



*European Low Gravity Research Association – ELGRA Symposium  
Antwerp, Belgium  
2011 Symposium & General Assembly - Final Program*

UPDATE 2 SEPTEMBER 2011



**PROGRAMME  
ELGRA BIENNIAL SYMPOSIUM AND GENERAL  
ASSEMBLY 2011, Antwerp, Belgium  
Update 2 September 2011**

**Local Organisers:**

Prof Floris Wuyts ([Floris.Wuyts@ua.ac.be](mailto:Floris.Wuyts@ua.ac.be) +32.486.63.75.50),  
Prof Valentina Shevtsova ([vshev@ulb.ac.be](mailto:vshev@ulb.ac.be) )



## **PROGRAMME**

### **Monday, September 5<sup>th</sup>**

**University of Antwerp: Campus Drie Eiken - HALL of Q**

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16:00 - 20:00	Registration and welcome reception
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### **Tuesday, September 6<sup>th</sup>**

**ROOM AULA FERNAND NEDEE (Q)**

**Chair Jack van Loon**

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8:00 – 9:00	Registration
9:00 – 9:30	Opening
9:30 – 10:20	Medal ceremony and lecture by medallist (J.C. Legros)
10:20 – 10:40	Coffee break

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**Tuesday, September 6<sup>th</sup>**

**ROOM V2                      Session Physical Science (Convection I)**

**Chair Valentina Shevtsova**

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10:40 – 11:00	PARTICLE ACCUMULATION STRUCTURE (PAS) IN HANGING DROPLET BY THERMOCAPILLARY CONVECTION Tomohiko Takakusagi*, Ichiro Ueno and Chungpyo Hong
11:00 – 11:20	STUDY OF PARTICLES DYNAMICS IN COMPLEX THERMOCAPILLARY PERIODIC FLOWS Denis Melnikov, Dmitri Pushkin, Valentina Shevtsova
11:20 – 11:40	EFFECT OF AMBIENT GAS FLOW ON PARTICLE ACCUMULATION STRUCTURE (PAS) DUE TO THERMOCAPILLARY EFFECT IN HALF ZONE LIQUID BRIDGE Yoshihiro Niigaki and Ichiro Ueno
11:40 – 12:00	INVESTIGATION OF PARTICLE ACCUMULATION STRUCTURES IN ZERO-GRAVITY LIQUID-BRIDGES Frank Muldoon and Hendrik Kuhlmann
12:00 – 12:20	EFFECT OF PRANDTL NUMBER ON ONSET OF OSCILLATORY MARANGONI CONVECTION IN LARGE LIQUID BRIDGE Satoshi Matsumoto, Shinichi Yoda, Atsuki Komiya and Masahiro Kawaji
12:20 – 12:40	OSCILLATORY INSTABILITY CAUSED BY STREAM OF COLD GAS IN LIQUID BRIDGES. Yuri Gaponenko, Valentina Shevtsova
12:40 - 14:00	Lunch in Campus restaurant 'den Eik'

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**Tuesday, September 6<sup>th</sup>**

**ROOM "PROMOTION ROOM"      Session Life Sciences (Sensory Motor I)**

**Chair Jean Louis Thonnard**

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10:40 – 11:00	DEXTEROUS MANIPULATION IN MICROGRAVITY: FROM AIRCRAFT PARABOLIC FLIGHTS TO THE INTERNATIONAL SPACE STATION Vladimir Pletser, Patrik Sundblad, Jean-Louis Thonnard, Philippe Lefevre, Joseph McIntyre, Ronald Kassel, Wim Derkinderen, Massimo Penta, Thibaut André
11:00 – 11:20	ANALYSIS OF THE IMAGERY PART OF COHERENCY IN VISUAL PERCEPTION IN WEIGHTLESSNESS Leroy, A. Palmero-Soler, E., Cebolla, A., De Saedeleer, C., Bengoetxea, A. Dan B. Mc Intyre, J. & Cheron G
11:20 – 11:40	THE ANTARCTIC STATION CONCORDIA AS SPACE ANALOG FOR STUDYING THE INTERACTION BETWEEN STRESS, IMMUNE FUNCTION AND COGNITION Patrick De Boever, Nelly Saenen, Daniela Santucci, Griet Vermeir, Mineke Viaene, Greet Schoeters

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11:40 – 12:00	PERCEPTION OF AMBIGUOUS IMAGES IN WEIGHTLESSNESS Heather Allaway, Alexander Melinyshyn, Alexandra Kindrat, Jagruti Pankhania, Jonathan Muller, Antoni Perez-Poch, Daniel Ventura Gonzalez Alonso, Gilles Clement
12:00 – 12:20	THE EFFECTS OF THE DRY IMMERSION ON THE VESTIBULAR REFLEXES AND VISUAL-MANUAL TRACKING Kornilova L.N., Naumov I.A., Drynkina E.V., Makarova S.M., Gluhih D.O., A. Pavlova
12:20 - 14:00	Lunch

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**Tuesday, September 6<sup>th</sup>**

**ROOM V1            Session Life Sciences (Plant Biology I)**

**Chair Javier Medina**

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10:40 – 11:00	PLANT CELL GRAVISENSITIVITY AND ADAPTATION TO MICROGRAVITY E.L. Kordyum, L.E. Kozeko, A.C. Talalaev
11:00 – 11:20	ROOT RESPIRATION UNDER MICROGRAVITY Camilla Pandolfi, Elisa Masi, Elisa Azzarello, Sergio Mugnai*, Stefano Mancuso
11:20 – 11:40	EFFECTS OF GRAVITY ON ISOFLAVONOID PRODUCTION IN ETIOLATED SOYBEAN SEEDLING AND CALLUS TISSUES Peter Downey, Lanfang H. Levine, Mary Musgrave, Siobhán Moane, Michelle McKeon-Bennett
11:40 – 12:00	ROOT GROWTH PATTERN IS ALTERED BY SIMULATED SPACE ENVIRONMENT (SSE): EFFECT OF MICROGRAVITY AND RADIATIONS A. Fortunati, G. Pani, N. Vanhoudt, P. Tassone, F. Loreto, C. Calfapietra, S. Baatout, H. Vandenhove & F. Migliaccio
12:00 – 14:00	Lunch in Campus Restaurant 'den Eik'

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**Tuesday, September 6<sup>th</sup>**

**ROOM V2            Session Physical Science (Convection II)**

**Chair Ichiro Ueno**

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14:00 – 14:20	THERMOCAPILLARY INSTABILITIES IN LIQUID BRIDGES REVISITED Ilya Ryzhkov
14:20 – 14:40	EFFECT OF AN AMBIENT GAS ON THERMOCAPILLARY CONVECTION IN HIGH PRANDTL NUMBER LIQUID BRIDGES Michael Lukasser, Hendrik Kuhlmann

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14:40 – 15:00	CHAOTIC THERMOCAPILLARY CONVECTION IN A HALF-ZONE LIQUID BRIDGE ON ‘KIBO’ ABOARD THE INTERNATIONAL SPACE STATION Fumihiko Sato, Ichiro Ueno, Koichi Nishino, Hiroshi Kawamura, Mitsuru Ohnishi, Satoshi Matsumoto, Shinichi Yoda and Tetsuo Tanaka
15:00 – 15:20	FREE SURFACE DEFORMATION AND HEAT TRANSFER BY THERMO-CAPILLARY CONVECTION Eckart Fuhrmann, Michael Dreyer
15:20 – 15:40	Coffee break

**Tuesday, September 6<sup>th</sup>**

**ROOM V1**

**Session Life Sciences (Potpourri)**

**Chair**

**Thibaut Neutelings**

14:00 – 14:20	THE MICE DRAWER SYSTEM (MDS) TISSUE SHARING PROGRAMME: EFFECT OF SPACE CONDITIONS ON SKIN METABOLIC ACTIVITY Thibaut Neutelings, Charles Lambert, Yi Liu, Ranieri Cancedda, Sara Tavella, Alessandra Ruggiu, Betty Nusgens, Alain Colige .
14:20 – 14:40	MONOCYTE CYTOSKELETON RECOVERY AFTER SIMULATED SPACE CONDITIONS Pani Giuseppe, Mura Miriam, Mariantonietta, Meloni MariAntonia, Pippia Proto, Baatout Sarah.
14:40 – 15:00	GENESYX MODELLING METHOD TO DESCRIBE AND PREDICT EPIDEMIES AND PANDEMIES FROM FLUCTUATIONS OF SPACE WEATHER Claude Gaudeaud de Gerlicz, Jean Claude Borderon, Philippe Bobola, Mathias Antoine and Xavier d’Herouville
15:20 – 15:40	Coffee break

**Tuesday, September 6<sup>th</sup>**

**ROOM "PROMOTION ROOM"**

**Session Life Sciences (Cells Methods)**

**Chair Jack van Loon**

14:00 – 14:20	DEVELOPING TOOLS FOR ON-ORBIT ANALYSIS AND TRANSFER OF SAMPLES OF CELLS AND MODEL ORGANISMS Paul Todd, Michael A. Kurk, Ronald Byrnes, James F. Leary, Teimour Maleki and John C. Vellinger
14:20 – 14:40	HYPERGRAVITY ENHANCES THE ENDOTHELIAL BARRIER R Szulcek, J van Bezu, J Boonstra, JJWA van Loon, and GP van Nieuw Amerongen



14:40 – 15:00	SYSTEMATIC GBF COMPARISONS OF ALTERED GRAVITY: GRAVISENSITIVE PROTISTS: PARAMECIUM AND EUGLENA Ruth Hemmersbach, Jens Hauslage, Anja Simon, Sascha Hoppe, Kai Waßer, Ralf Anken, Peter Albers, Peter Christianen, Peter Richter, Michael Lebert
15:00 – 15:20	SUSPENSION CULTURE ASSAY OF BACTERIAL VIRULENCE USING <i>CAENORHABDITIS ELEGANS</i> : OPTIMIZATION FOR SPACE FLIGHT STUDIES. Timothy G. Hammond, Jeanne L. Becker, Louis S. Stodieck, Paul Koenig, Anthony Johnson, Jeffrey S. Hammond, Margaret. A. Gunter, and Patricia L. Allen
15:20 – 15:40	Coffee break

**Tuesday, September 6<sup>th</sup>**

**ROOM V2                      Session Physical Science (Particles, Emulsion, Foams)**

**Chair Tatiana Lyubimova**

15:40 – 16:00	BEHAVIOUR OF SHAPE MEMORY EPOXY FOAMS IN MICROGRAVITY: EXPERIMENTAL RESULTS OF STS-134 MISSION Loredana Santo, Fabrizio Quadrini, Pier Luigi Ganga
16:00 – 16:20	PARTICLE DYNAMICS IN A FLUID UNDER HIGH FREQUENCY VIBRATIONS A.Y.Baydin, D.V.Lyubimov, T.P.Lyubimova
16:20 – 16:40	PRESSURE BALANCE OF TWO-DIMENSIONAL COULOMB CRYSTALS OBSERVED ON GROUND-BASED COMPLEX PLASMAS EXPERIMENTS Satoshi Adachi, Hiroo Totsuji, Kazuo Takahashi and Masahiro Takayanagi
16:40 – 17:00	SPACE: SUBORBITAL PARTICLE AGGREGATION AND COLLISION EXPERIMENT Julie Brisset, Daniel Heißelmann, Stefan Kothe, René Weidling, Jürgen Blum
17:00 – 17:20	MICROGRAVITY EXPERIMENTS ON THE FORMATION OF PLANETS Stefan Kothe, Carsten Güttler, Jürgen Blum, Eike Beitz, René Weidling
17:40 - 19:00	<b>POSTER SESSION AND BEER (sponsored by Qinetiq Space)</b> The list of Posters is below (posters will remain on their panels throughout the conference)



**Tuesday, September 6<sup>th</sup>**

**ROOM "PROMOTION ROOM"**

**Session Life Sciences (Cells stress)**

**Chair Monica Monici**

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15:40 – 16:00	CELL TO CELL COMMUNICATION IN SIMULATED MICROGRAVITY Felice Mastroleo, Rob Van Houdt, Max Mergeay, Larissa Hendriks, Ruddy Wattiez and Natalie Leys
16:00 – 16:20	EFFECTS OF REAL WEIGHTLESSNESS ON THYROID CANCER CELLS Markus Wehland, Claudia Ulbrich, Jessica Pietsch, Jirka Grosse, Herbert Schulz, Jens Hauslage, Ruth Hemmersbach, Markus Braun, Jack van Loon, Nicole Vagt, Manfred Infanger, Daniela Grimm
16:20 – 16:40	INFLUENCE OF OXYGEN CULTURING HUMAN MESENCHYMAL STEM CELLS IN SIMULATED MICROGRAVITY S. Versari, J van Loon and S. Bradamante
16:40 – 17:00	SHORT-TERM WEIGHTLESSNESS PRODUCED BY PARABOLIC FLIGHT MANEUVERS ALTERED GENE EXPRESSION PATTERNS IN HUMAN ENDOTHELIAL CELLS Jessica Pietsch, Markus Wehland, Claudia Ulbrich, Jirka Grosse, Herbert Schulz, Norbert Hübner, Jens Hauslage, Ruth Hemmersbach, Markus Braun, Jack van Loon, Nicole Vagt, Manfred Infanger, Daniela Grimm
17:00 - 17:20	LUNAR DUST AFFECTS HUMAN AIRWAY EPITHELIAL CELLS VIA INCREASED INFLAMMATION Alamelu Sundaresan, Tram Cao, Terrell Gibson, Christina Clemens and John James
17:40 – 19:00	<b>P O S T E R S E S S I O N     A N D     B E E R</b> <b>(sponsored by Qinetiq Space)</b> The list of Posters is below (posters will remain on their panels throughout the conference)

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**Wednesday, September 7<sup>th</sup>**

**ROOM AULA FERNAND NEDEE**

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9:00 – 9:40	Lecture by 2 <sup>nd</sup> medallist (Enno Brinckmann)
9:40 – 10:20	Plenary lecture - Prof Hansjoerg DITTUS
10:20 – 10:40	Coffee break

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**Wednesday, September 7<sup>th</sup>**

**ROOM V2                      Session Physical Science (Vibration)**

**Chair Daniel Beysens**

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10:40 – 11:00	MEASUREMENT OF BUOYANCY DRIVEN CONVECTION ON BOARD INTERNATIONAL SPACE STATION WITH THE USE OF CONVECTION SENSOR “DACON-M” I. Babushkin, Y. Gertsen, A. Glukhov, A. Nagovitsin, G. Putin, E.Zilberman, M. Belyaev, A. Ivanov, M. Maksimova, S.Nikitin, V.Polezhaev, V. Sazonov, D. Zavalishin
11:00 – 11:20	IVIDIL EXPERIMENT: VIBRATION-INDUCED CONVECTION IN LOW AND ZERO GRAVITY. V. Shevtsova, Yu. Gaponenko, D. Melnikov, A. Mialdun
11:20 – 11:40	DEVELOPMENT OF THERMAL BOUNDARY LAYER INSTABILITY IN INCOMPRESSIBLE FLUID SUBJECTED TO VIBRATIONS Dmitriy Lyubimov, Tatyana Lyubimova, Daniel Beysens and Sakir Amiroudine
11:40 – 12:00	SURFACE PATTERNS AND DYNAMICS INDUCED BY FLUID VIBRATIONS IN MICROGRAVITY Jeff Porter, Ignacio Tíao, Ana-Laveron -Simavilla
12:00 – 12:20	WAVE PATTERNS ON THE INTERFACE OF TWO IMMISCIBLE FLUIDS IN CLOSED CAVITY SUBJECTED TO THE HORIZONTAL VIBRATIONS Dmitriy Lyubimov, Tatyana Lyubimova, Andrey Ivantsov
12:20 – 12:40	STOCHASTIC G-JITTERS AND DIRECTIONAL SOLIDIFICATION X. Ruiz, P. Bitlloch, L. Ramírez-Piscina, J. Casademunt
12:40 - 14:00	LUNCH

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**Wednesday, September 7<sup>th</sup>**

**ROOM "PROMOTION ROOM"**

**Session Life Sciences (Counter measures)**

**Chair Kristof Buytaert**

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10:40 – 11:00	VALIDATION OF A SPECIFIC DRUG AGAINST G-LEVEL TRANSITION INDUCED SPATIAL DISORIENTATION AND ORTHOSTATIC INTOLERANCE: THE ESA SPIN-D STUDY Weerts A.P., Vanspauwen R., Buytaert K.I., Migeotte P.-F., Neyt X., Van de Heyning P.H. and Wuyts F.L.
11:00 – 11:20	FLYWHEEL EXERCISE TRAINING IMPROVES AEROBIC CAPACITY AND MUSCLE STRENGTH IN AMBULATORY MEN AND WOMEN Per A. Tesch, Tomasz Owerkowicz, Joshua A. Cotter, Alvin M. Yuam, Marinelle L. Camilon, Theresa Hoang, Michael J. Baker, Arthur Kreitenberg, Vince J. Caiozzo, Ken M. Baldwin Greg R. Adams
11:20 – 11:40	A NEW SLEDGE JUMP SYSTEM THAT ALLOWS ALMOST NATURAL REACTIVE JUMPS Kramer A, Ritzmann R, Gollhofer A, Gruber M
11:40 – 12:00	VALIDATION OF CENTRIFUGATION AS A COUNTERMEASURE FOR OTOLITH DECONDITIONING DURING SPACEFLIGHT: PRELIMINARY DATA OF THE ESA SPIN STUDY K.I. Buytaert, H.G. MacDougall, P.-F. Migeotte, N. Pattyn, G. Clement, S.T. Moore, P.H. Van de Heyning, F.L. Wuyts
12:00 – 12:20	EFFECT OF IR LASER ON MYOBLASTS: PROSPECTS OF APPLICATION FOR COUNTERACTING MICROGRAVITY-INDUCED MUSCLE ATROPHY Monica Monici, Francesca Cialdai, Giovanni Romano, Anna Caselli, Francesco Ranaldi
12:40 - 14:00	Lunch

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**Wednesday, September 7<sup>th</sup>**

**ROOM V1**

**Session Life Sciences (Plant Biology II)**

**Chair Enno Brinckmann**

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10:40 – 11:00	SYSTEMATIC GBF COMPARISONS OF ALTERED GRAVITY: GENE EXPRESSION AND CELLULAR FUNCTIONS IN PLANT CULTURES Ana I. Manzano, Jack J.W.A. van Loon, Peter Christianen, Raul Herranz and F. Javier Medina
11:00 – 11:20	A PARABOLIC FLIGHT PROFILE AS REFLECTED BY GENE EXPRESSION AND PROTEIN MODULATION OF PLANT CELLS Niklas Hausmann, Anne Hennig, Maren Neef, Waltraud Schulze, Rüdiger Hampp
11:20 – 11:40	EFFECT OF SIMULATED MICROGRAVITY ON THE EXPRESSION AND TRANSLATION OF GENES FOR $\alpha$ AND $\beta$ TUBULINES IN WILD-TYPE ARABIDOPSIS, AND IN TWO AUXIN TRANSPORT MUTANTS. Tassone P, Fortunati A, Saba A, Pani G, Meloni MA, Pippia P, Migliaccio F

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11:40 – 12:00	A NOVEL RED-LIGHT-BASED PHOTOTROPISM IN PLANTS IS REVEALED IN FRACTIONAL GRAVITY STUDIES USING THE EMCS IN THE COLUMBUS MODULE OF THE ISS John Z. Kiss, Katherine D.L. Millar, Richard E. Edelman
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12:40 - 14:00	Lunch
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### **Wednesday, September 7<sup>th</sup>**

#### **ROOM "PROMOTION ROOM" Joint Session Physical Science and Life Sciences**

**Chair Paul Todd**

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14:00 – 14:30	THE EC ULISSE PROJECT: Luigi Carotenuto
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14:30 – 14:50	FLUID MOTION FOR MICRO-GRAVITY SIMULATION IN A RANDOM POSITIONING MACHINE Carole Leguy, René Delfos, Mathieu Pourquoi, Christian Poelma, Jan Vreeburg, Janneke Krooneman, Jerry Westerveel, Jack van Loon
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14:50 – 15:10	IN VIVO EMBOLIC DETECTOR: A NON-INVASIVE ELECTRICAL TECHNIQUE FOR THE DETERMINATION OF BUBBLES CHARACTERISTICS DURING DECOMPRESSION SICKNESS Sotiris P. Evgenidis, Konstantinos Zacharias, Lysimachos Papazoglou and <u>Thodoris D. Karapantsios</u>
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15:10 – 15:30	DYNAMICS OF INTERACTING BLOOD CELLS IN FLOW Thomas Podgorski, Christophe Minetti, Gwennou Coupier, Pierre-Yves Gires, Aparna Srivastav, Natacha Callens, Frank Dubois, Chaouqi Misbah
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15:30 – 15:50	Coffee break
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### **Wednesday, September 7<sup>th</sup>**

#### **ROOM V1**

#### **Session Life Sciences (Gene expressions)**

**Chair Nathalie Leys**

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14:00 – 14:30	THE EC ULISSE PROJECT: Luigi Carotenuto ( <b>in Promotion Room</b> )
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14:30 – 14:50	GENE EXPRESSION ANALYSIS IN BLOOD AND SALIVA FOR MEASURING THE EFFECT OF ACUTE STRESS ELICATED BY PARABOLIC FLIGHT Patrick De Boever, Nelly Saenen, Vera Brümmer, Tobias Vogt, Greet Schoeters, Chris Askew, Heiko Strüder, Stefan Schneider
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14:50 – 15:10	INCREASED RESISTANCE TO THE SILVER DISINFECTANT IS ACQUIRED BY ENDOGENOUS INSERTION SEQUENCE ELEMENTS AND CROSS REGULATION IN THE BACTERIUM <i>CUPRIAVIDUS METALLIDURANS</i> CH34 Mijnendonckx, K, Monsieurs, P, Mergeay, M., Leys, N., Mahillon, J., Van Houdt, R
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15:10 – 15:30	SIMULATED LOW GRAVITY EFFECTS ON NEURONAL NETWORK PLASTICITY G. Pani, N. Samari, L. de Saint-Georges, M.A. Meloni, S. Baatout, P. Van Oostveldt, M.A. Benotmane.
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15:30 – 15:50	Coffee break
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**Wednesday, September 7<sup>th</sup>**

**ROOM "PROMOTION ROOM" Facilities and instruments for space exploration I**

**Chair Hendrik Kuhlmann**

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15:50 – 16:05	THE UNITED NATIONS HUMAN SPACE TECHNOLOGY INITIATIVE (HSTI) Ingrid Dietlein, Aimin Niu, Mika Ochiai, Hans Haubold, Werner Balogh, Takao Doi
16:05 – 16:20	EXPERIMENTS ON BOARD SPACECRAFTS IN CHINA W.R. Hu
16:20 – 16:35	THE FIRST JOINT EUROPEAN PARTIAL-G PARABOLIC FLIGHT CAMPAIGN AT MOON AND MARS GRAVITY LEVELS FOR SCIENCE AND EXPLORATION Vladimir Pletser, Josef Winter, Fabienne Duclos, Thierry Bret-Dibat, Ulrike Friedrich, Jean-Francois Clervoy, Thierry Gharib, Frederic Gai, Olivier Minster, Patrik Sundblad
16:35 – 16:50	20TH ANNIVERSARY OF MICROGRAVITY EXPERIMENTS AT THE DROP TOWER BREMEN AND 25TH ANNIVERSARY OF ZARM Thorben Könemann, Christian Eigenbrod, Peter von Kampen, Hans J. Rath
16:50 – 17:05	SPACE EXPEDITION CURACAO (SXC) Landhuis Joonchi, H.J.P. van Hulten, B.A.C. Droste
17:05 – 17:20	ALPHASPARK SPACE TRANSPORTATION Rogier Schonenborg, Arno Wielders, Peter Houtzagers S-
17:20 – 17:35	DEVELOPING TOOLS ON-ORBIT ANALYSIS AND TRANSFER OF SAMPLES OF CELLS AND MODEL ORGANISMS Paul Todd, Michael A.Kurk, Ronald Byrnes, James F. Leary, Teimou Maleki and John C. Vellinger
17:35 - 17:50	IN-SITU X-RAY DIAGNOSTICS FOR MATERIAL SCIENCE MICROGRAVITY EXPERIMENTS Y. Houltz, P. Holm, P. Andersson, O. Löfgren, C Lockowandt

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**Wednesday, September 7<sup>th</sup>**

**ROOM: AULA FERNAND NEDEE (Q)**

**Chair Jack Van Loon**

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18:00 **ELGRA General Assembly**

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**Thursday, September 8th**

**ROOM AULA FERNAND NEDEE**

**Chair: Jack van Loon**

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9:00 – 9:40	EU (Reinhard Schulte-Braucks)
9:40 – 10:20	ESA (Martin Zell, Christer Fuglesang, Patrik Sundblad, Olivier Minster)

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**ROOM AULA FERNAND NEDEE      Session Young Scientist and Students**

**Chair Natacha Callens and Javier Medina**

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10:40 – 10:55	ESA EDUCATION OFFICE MICROGRAVITY AND HYPERGRAVITY HANDS-ON OPPORTUNITIES FOR UNIVERSITY STUDENTS Natacha Callens, Helen Page, Javier Ventura-Traveset, Roger Walker, Eduardo Zornoza García-Andrade, Carlos Gómez-Calero
10:55 – 11:10	THE EUROPEAN ALTERED GRAVITY STUDENT NETWORK Tariq Al-Marahleh, Amalio Monzón, Héctor Salvador, F. Javier Medina
11:10 – 11:25	SPATIAL MEMORY PERFORMANCES ARE DECREASED BY THE LOSS OF VESTIBULAR INPUTS M.L. Machado, V. Lelong-Boulouard, G. Vignaux, M. Boulouard, A. Coquerel, V. Bouet, T. Freret, P. Denise, S. Besnard
11:25 – 11:40	ALTERED GROWTH AND PROLIFERATION IN CELL CULTURES <i>in vitro</i> FROM <i>Arabidopsis thaliana</i> UNDER MAGNETIC LEVITATION CONDITIONS Ana I. Manzano, Jack J.W.A. van Loon, Peter Christianen, Raúl Herranz
11:40 – 11:55	LEVITRON – FUNCTIONAL WEIGHTLESSNESS FOR GRAVISENSING PROTISTS GENERATED BY MAGNETIC FIELD? Anja Simon, Ruth Hemmersbach
11:55 – 12:10	IMPINGING BUBBLY JETS AT DIFFERENT GRAVITY LEVELS Francesc Suñol, Ricard González-Cinca
12:10 – 12:25	ADVANCED ISOLATION ON SOUNDING ROCKETS (ADIOS) Stefan Krämer, Lysan Pfützenreuter
12:25 – 12:40	EXPLORE – A SOUNDING ROCKET EXPERIMENT FOR ON-ORBIT REFUELING PROCESSES AND TECHNOLOGIES Johannes Weppler, Christine Hill, Jürgen Schlutz, Andreas Fink, Robert Schelling, Emil Nathanson, Daniel Störk, Thorben Heinrichs
13:00	LUNCH

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**Thursday, September 8th**

**ROOM V2                      Session Physical Science (Convection III)**

**Chair Michael Dreyer**

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14:00 – 14:20	MARANGONI-BÉNARD INSTABILITY IN MICROGRAVITY: ANALYSIS OF THE INFRARED DATA GENERATED DURING THE BAMBI FOTON-M2 EXPERIMENT AND COMPARISON WITH THEORY Sam Dehaeck, Samuel Talvy, Patrick Queeckers, Pierre Colinet
14:20 – 14:40	INSTABILITY ANALYSIS OF A HORIZONTAL EVAPORATING BINARY LIQUID LAYER WITH TRANSIENT REFERENCE PROFILES H. Machrafi, A. Rednikov, P. Colinet, P.C. Dauby
14:40 – 15:00	BOILING CRISIS IN SF <sub>6</sub> IN ORBIT AND IN H <sub>2</sub> UNDER MAGNETIC WEIGHTLESSNESS D. Beysens, D. Chatain, Y. Garrabos, C. Lecoutre, V. Nikolayev
15:00 – 15:20	THERMOMAGNETIC CONVECTION IN ZERO GRAVITY AND EARTH CONDITIONS T. Lyubimova, A. Maifert
15:20 - 15:40	MAGNETIC COMPENSATION OF GRAVITY WITH AXISYMETRIC MAGNETS. Alain Mailfert, Clément Lorin
15:40 – 16:00	Coffee break

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**Thursday, September 8th**

**ROOM "PROMOTION ROOM"                      Session Life Sciences (Micro-organisms and anthropods)**

**Chair Eberhard Horn**

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14:00 – 14:20	GROWING WATER AND SOIL MICROBES IN SPACE Natalie Leys
14:20 – 14:40	MONITORING OF INTERNAL ENVIRONMENT AND MICROBIAL BIODAMAGE ON THE BOARD OF SPACE STATIONS Tatyana Alekhova, Natalia Zagustina, Alina Alexandrova, Tatyana Novozhilova, Michail Gorlenko <sup>3</sup> and Elena Vorobyova
14:40 – 15:00	SPACEFLIGHT CHANGES INNATE IMMUNE RESPONSES IN THE <i>DROSOPHILA MELANOGASTER</i> HOST Sharmila Bhattacharya and Oana Marcu
15:00 – 15:20	SYSTEMATIC GBF COMPARISONS OF ALTERED GRAVITY: DROSOPHILA MOTILITY AND GENE EXPRESSION Raul Herranz, Paloma Serrano, Richard J.A. Hill, Jack J.W.A. van Loon & F. Javier Medina
15:20 – 15:40	THE EFFECT OF MICROGRAVITY ON GROWTH OF ULOCLADIUM CHARTARUM COLONIES Ioana Gomoiu, Elias Chatzitheodoridis, Sonia Vadrucci, Peter Nobmann
15:40 - 16:00	Coffee break

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**Thursday, September 8th**

**ROOM V2                      Session Physical Science (Surface tension related phenomena)**

**Chair Thodoris D. Karapantsios**

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16:00 – 16:20	CAPILLARY CHANNEL FLOW – THE CCF EXPERIMENT ON THE INTERNATIONAL SPACE STATION Michael Dreyer, Aleksander Grah, Joerg Klatte, Peter Canfield
16:20 – 16:40	FILM CONDENSATION ON A DISK-SHAPED FIN Andrey Glushchuk, Igor Marchuk and Oleg Kabov
16:40 – 17:00	COMPARISON OF TWO METHODS FOR GENERATING SMALL BUBBLES WITH A T-JUNCTION IN MICROGRAVITY CONDITIONS S. Arias, R. González-Cinca
17:00 – 17:20	LIQUID RIVULET FLOW MOVED BY SHEAR STRESS OF GAS FLOW DURING VARIABLE LEVEL OF GRAVITY Cheverda Vyacheslav, Glushchuk Andrey, Kabov Oleg, Queeckers Patrick, Chikov Sergey.
17:20 - 17:40	A NUMERICAL STUDY OF PERFORATED PLATES USED IN PROPELLANT MANAGEMENT DEVICES Diana Gaulke, Michael E. Dreyer

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**Thursday, September 8th**

**ROOM "PROMOTION ROOM"  
Physiology)**

**Session Life Sciences (Models and Methods for**

**Chair Per Tesh**

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16:00 – 16:20	IMPEDANCE-CARDIOGRAPHY DURING PASSIVE TILT-TESTS IN RETURNING ASTRONAUTS: PRELIMINARY RESULTS FROM THE ESA SPIN EXPERIMENT. P-F. Migeotte, S. De Ridder, N. Pattyn, A. Diedrich, X. Neyt, F. Wuyts
16:20 – 16:40	NONINVASIVE BIOMEDICAL TECHNOLOGY FOR ASSESSMENT OF HUMAN BONE TISSUE STATUS AND QUALITY IN SPACE Mikhail Levashov, Vadim Berezovskii, Sergey Saphonov
16:40 – 17:00	COMPUTER SIMULATION OF MICROGRAVITY LONG-TERM CARDIOVASCULAR EFFECTS AND RISK EVALUATION Antoni Perez-Poch
17:00 – 17:20	THREE DIMENSIONAL BALLISTOCARDIOGRAPHY: AN OLD AND STILL PROMISING TECHNIQUE REVIVED FROM RESEARCH IN MICROGRAVITY. P-F. Migeotte, S. De Ridder, G.K. Prisk, N. Pattyn, X. Neyt
17:20 – 17:40	MODIFIED MODEL OF ROOT GRAVIRESPONSE A. Kondrachuk

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**Thursday, September 8th**

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**20:00 –                      Conference Diner: University Club (Main University Building in Antwerp City: Prinsstraat 13b, Antwerp)**

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**Friday, September 9th**

**ROOM AULA FERNAND NEDEE**

fsim Plenary lecture: Prof Pascale Ehrenfreund

**ROOM V2 Session Physical Science (Transport coefficients)**

**Chair Satoshi Matsumoto**

9:40 – 10:00	BUILDING COLLOIDAL STRUCTURES IN MICROGRAVITY Sandra J. Veen, Marco Potenza, Matteo Alaimo, Stefano Mazzoni, Gerard H. Wegdam, Peter Schall
10:00 – 10:20	PREPARATION OF DCIMIX EXPERIMENTS. ANALYSIS OF RELAXATION TIME IN THE TERNARY LIQUID MIXTURE Alexander Mialdun, Viktor Yasnou, Alexander Nepomnyashchy, Valentina Shevtsova
10:20 – 10:40	Coffee break
10:40 – 11:00	SHEAR CELLS AND DIFFUSION COEFFICIENT MEASUREMENTS UNDER REDUCED GRAVITY CONDITIONS. X. Ruiz, J. Pallarés
11:00 – 11:20	THERMOPHYSICAL PROPERTIES MEASUREMENTS BY ELECTROMAGNETIC LEVITATION UNDER MICROGRAVITY CONDITIONS BY PARABOLIC FLIGHT Masahito Watanabe, Shumpei Ozawa, Hiroya Kawauchi, Akitoshi Mizuno, Taketoshi Hibiya <sup>1</sup> , Hidekazu Nishimura
11:20 – 11:40	ADVANCEMENTS IN THE QUANTIFICATION OF THE CRYSTAL STRUCTURE OF ZNS MATERIALS PRODUCED IN VARIABLE GRAVITY Martin Castillo, Theodore Steinberg,
11:40 – 12:00	DIAMAGNETIC LEVITATION FOR STUDIES OF NEAR WEIGHTLESS WATER DROPLETS. Richard J A Hill, Laurence Eaves
12:00 – 12:20	THERMOPHYSICAL PROPERTY MEASUREMENTS UNDER REDUCED GRAVITY CONDITIONS: EVOLUTION AND STATUS OF THE THERMOLAB PROJECT H.-J. Fecht <sup>1</sup> , R. K. Wunderlich, L. Battezzati, E. Ricci, R. Novakovic, J. Etay, T. Matsushita, S. Seetharaman, J. Brillo and I. Egry
13:00 - 14:00	LUNCH





**Friday, September 9th**

**ROOM "PROMOTION ROOM" Session Life Sciences (Animal neuronal science)**

**Chair: Daniela Santucci**

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9:40 – 10:00	HYPERGRAVITY PARADIGM TO INVESTIGATE NEUROBEHAVIOURAL EFFECTS OF AN ALTERED GRAVITATIONAL ENVIRONMENT IN MAMMALS S. Schwartz, N. Francia, M.E. de Stefano* and D. Santucci
10:00 – 10:20	NOVEL APPROACHES TO THE STUDY OF RODENT NEUROSCIENCE IN PARTIAL- AND MICROGRAVITY Yasuhiro Kumei, Katarzyna Anna Inoue, Jorge L. Zeredo, Katsuya Hasegawa, Yukio Maezawa, Kimiya Narikiyo, Akira Masuda and Shuji Aou
10:20 – 10:40	Coffee Break
10:40 – 11:00	HIGH-SPEED X-RAY PHOTO ANALYSIS OF MOUSE BEHAVIOR AT PARTIAL GRAVITY Katsuya Hasegawa, Jorge L. Zeredo, and Yasuhiro Kumei
11:00 – 11:20	NEURONAL RESPONSE OF THE HYPOTHALAMIC ARCUATE NUCLEUS TO PARTIAL-GRAVITY LEVELS IN RATS Jorge L. Zeredo, Katarzyna A. Inoue, Kimiya Narikiyo, Akira Masuda, Shuji Aou, Yasuhiro Kumei
11:20 – 11:40	OBESITY MICE LACKING LEPTIN RECEPTORS HAVE HIGHER CAPABILITY TO ADAPT TO PARTIAL GRAVITY CONDITIONS THAN CONTROL LEAN MICE" Shuji Aou

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**Friday, September 9th**

**ROOM "PROMOTION ROOM" Facilities and instruments for space exploration II**

**Chair: Patrik Sundblad**

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11:40 – 12:00	BMTC GROUND DEMONSTRATOR – CULTURING PARAMETERS David Jones, Martin Kämper, Kurt Kemmerle, Peter Kern
12:00 – 12:20	TECHNICAL AND OPERATIONAL ASPECTS OF MOLECULAR BIOLOGY-BASED FIELD INVESTIGATIONS IN A MARS ANALOGUE ENVIRONMENT Cora S. Thiel, Vladimir Pletser, Pascale Ehrenfreund, Bernard Foing, Oliver Ullrich
12:20 – 12:40	ESA REVIEW OF EQUIPMENT ON ESA SPONSORED PARABOLIC FLIGHTS Mikhail Malyshev, Vladimir Pletser
13:00 - 14:00	L U N C H
14:00 - 17:00	SOCIAL EXCURSION: VISIT to ANTWERP (Museum At the Stream - MAS)

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