVER BASE
- P44. Eugen Martysh**
SOME PROBLEMS OF PLASMA-ENHANCED IGNITION MODELING
- P45. Yuriy Borisov**
HYBRID LASER-PLASMA COATING PROCESS
- P46. Vladimir Korzhyk**
MEDICINE WASTE PROCESSING
- P47. Yuriy Lavrookevich**
PROPERTIES OF DUSTY PLASMA OF THE DISCHARGE WITH THE HOLLOW CATHODE
- P48. Jerzy Mizeraczyk**
DE-NO_x PROCESS IN CORONA DISCHARGE-CATALYST REACTOR

- P49. Eugen Safonov**
PLASMA - LIQUID SYSTEMS WITH GAS-DYNAMICS QUENCHING
- P50. Valeriy Taran**
INACTIVATION OF MICROORGANISMS USING COMBINATION OF OZONE AND ULTRASOUND
- P51. Valeriy Taran**
OZONE GENERATION CHARACTERISTICS OF SUPERIMPOSED DISCHARGE WITH SURFACE AND DBD
- P52. Anna Zahoranova**
GLASS SURFACE MODIFICATION USING NON-EQUILIBRIUM PLASMA GENERATED BY DCSBD AT ATMOSPHERIC PRESSURE
- P53. Stanislav Dudin**
TWO MODES OF ION EXTRACTION IN SINGLE-GRID ION SOURCE
- P54. Valeriy Lisovskiy**
RADIAL STRUCTURE OF THE LONGITUDINAL COMBINED DISCHARGE IN SF₆
- P55. Milorad Kuraica**
DECOLORIZATION OF THE AZO DYE REACTIVE BLACK 5 USING COAXIAL DBD REACTOR
- P56. Bratislav Obradović**
SPECTRAL CHARACTERISTICS OF FALLING FILM DBD IN NITROGEN
- P57. Vladislav Bondarenko**
MODIFICATION OF METAL MIRROR SURFACES UNDER IMPACT OF HYDROGEN PLASMAS CONTAMINATED WITH OXYGEN OR CARBON
- P58. Vasyl Chyhin**
OXYGEN ALLOTROPIC FORMS IN CORONA IN N₂-O₂ MIXTURES
- P59. Yury Virko**
COMPACT HELICON PLASMA SOURCE WITH A FERRITE MAGNETIC SYSTEM FOR MATERIALS PROCESSING APPLICATIONS
- P60. Vyacheslav Slobodyan**
INDUCTIVELY COUPLED MAGNETIZED PLASMA SOURCE WITH PERMANENT MAGNETS FOR MATERIALS PROCESSING

