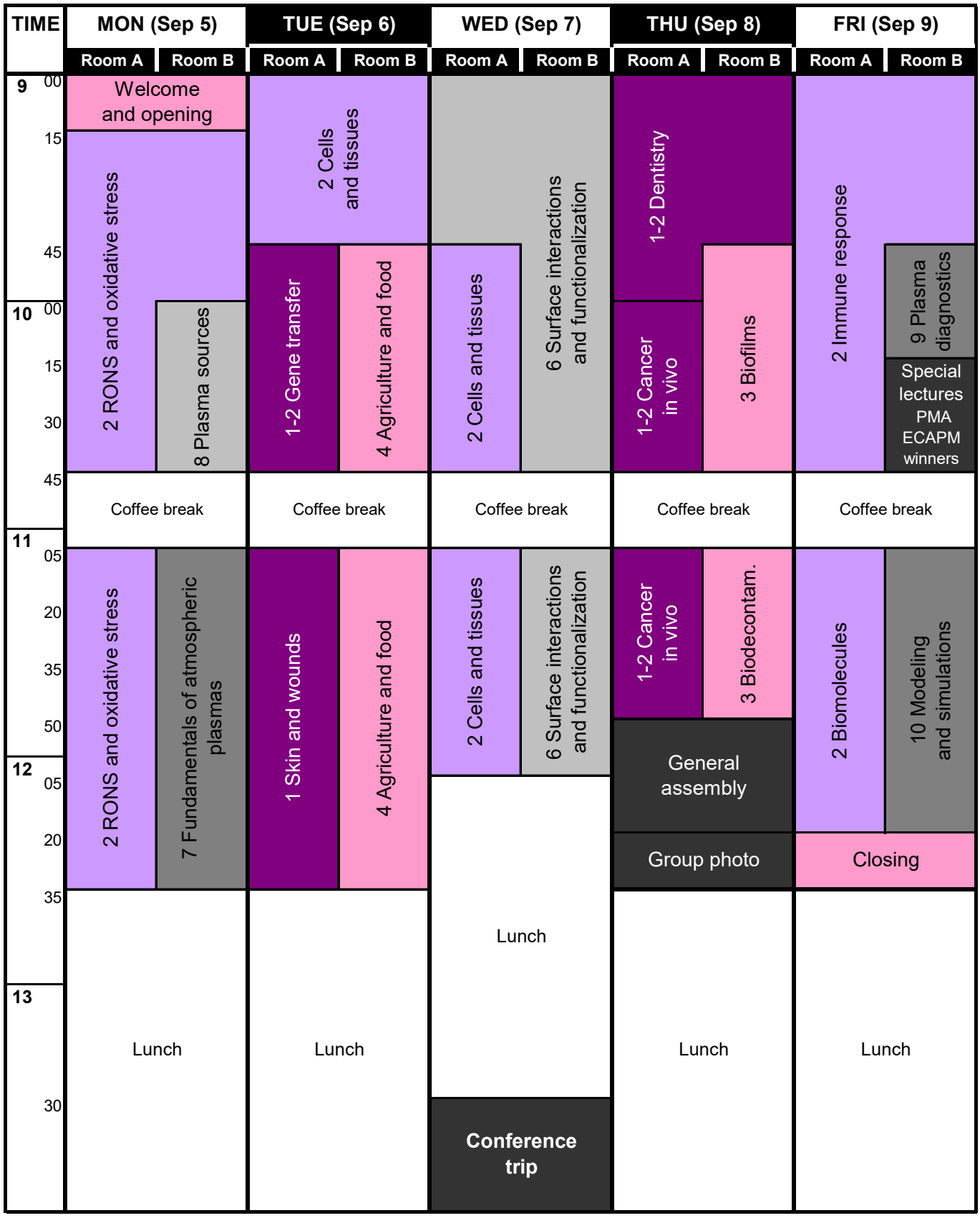
Program at Glance – Morning

TIME	MON (Sep 5)		TUE (Sep 6)		WED (Sep 7)		THU (Sep 8)		FRI (Sep 9)	
	Room A	Room B	Room A	Room B	Room A	Room B	Room A	Room B	Room A	Room B
9 00	Welcome and opening		**J. Kolb**		**R. Short**		**M. Gherardi**		**V. Miller**	
15	**S. Toyokuni**									
45			**M. Jaroszeski**	G. Fridman	**S. Nishihara**	A. Baitukha	L. Jablonowski	**B. Gilmore**	K. Rödder	**J. Benedikt**
10 00	**P. Celec**	J. Winter		D. Liu		M. Wertheimer	B. Honnorat		Y. Kataoka	
15		K. Horn	M. Jinno	**P. Bourke**	T. Freeman	**P. Favia**	**G. Serša**	A. Mai-Prochnow	**N. Kaushik**	**Special lectures PMA ECAPM winners**
30	D. Graves	T. Takamatsu	Y. Yamanishi		S. Sasaki			Z. Kovaľová		
45	Coffee break		Coffee break		Coffee break		Coffee break		Coffee break	
11 05	P. Ranieri	**A. Mesbah**	**K. Masur**	K.S. Oh	**K. Ostrikov**	A. Liguori	H.R. Metelmann	**J.-Y. Maillard**	J. Bandow	**G. Naidis**
20	R. Tero			S. Kyzek		F. Arefi-Khonsari	K. Mizuno		J. Lackmann	
35	**N. Chernets**	M. Janda	Š. Kubinová	**N. Puač**	O. Lunov	**H. Biederman**	M. Keidar	J. Pawłat	J.H. Park	A. Lietz
50		T. Darny	B, Boekema		A. Stancampiano		**General assembly**		L. O'Neill	M. Yusupov
12 05	K. Wende	**S. Iséni**	U. Cvelbar	**B. Niemira**	Lunch				S. Maheux	T. Murakami
20	I. Trizio		E. Martines				**Group photo**		Closing	
35	Lunch		Lunch				Lunch		Lunch	
13 30					**Conference trip**					


TIME
MON (Sep 5)
TUE (Sep 6)
WED (Sep 7)
THU (Sep 8)
FRI (Sep 9)
Room A
Room B
9 00
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Welcome and opening
2 RONS and oxidative stress
8 Plasma sources
2 Cells and tissues
1-2 Gene transfer
4 Agriculture and food
2 Cells and tissues
6 Surface interactions and functionalization
1-2 Dentistry
1-2 Cancer in vivo
3 Biofilms
2 Immune response
9 Plasma diagnostics
Special lectures PMA ECAPM winners
Coffee break
2 RONS and oxidative stress
7 Fundamentals of atmospheric plasmas
1 Skin and wounds
4 Agriculture and food
2 Cells and tissues
6 Surface interactions and functionalization
1-2 Cancer in vivo
3 Biodecontam.
General assembly
Group photo
2 Biomolecules
10 Modeling and simulations
Closing
Lunch
Conference trip

Program at Glance – Afternoon

TIME	SUN (Sep 4)	MON (Sep 5)		TUE (Sep 6)		WED (Sep 7)		THU (Sep 8)	
		Room A	Room B	Room A	Room B	Room A	Room B	Room A	Room B
14 00		S. Bekes chus	M. Larou ssi	Y. Ikehara	P. Lukeš	Conference trip		L. Mir	A. Cochis
15		J. Chauvin		M. Jacofsky					U.K. Ercan
30		H. Tanaka	G. Busco	P. Brun	T. von Woedtke			N. Shimizu	K. Kitano
45			T. Shimizu		F. Girard			I. Topala	
15 00		K. Ishikawa	D. O'Con nell	M.G. Kong	H. Jablo nowski			C. Canal	E. Sysolya tina
15		R. Furuta		J. van der Linde	B. Tarabová			S. Hasse	
30		P.M. Girard	T. Sato	K. Shimizu	D. Boehm			Coffee break	
45		E.H. Choi	O. Stepa nova		E. Szili				
16 00	Registration	Coffee break		Coffee break				Poster session 3	
20		Poster session 1		Poster session 2					
17									
18 00	Welcome reception	Special session A Dosimetry in plasma medicine	Special session B Are you ready for your future?		ISPM board mtg				
19 00								Conference dinner	

TIME	SUN (Sep 4)	MON (Sep 5)		TUE (Sep 6)		WED (Sep 7)		THU (Sep 8)	
		Room A	Room B	Room A	Room B	Room A	Room B	Room A	Room B
14 00		2 Plasma activated water/media (PAW/PAM) and cells	8 Plasma sources	1 Skin and wounds	9 PAW + RONS diagnostics	Conference trip		1-2 Cancer cells and tissues	3 Biodecontamination
15									
30				1-2-5 Transdermal drug delivery				Coffee break	
45									
15 00									
15									
30									
45									
16 00	Registration	Coffee break		Coffee break				Poster session 3	
20		Poster session 1		Poster session 2					
17									
18 00	Welcome reception	Special session A Dosimetry in plasma medicine	Special session B Are you ready for your future?		ISPM board mtg				
19 00								Conference dinner	

Program in Detail

Monday, September 5 - Morning

09:00 **Welcome and opening**

2 RONS and oxidative stress Room A Chairperson: S. HAMAGUCHI

09:15 **P-1** **Shinya TOYOKUNI**
Insight into chemical reaction mechanism in plasma medicine from viewpoints of oxidative stress

2 RONS and oxidative stress Room A Chairperson: S. HAMAGUCHI	**8 Plasma sources** Room B Chairperson: J. BENEDIKT
10:00 **I-1** **Peter CELEC** Oxidative stress - sources, consequences and its role in the pathogenesis of diseases	**O-12** **Jörn WINTER** Challenges and solutions on the way to a deployable plasma endoscope
	10:15 **O-13** **Kerstin HORN** Screening test of a new pulsed mini-plasma-jet for medical application
10:30 **O-1** **David GRAVES** Biological effects of cold atmospheric plasma: Current status	**O-14** **Toshihiro TAKAMATSU** Development of atmospheric non-thermal plasma sources created by 3D printer for medical application

10:45 Coffee break

2 RONS and oxidative stress Room A Chairperson: D. GRAVES	**7 Fundamentals of atmospheric plasmas** Room B Chairperson: V. COLOMBO
11:05 **O-2** **Pietro RANIERI** Propagation of plasma effects into tissue: Cell-to-cell signaling or direct ROS effects?	**I-4** **Ali MESBAH** Model predictive control of atmospheric pressure plasmas
11:20 **O-3** **Ryugo TERO** Degeneration of artificial cell membranes induced by plasma-generated reactive oxygen species	
11:35 **I-2** **Natalie CHERNETS** Deciphering plasma/tissue interactions to develop appropriate medical treatments	**O-15** **Mário JANDA** Antimicrobial NOx generated by transient spark in atmospheric dry air and air with water electrospray
	11:50 **O-16** **Thibault DARNY** Conductive target influence on helium metastable production in a µs plasma gun discharge
12:05 **O-4** **Kristian WENDE** On the chemistry of remote effects of non-thermal plasmas	**I-5** **Sylvain ISÉNI** Electric field characterization of plasma gun and multi-jet plasma arrays
12:20 **O-5** **Ilaria TRIZIO** DBD-generated RONS in biological liquids for 2D and 3D in vitro studies on eukaryotic cells	

Monday, September 5 - Afternoon

12:35	Lunch	12:35
	2 Plasma activated water/media and cells Room A Chairperson: T. FREEMAN	**8 Plasma sources** Room B Chairperson: K.-D. WELTMAN
14:00	**O-6** **Sander BEKESCHUS** Cold physical plasma-treated medium demonstrates antitumor activity against pancreatic cancer cells *in vitro* and *in vivo*	**I-6** **Mounir LAROUSSI** Low temperature plasma jets and their interactions with biological cells and media
14:15	**O-7** **Julie CHAUVIN** Investigation of cell death mechanisms of 3D multicellular tumor spheroids (MCTS) after contact with a plasma activated medium	14:15
14:30	**I-3** **Hiromasa TANAKA** Pharmaceutical applications and biochemical/biomolecular engineering with plasmas	**O-17** **Giovanni BUSCO** Study of chemico-physical properties of a He plasma gun in the context of skin physioxia for cosmetical applications
14:45		**O-18** **Tetsuji SHIMIZU** Surface micro-discharge plasma for disinfection
15:00	**O-8** **Kenji ISHIKAWA** Metabolic profiles on glioblastoma (U251SP) modified in PAM	**I-7** **Deborah O'CONNELL** Characterising a COST reference microplasma jet for biomedical applications
15:15	**O-9** **Ryo FURUTA** Dynamic behavior of HeLa cells in plasma-activated medium	15:15
15:30	**O-10** **Pierre-Marie GIRARD** Synergistic effect of H2O2 and NO2 in cell death induced by cold atmospheric He plasma	**O-19** **Takehiko SATO** Development of small sterilization device using LT plasma flow at atmospheric pressure
15:45	**O-11** **Eun Ha CHOI** Plasma activated water Induced the activation of FOXO3 signaling caused cell death of squamous (A349) carcinoma	**O-20** **Olga STEPANOVA** Bactericidal action of DBD plasma jet in helium at varying average discharge power
16:00	Coffee break	16:00
16:20	**P1** **Poster session 1**	16:20
	Room A Chairperson: V. MILLER Moderator: A. ROUSSEAU	Room B Chairperson: N. CHERNETS
18:00	**Special session A** Dosimetry in plasma medicine (panelists: A. Fridman, J.-M. Pouvesle, K.-D. Weltmann)	**Special session B** Are you ready for your future? (for PhD students and postdocs)

Tuesday, September 6 - Morning

2 Cells and tissues — Room A — Chairperson: J.-M. POUVESLE

09:00 — **P-2**

Jürgen KOLB
Cell to cell communication affected by electric pulses and plasmas

1-2 Gene transfer
Room A
Chairperson: J.-M. POUVESLE

4 Agriculture and food
Room B
Chairperson: E.H. CHOI

09:45 — **I-8**

Mark JAROSZESKI
Plasmid DNA delivery
using a nonthermal helium plasma
in a murine model

O-29 — **Gregory FRIDMAN**
Non-equilibrium gliding arc discharge
plasma-activated water in plasma agriculture:
Pathogen control

O-30 — **Dongping LIU**
Atmospheric-pressure air microplasmas
for agricultural applications

10:00

10:15 — **O-21** — **Masafumi JINNO**
Synergistic effect
between electrical and chemical factors
in plasma gene transfection

10:30 — **O-22** — **Yoko YAMANISHI**
Gene transfer by circulating plasma-bubble flow

I-11

Paula BOURKE
Potential of atmospheric cold plasma
for food preservation and processing

10:45 — Coffee break

1 Skin and wounds
Room A
Chairperson: R. SHORT

4 Agriculture and food
Room B
Chairperson: M. SHIRATANI

11:05 — **I-10**

Kai MASUR
Cold plasma mediated influence
on cellular redox balance to support wound healing

O-31 — **Kyoung Suk OH**
Effect for the GABA accumulation of brown rice
using the plasma and the plasma discharged water

O-32 — **Stanislav KYZEK**
Monitoring of the potential genotoxic effect
of low temperature plasma in pea seeds

11:20

11:35 — **P2-13** — **Šárka KUBINOVÁ**
Non-thermal air plasma in skin wound healing

11:50 — **P1-56** — **Bouke BOEKEMA**
In vitro efficacy and safety
of a new flexible volume DBD device
for the treatment of diabetic foot ulcers

I-12

Nevena PUAČ
Plasma treatment in seed germination

12:05 — **O-23** — **Uroš CVELBAR**
Safety level of atmospheric pressure jet
skin treatment

12:20 — **O-24** — **Emilio MARTINES**
Plasma treatment of sheep skin wounds
in veterinary medicine

I-13

Brendan NIEMIRA
Cold plasma as a novel intervention
against food-borne pathogens

Tuesday, September 6 - Afternoon

12:35 — Lunch — 12:35

	1-2 Skin and wounds Room A Chairperson: U. CVELBAR	**9 PAW + RONS diagnostics** Room B Chairperson: M. HORI
14:00	**O-25** **Yuzuru IKEHARA** Mechanism of blood coagulation induced by plasma treatment in addition to the acceleration of the natural blood coagulation process	**I-16** **Petr LUKEŠ** Diagnostics of reaction kinetics in air plasma treated liquids
14:15	**O-26** **Marc C. JACOFSKY** Hemostasis with tissue preservation using the Plaz4™ atmospheric pressure plasma jet *in vivo*	
14:30	**I-14** **Paola BRUN** Mechanisms of wound healing and disinfection in a plasma source for the treatment of corneal infections	**O-33** **Thomas von WOEDTKE** The redox potential in liquids as possible parameter to estimate and compare biological plasma effects
14:45		**O-34** **Fanny GIRARD** Combining spectro-electrochemical methods to characterize the RONS generated in physiological buffer exposed to diffuse cold atm. plasmas
15:00	**O-27** **Michael Gangyu KONG** An evaluation of a CAP-based treatment of psoriasis	**O-35** **Helena JABLONOWSKI** Plasma induced reactive oxygen species in biorelevant liquids: different species have various origins
		9 PAW + RONS diagnostics
15:15	**P2-9** **Julia van der LINDE** Repeated cold atmospheric plasma application to intact skin causes no sensitization in vivo - an OECD protocol	**O-36** **Barbora TARABOVÁ** Challenges of RONS detection in air plasma activated solutions by colorimetric and fluorescent based assays
	1-2-5 Transdermal drug delivery	
15:30	**I-15** **Kazuo SHIMIZU** Feasibility study of plasma drug delivery for improving precutaneous absorption of skin	**O-37** **Daniela BOEHM** Plasma activated liquids show distinct biocidal effects between microbial and mammalian cells
15:45		**O-38** **Endre SZILI** Effect of sparging in plasma medicine
16:00	Coffee break	
16:20	**P2** **Poster session 2**	
18:00		ISPM board meeting

Wednesday, September 7

6 Surface interactions — Room A — Chairperson: F. AREFI-KHONSARI

09:00 **P-3**

Robert SHORT
Opportunities for plasma technologies in cell therapy and wound healing

	2 Cells and tissues Room A Chairperson: J. BANDOW	6 Surface interactions and functionalization Room B Chairperson: F. AREFI-KHONSARI
09:45	**I-17** **Shoko NISHIHARA** Atmospheric-pressure plasma irradiation on embryonic stem cells: signals and differentiation	**O-43** **Alibi BAITUKHA** Carboplatin drug delivery systems prepared by catalyst free PECVD reactor for biomedical application
10:00		**O-44** **Michael R. WERTHEIMER** Chemical aspects of endothelial cell adhesion and growth for vascular grafts
10:15	**O-39** **Theresa FREEMAN** Tissue growth, repair and regeneration due to ASK1 inhibition is further enhanced by cold atmospheric dielectric barrier discharge treatment	**I-19** **Pietro FAVIA** Surface modification plasma processes for advanced biomedical applications
10:30	**O-40** **Shota SASAKI** Interaction between plasma-activated calcium ion channel and uptake of drug-simulated molecule	
10:45	Coffee break	

	2 Cells and tissues Room A Chairperson: M. KEIDAR	6 Surface interactions and functionalization Room B Chairperson: P. FAVIA
11:05	**I-18** **Kostya (Ken) OSTRIKOV** Plasma, cell and cancer	**O-45** **Anna LIGUORI** Non-equilibrium atmospheric pressure plasma technology for anti-CD 10 antibody immobilization on PLLA nanofibres
10:20		**O-46** **Farzaneh AREFI-KHONSARI** Deposition of thin films using a transporting discharge at atmospheric pressure
11:35	**O-41** **Oleg LUNOV** Towards the understanding of non-thermal plasma effects on bacteria and mammalian cells	**I-20** **Hynek BIEDERMAN** Plasma surface modification for biomedical applications
11:50	**O-42** **Augusto STANCAMPIANO** Effect of cold atmospheric plasma on human papillomavirus type 16 infected keratinocytes	
12:05	Lunch	
13:30	**Conference trip**	

Thursday, September 8 - Morning

1-2 Dentistry — Room A — Chairperson: M. LAROUSSI

09:00 — **P-4**

Matteo GHERARDI
Plasma treatment in dentistry

	1-2 Dentistry Room A Chairperson: M. LAROUSSI	**3 Biofilms** Room B Chairperson: S. ERMOLAEVA
09:45	**O-47** **Lukasz JABLONOWSKI** Atmospheric pressure plasma application in the oral cavity: Short term experiments in mice	**I-23** **Brendan GILMORE** Controlling bacterial biofilm and virulence using non thermal plasmas
	1-2 Cancer *in-vivo*	
10:00	**O-48** **Bruno HONNORAT** Therapeutic effect of cold atmospheric plasma on oral cavity squamous cell carcinomas	
10:15	**I-21** **Gregor SERŠA** Anti-vascular effects of electroporation - implications for electrochemotherapy and gene therapy	**O-56** **Anne MAI-PROCHNOW** Cold plasma treatment of single- and mixed-species biofilms
10:30		**O-57** **Zuzana KOVAĽOVÁ** Biofilm thickness and biomass reduction after treatment with DC air corona discharges
10:45	Coffee break	
	1-2 Cancer *in-vivo* Room A Chairperson: E. ROBERT	**3 Biodecontamination** Room B Chairperson: B. GILMORE
11:05	**O-49** **Hans-Robert METELMANN** Cancer treatment and physical plasma: A clinical phase-I-study concept and first results	**I-24** **Jean-Yves MAILLARD** Bacterial spore structures and their protective role in biocide resistance
11:20	**O-50** **Kazue MIZUNO** Nanosecond pulsed streamer discharge delayed the tumor growth at unirradiated sites *in vivo*	
11:35	**O-51** **Michael KEIDAR** Toward understanding the selective anti-cancer capacity of cold atmospheric plasma - an aquaporins-based model	**O-58** **Joanna PAWŁAT** Comparison of RONS generation and biodecontamination by AP plasma sources: transient spark, mini glide-arc and DBD jet
11:50	General assembly	
12:20	Group photo	

Thursday, September 8 - Afternoon

12:35	Lunch	12:35
	1-2 Cancer cells and tissues Room A Chairperson: R. SATAVA	**3 Biodecontamination** Room B Chairperson: A. MIZUNO
14:00	**I-22** **Lluis MIR** Pulsed electric field effects on cells and associated cancer treatments	**O-59** **Andrea COCHIS** Effective decontamination of soft reline-based oral cancer shutters by means of non-thermal atmospheric plasma	14:00
14:15		**O-60** **Utku Kürşat ERCAN** Evaluation of antimicrobial activity of nebulized plasma-treated liquids for control of ventilator associated pneumonia	14:15
14:30	**O-52** **Nobuyuki SHIMIZU** Systematization of the mechanism by which plasma irradiation causes cell growth and tumor cell death	**I-25** **Katsuhisa KITANO** Identification of chemical species for bactericidal effects of cryo-preserved plasma treated water	14:30
14:45	**O-53** **Ionuţ TOPALĂ** Viability and cell biology for HeLa and VERO cells after exposure to low temperature air DBD plasma		
15:00	**O-54** **Cristina CANAL** Atmospheric pressure plasma jet selectivity towards bone cancer	**I-26** **Elena SYSOLIATINA** Cold plasma against mycoplasma, a cell-wall-deficient membrane parasite of eukaryotic cells	15:00
15:15	**O-55** **Sybille HASSE** Cold argon plasma as an adjuvant therapy option in progressive head and neck cancer - results of a preclinical study		
15:30	Coffee break		15:15
15:50	**P3** **Poster session 3**		15:50
19:00	**Conference dinner**		19:00

Friday, September 9

09:00 — 2 Immune response — Room A — Chairperson: A. FRIDMAN

P-5
Vandana MILLER
Plasma onco-immunotherapy: The future of cancer treatment?

	2 Immune response Room A Chairperson: A. FRIDMAN	9 Plasma diagnostic Room B Chairperson: M.G. KONG
09:15	**O-61** **Katrin RÖDDER** Cold plasma treatment of murine cancer cells triggers immunogenic responses in splenocytes *ex vivo*	**I-28** **Jan BENEDIKT** Molecular beam mass spectrometry and vacuum UV spectroscopy of atmospheric pressure plasmas
10:00	**O-62** **Yosky KATAOKA** Effect of atmospheric-pressure plasma irradiation on the central nervous system of adult rats	
10:15	**I-27** **Nagendra KAUSHIK** Immuno-modulatory effect of bio-plasma and its application in cancer treatment	Special lectures Plasma Medicine Award and Early Career Award in Plasma Medicine winners
10:45	Coffee break	
	2 Biomolecules Room A Chairperson: T. von WOEDTKE	**10 Modelling and simulations** Room B Chairperson: M. YOUSFI
11:05	**O-63** **Julia BANDOW** Plasma-based inactivation of proteins	**I-29** **George NAIDIS** Production of reactive species in cold atmospheric-pressure plasma jets
11:20	**O-64** **Jan-Wilm LACKMANN** Cysteine as a model for comparing the impact of plasmas on biological samples	
11:35	**O-65** **Ji Hoon PARK** Effect of cold atmospheric plasma and ns pulsed plasma on protein folding and deactivation of drug resistance bacteria	**O-68** **Amanda LIETZ** Impact of electrode placement on RONS production in atmospheric pressure plasma jets
11:50	**O-66** **Liam O'NEILL** Deposition of biomolecules via non-thermal plasma devices	**O-69** **Maksudbek YUSUPOV** Effect of electric field on pore formation in model systems for lipid membrane and skin barrier: A molecular dynamics study
12:05	**O-67** **Simon MAHEUX** Effect of small unilamellar liposome composition on their degradation mechanism in physiological liquids by ns pulsed cold atmospheric plasma	**O-70** **Tomoyuki MURAKAMI** Modelling of plasma interaction with gas-liquid interface
12:20	Closing	
12:35	Lunch	