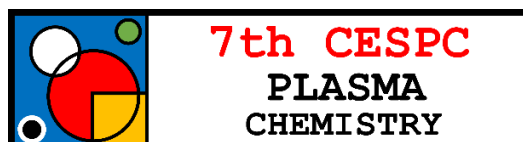


# CESPC-7, 7<sup>th</sup> Central European Symposium on Plasma Chemistry



## **3rd announcement**

### **Scientific Program**

Sveti Martin na Muri, Croatia 3<sup>rd</sup> to 7<sup>th</sup> September 2017

## General information

The Seventh Central European Symposium on Plasma Chemistry (CESPC-7) is held in Sveti Martin na Muri (Croatia) during September 3-7, 2017.

CESPC7 is organized by the Institute of Physics, Zagreb, Croatia. CESPC is a biannual International Symposium, supported by the Central European Initiative (CEI) and attended by scientists from all over the world. Previous editions were held in Poland (Gdansk, 2006), Czech Republic (Brno, 2008), Ukraine (Kyiv, 2009), Serbia (Zlatibor, 2011), Hungary (Balatonalmadi, 2013) and Italy (Bressanone, 2015).

CESPC is a forum to present new results and exchange ideas in plasma fundamentals and applications in all fields including materials processing, surface modifications, medicine, environmental protection and related areas. Emphasis is on plasma chemistry. The four-day format of the symposium provides excellent opportunities for both formal presentations and informal discussions.

Topics:

1. Fundamental problems
2. Modeling and diagnostics
3. New materials
4. Energy technologies
5. Environmental protection
6. Bio and medical plasma technologies
7. Surface processes
8. Nanostructured materials
9. Food and agriculture plasma technologies
10. Related topics

## Venue and social events

Registration and all scientific activities will be held at the LifeClass Terme Sveti Martin, Izvorska 3, 40313, Sveti Martin na Muri, Croatia.

Registration will be open on Sunday September 3, from 14:00 to 18:00 and on Monday September 4 starting at 8:40. On Sunday, registration will be followed by a welcome reception at the LifeClass Terme Sveti Martin.

Lunches and dinners will also be served at the hotel SPA Golfer. The conference gala dinner will take place on Wednesday, September 6.

An excursion to Eco Museum Mura is organized for all participants and accompanying persons on the afternoon of Tuesday September 5, to visit several spots in the area and winery. We will enjoy wine tasting and refreshments.

Participants will stay at one of the following residences:

SPA Golfer Hotel  
Apartments Regina

## **Information for Authors presenting oral and poster contributions**

### Oral presentations

Invited Lectures will be 40 min (35 +5 min discussion) Oral presentations will be 20 min (15 min + 5 min). The lecture hall is equipped with a Windows PC. Supported presentation formats are Microsoft PowerPoint and PDF. Please be prepared to have your presentation ready on a portable USB-stick. If you need to use your own computer, please inform in advance the conference staff.

### Poster presentations

Poster size: the posting boards are 100 cm (width) x 250 cm (height). Within these limits Authors are free to choose their poster size and format.

The organizers will provide fasteners for the posters.

You will find your poster number attached to the poster wall.

The posters should be posted in the morning of the presentation day and must be removed the day before the following poster session. Poster sessions are Monday 4 and Wednesday 5, afternoon from 17:00 to 19:00.

The best poster presentations of a young scientists will be awarded by sponsor EPJ.org.

## **Contact**

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**or**

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# Program

	Sunday September 3rd	Monday September 4th	Tuesday September 5th	Wednesday September 6th	Thursday September 7th
8:40-9:00		Registration			
9:00-9:20		Opening ceremony			
9:20-9:40		I-1 Machala	I-4 O'Connell	I-6 Franzke	I-9 Turner
9:40-10:00		O_1 Vukušić	O_11 Scapinello	O_17 Klute	O_28 Pongráč
10:00-10:20		O_2 Stulić	O_12 Mizeraczyk	O_18 Burhenn	O_29 Cech
10:20-10:40		Coffee break	O_13 lukhymenko	O_19 Vogel	O_30 Jasek
10:40-11:00		Coffee break	Coffee break	Coffee break	Coffee break
11:00-11:20		I-2 Mededovic-Thagart	I-5 Pedersen	I-7 Fracassi	I-10 Gorjanc
11:20-11:40		O_3 Timmerman	O_14 Neretti	O_20 Tovstopyat	O_31 Jirásek
11:40-12:00		O_4 Ercan	O_15 Pichler	O_21 Onyshchenko	O_32 Kim
12:00-12:20		O_5 Chan	O_16 Sokolova	O_22 Šourková	Closing remarks
12:20-12:40		Lunch	Lunch	Lunch	Lunch
12:40-14:00		Lunch	Lunch	Lunch	Lunch
14:00-14:20		I-3 Škoro		I-8 Akishev	Departure
14:20-14:40		O_6 Kossyi		O_23 Ercegović Ražić	
14:40-15:00		O_7 Popelka		O_24 Hergelová	
15:00-15:20		Coffee break		Coffee break	
15:20-15:40	Registration	O_8 Kutasi		O_25 Topala	
15:40-16:00		O_9 Tampieri		O_26 Barni	
16:00-16:20		O_10 Park	Excursion	O_27 Boselli	
16:20-16:40					
16:40-17:00					
17:00-17:20					
17:20-17:40		1. Poster Session		2. Poster Session	
17:40-18:00					
18:00-18:20	Welcome party				
18:20-18:40					
18:40-19:00					
19:00-20:00		Dinner	Dinner	Conference dinner	
20:00					

**Scientific program in detail****September 3, 2017, Sunday**

14:00 – 18:00	Registration
18:00 – 20:00	Welcome party

**September 4, 2017, Monday**

Chair: J. Mizeraczyk

Starting from 8:40	Registration
9:00 – 9:20	Opening ceremony
9:20 – 10:00	<b>Invited lecture I-1</b> Z. Machala <i>Plasma activated water: plasma-induced gas-phase and liquid-phase chemistry and applications in biomedicine and food processing</i>
10:00 – 10:20	<b>O-1</b> T. Vukušić <i>Preservation of fruit juices using high voltage electrical discharge plasma treatments</i>
10:20 – 10:40	<b>O-2</b> V. Stulić <i>Determination of oxidative stress upon high voltage electrical discharge (HVED) plasma on Escherichia coli MG 1655</i>
10:40 – 11:00	Coffee break

Chair: M. Černák

11:00 – 11:40	<b>Invited lecture I-2</b> S. Mededovic Thagard <i>The plasma-liquid interface: which physicochemical processes are important?</i>
11:40 – 12:00	<b>O-3</b> E. Timmermann <i>Indoor air purification by dielectric barrier discharge combined with ionic wind: ion and ozone production</i>
12:00 – 12:20	<b>O-4</b> U.K. Ercan <i>Non-thermal Atmospheric Plasma Treated Sutures for Prevention of Suture Associated Surgical Site Infections</i>
12:20 – 12:40	<b>O-5</b> K.V. Chan <i>Enhanced Human Fibroblast Biocompatibility on Cyclopropylamine Plasma Polymerised Films</i>
12:40 – 14:20	Lunch

Chair: F. Fracassi

14:20 – 15:00	<b>Invited lecture I-3</b> N. Škoro <i>Use of atmospheric pressure plasmas for decontamination of water containing organophosphates</i>
15:00 – 15:20	<b>O – 6</b> I. Kossyi <i>Plasmachemical cleaning of urban atmosphere in the reactor based on the deeply subthreshold discharge excited by microwave beam</i>
15:20 – 15:40	<b>O – 7</b> A. Popelka <i>Antimicrobial surface modification of packaging by food preservatives</i>
15:40 – 16:00	Coffee break
16:00 – 16:20	<b>O – 8</b> K. Kutasi <i>Effect of the low pressure afterglow plasma on cereal grain crops</i>
16:20 – 16:40	<b>O – 9</b> F. Tampieri <i>Air plasma treatment of water contaminated by agrichemicals, their metabolites and residues</i>
16:40 – 17:00	<b>O – 10</b> J. Park <i>Development of characteristics of a dielectric barrier discharge system having flexible electrodes</i>

17:00 – 19:00	Poster Session 1 – posters P1 – P26  <b>P-1</b> Malinowski Sz. <i>Soft plasma polymerization in deposition of bio-active coatings on GO<sub>x</sub> matrix</i>  <b>P-2</b> Ercan U. K. <i>Degradation of Tattoo Inks by Non-Thermal Atmospheric DBD Plasma Treatment for Plasma Assisted Tattoo Removal Purpose</i>  <b>P-3</b> Mota, R. P. <i>Incorporation of Chlorexidine in plasma polymerized thin films from Hexamethyldosiloxane</i>  <b>P-4</b> Kim S. <i>Experimental study on a low-temperature atmospheric-pressure plasma by two-parallel-wire transmission line resonator with microwave power</i>  <b>P-5</b> Poglayen G. <i>Inactivation of Eimeriaspp. oocysts in aqueous environment assisted by a gas-liquid dielectric barrier discharge</i>
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<p><b>P-6</b> Stavarache I.E. <i>Characterization of polythiophene films obtained under the plasma atmospheric pressure conditions</i></p> <p><b>P-7</b> Resnik M. <i>Cold atmospheric plasma treated polypropylene tubes and their application in medical diagnostics</i></p> <p><b>P-8</b> Artem'ev K. V. <i>CO<sub>2</sub> plasma-chemical utilization by means of discharge excited by strong subthreshold microwave beam in high-pressure gas</i></p> <p><b>P-9</b> Cimerman R. <i>Tar removal by combination of non-thermal plasma with catalyst</i></p> <p><b>P-10</b> Medvecká V. <i>Influence of atmospheric pressure plasma on hazelnuts (<i>Corylus avellana</i>) and peanuts (<i>Arachis hypogaea</i>)</i></p> <p><b>P-11</b> Kováčik D. <i>Changes in the redox equilibrium of fungal cells after atmospheric pressure plasma treatment</i></p> <p><b>P-12</b> Kučerová K. <i>Plasma activated water generated by transient spark discharge for seed germination and plant growth</i></p> <p><b>P-13</b> Tomeková J. <i>Optical emission spectroscopy of cold atmospheric pressure plasma generated in air and in mixtures of oxygen and nitrogen for applications in agriculture</i></p> <p><b>P-14</b> Bišćan M. <i>Parsley (<i>Petroselinum crispum</i>) seeds treated by low-pressure DBD oxygen and air plasma: germination and growth</i></p> <p><b>P-15</b> Davydov A. M. <i>Non-catalytic methane conversion by means of a strong subthreshold discharge excited by microwave beam in high pressure gases</i></p> <p><b>P-16</b> Holz M. <i>Garlic Sprouting and Clove Surface Properties After Low-Pressure Oxygen Plasma Treatment</i></p> <p><b>P-17</b> Choi J. <i>Numerical analysis of atmospheric-pressure plasma using transmission line resonators operating with microwave power</i></p>
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	<p><b>P-18</b> Živný O. <i>Theoretical study of plasma decomposition products of perfluorinated compounds</i></p> <p><b>P-19</b> Grobelnik-Mlakar S. <i>Highly reactive oxygen plasma treatment of wheat seeds</i></p> <p><b>P-20</b> Neretti G. <i>Chemical effects of different waveforms on a Dielectric Barrier Discharge Plasma microbubble reactor</i></p> <p><b>P-21</b> Bulić-Jakuš F. <i>Infrared spectra of embryo culture media metabolome detect biological activity of the antiepileptic valproate</i></p> <p><b>P-22</b> Benčina M. <i>Effect of oxygen plasma treatment on morphology and crystal structure of TiO<sub>2</sub> nanotubes for biomedical applications</i></p> <p><b>P-23</b> Filipić A. <i>Potential use of atmospheric plasma in agriculture</i></p> <p><b>P-24</b> Paradisi C. <i>Characterization of reactive species and advanced oxidation processes in a new air plasma/water reactor for water decontamination from agrichemicals</i></p> <p><b>P-25</b> Szöke Cs. <i>Effect of low pressure afterglow plasma on the growth of maize</i></p> <p><b>P-26</b> Beuc R. <i>Optical spectra of carbon-monoxide molecule: fast quantum mechanical simulation</i></p>
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20:00	Dinner
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**September 5, 2017, Tuesday**

Chair: Z. Machala

9:00 – 9:40	<b>Invited lecture I-4</b> D. O’Connell <i>Atmospheric pressure plasmas: Chemical kinetics at the plasma-liquid interface</i>
9:40 – 10:00	<b>O -11</b> M. Scapinello <i>Methane coupling assisted by Nanosecond Pulsed Discharge</i>
10:00 – 10:20	<b>O -12</b> J. Mizeraczyk <i>Hydrogen production by conversion of ethanol injected into a microwave plasma</i>
10:20 – 10:40	<b>O -13</b> V. Iukhymenko <i>Properties of atmospheric pressure rotating gliding discharge</i>
10:40 – 11:00	Coffee break

Chair: Yu. Akishev

11:00 – 11:40	<b>Invited lecture I-5</b> J.O.P. Pedersen <i>Ion chemistry in the atmosphere</i>
11:40 – 12:00	<b>O -14</b> G. Neretti <i>Experimental and numerical evaluation of ozone concentration within a DBD plasma reactor in atmospheric pressure air</i>
12:00 – 12:20	<b>O -15</b> G. Pichler <i>Plasma Chemistry of Alkali Discharges</i>
12:20 – 12:40	<b>O -16</b> M.V. Sokolova <i>Influence of voltage waveform on the structure and electric characteristics of surface dielectric barrier discharge in air</i>
12:40 – 14:20	Lunch

15:00 – 19:00	Excursion
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20:00	Dinner
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**September 6, 2017, Wednesday**

Chair: G. Pichler

9:00 – 9:40	<b>Invited lecture I-6</b> J. Franzke <i>Characterisation of Dielectric Barrier Discharges for analytical applications</i>
9:40 – 10:00	<b>O -17</b> F.D. Klute <i>Influence of metastables, quasi metastables and gas impurities on the positive ion formation of a noble gas atmospheric DBD</i>
10:00 – 10:20	<b>O -18</b> S. Burhenn <i>Space and time resolved quantification of arsenic by optical emission spectroscopy in a dielectric barrier discharge</i>
10:20 – 10:40	<b>O -19</b> P. Vogel <i>Spectroscopical investigations on ignition processes in partial and full dielectric barrier discharges (DBD) used for analytical applications</i>
10:40 – 11:00	Coffee break

Chair: M. Mozetič

11:00 – 11:40	<b>Invited lecture I-7</b> F. Fracassi <i>Surface processing with atmospheric pressure DBDs for environmental applications</i>
11:40 – 12:00	<b>O -20</b> A. Tovstopyat <i>Low energy ion beam plasma for final cleaning of ultra-smooth optical surfaces</i>
12:00 – 12:20	<b>O -21</b> I. Onyshchenko <i>Plasma jet for miniaturized printing</i>
12:20 – 12:40	<b>O -22</b> H. Šourková <i>Quality control used in industrial application for plasma treatment of powder materials</i>
12:40 – 14:20	Lunch

Chair: K. Kutasi

14:20 – 15:00	<b>Invited lecture I-8</b> Yu. Akishev <i>Research on the DC negative corona - The state of the art</i>
15:00 – 15:20	<b>O -23</b> S. Ercegović Ražić <i>Surface modification processes for improving wettability, dyeing and antibacterial properties of the textile materials</i>

15:20 – 15:40	<b>O –24</b> B. Hergelová <i>Silicon surface functionalization by Ar/H<sub>2</sub> atmospheric pressure plasma</i>
15:40 – 16:00	Coffee break
16:00 – 16:20	<b>O –25</b> I. Topala <i>Ion chemistry in hydrocarbon containing barrier discharges plasmas at atmospheric pressure</i>
16:20 – 16:40	<b>O –26</b> R. Barni <i>Gas-phase Evolution of Ar/H<sub>2</sub>O and Ar/CH<sub>4</sub> Dielectric Barrier Discharge Plasmas</i>
16:40 – 17:00	<b>O -27</b> M. Boselli <i>3D modelling of a DC transferred arc twin torch plasma system for the synthesis of copper nanoparticles</i>

17:00 – 19:00	<p>Poster Session 2 – posters P27 – P51</p> <p><b>P-27</b> Peran J. <i>Impact of low-pressure plasma on dyeability of wool using natural dye</i></p> <p><b>P-28</b> Maletić D. <i>Laser plasma interaction with atmospheric pressure plasma jet in contact with liquid water</i></p> <p><b>P-29</b> Kim J.-H. <i>Fabrication of superhydrophobic Si surfaces in a plasma etching system</i></p> <p><b>P-30</b> Tarasenko N. <i>Preparation of Cu-Zn nanoparticles by plasma and laser assisted treatments in liquid</i></p> <p><b>P-31</b> Medvecká V. <i>Plasma assisted calcination of Al<sub>2</sub>(NO<sub>3</sub>)<sub>3</sub>/PAN submicron fibers at atmospheric pressure</i></p> <p><b>P-32</b> Kelar J. <i>Low-temperature plasma processing of inkjet printed TiO<sub>2</sub> photoanodes</i></p> <p><b>P-33</b> Kováčik D. <i>Surface modification of PP nonwovens by plasma generated in water and acrylic acid water solution</i></p> <p><b>P-34</b> Pavliňák D. <i>Hydrophilization of outer and inner surfaces of PVC tubes using surface dielectric barrier discharges generated above the liquid electrode</i></p>
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<p><b>P-35</b> Mozetič M. <i>Gaseous plasma as a source of neutral reactive particles for functionalization of polymer surfaces</i></p> <p><b>P-36</b> Ercan U. K <i>Cold Atmospheric Plasma Assisted Conjugation of Bone Sialoprotein Mimetic Peptide on Align Nanofibers</i></p> <p><b>P-37</b> Mihaila I. <i>Properties of plasma synthesized interstellar carbon dust analogs</i></p> <p><b>P-38</b> Magnan R. <i>Dual RF-LF dielectric barrier discharge at atmospheric pressure</i></p> <p><b>P-39</b> Stavarache I.E. <i>Effects of ophthalmic solutions on the physico-chemical properties of PMMA films</i></p> <p><b>P-40</b> Tučeková Z. <i>Effect of atmospheric pressure plasma on surface modification of paper</i></p> <p><b>P-41</b> Jurov A. <i>APPJ and PAW assisted nanoparticle impregnation and treatment of polymers</i></p> <p><b>P-42</b> Staňo L. <i>The evaluation of plasma treated porous polymer materials as separators in alkaline water electrolysis cell</i></p> <p><b>P-43</b> Černák M. <i>Effect of plasma pre-treatment and post-treatment on the adhesive properties of silicone coated release liner paper</i></p> <p><b>P-44</b> Štěpánová V. <i>Modification of paper surface properties by corona as pretreatment before coating</i></p> <p><b>P-45</b> Tmenova T. <i>Plasma properties of the Underwater Pulsed Discharge Plasma</i></p> <p><b>P-46</b> Golyaeva A. <i>Activation of dielectric surfaces by cold plasma for optical contact hardening</i></p> <p><b>P-47</b> Popović D. <i>Gas or plasma jet: Targets for Laser Induced Breakdown Spectroscopy</i></p>
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	<p><b>P-48</b> Horvatic V. <i>Time resolved plasma currents as a novel detection and monitoring technique in an atmospheric pressure noble gas DBD</i></p> <p><b>P-49</b> Iukhymenko V. <i>Comparison of discharge channel behavior between rotating gliding discharges with solid and with one liquid electrode</i></p> <p><b>P-50</b> Boselli M. <i>Design oriented modelling for the synthesis process of copper nanoparticles by a radio-frequency induction thermal plasma system</i></p> <p><b>P-51</b> Blažeka D. <i>Transport properties of neutron irradiated 4H-SiC Schottky diode</i></p>
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20:00	Conference dinner
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**September 7, 2017, Thursday**

Chair: S. Mededovic-Thagart

9:00 – 9:40	<b>Invited lecture I-9</b> M. Turner <i>Modelling uncertainty in dry air chemistry</i>
9:40 – 10:00	<b>O –28</b> B. Pongráč <i>Experimental investigation of nanosecond corona-like discharge generated in distilled water</i>
10:00 – 10:20	<b>O –29</b> J. Cech <i>Spatio-temporally resolved electric field measurement in homogeneous helium coplanar DBD using a phase-resolved 2D spectral imaging</i>
10:20 – 10:40	<b>O –30</b> O. Jasek <i>Gas phase synthesis of graphene and graphene oxide nanosheets in microwave plasma torch at atmospheric pressure</i>
10:40 – 11:00	Coffee break

Chair: C. Paradisi

11:00 – 11:40	<b>Invited lecture I-10</b> M. Gorjanc <i>Natural dyeing and UV protection of plasma treated cotton</i>
11:40 – 12:00	<b>O –31</b> V. Jirásek <i>Modifications of nanodiamonds' surface by atmospheric pressure plasma jet afterglow</i>
12:00 – 12:20	<b>O –32</b> J.-H. Kim <i>Fabrication of antireflection slanted Si pillars using slanted plasma etching</i>
12:20 – 12:40	<b>Closing remarks</b>
12:40 – 14:20	Lunch
14:20	Departure