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The 5th World Congress of Biomechanics, 29 July - 4 August 2006, Munich, Germany

Reproductive Biomechanics Track

Coordinators: **David Elad & Roger C Young**

Sesion 1: Non-pregnant uterine peristalsis

Activity	Name	email	Phone No.	Address	Talk Title
Co-chairman	Osnat Eytan	osnate@post.tau.ac.il			
Co-chairman	Ludwig Wildt	Ludwig.Wildt@uibk.ac.at			
Speaker 1 30 min	Ludwig Wildt	Ludwig.Wildt@uibk.ac.at	43-512-5042-3275	Department of Gynecologic Endocrinology and Reproductive Medicine, Medical University of Innsbruck, Anichstraße 35, 6020 Innsbruck, Austria	Transport phenomena in human female genital tract (7827)
Speaker 2	Osnat Eytan, Uri Zaretsky, Ariel J. Jaffa, David Elad	osnate@post.tau.ac.il	972-3-6925759	Ultrasound unit in Obstetrics and Gynecology, Lis Maternity Hospital, Tel-Aviv Medical Center, Tel-Aviv 64239, Israel	Simulations of embryo transfer procedures with a laboratory uterine model (6391)
Speaker 3	Stefan Kissler, et al	Stefan.kissler@kgu.de		Department of Obstetrics and Gynaecology, University of Frankfurt, Städt. Klinikum Darmstadt, Germany	Utero – tubal transport disorder in adenomyosis and endometriosis – a cause for infertility (6877)
Speaker 4	Edward Oczeretko, et al	eddoczer@ii.uwb.edu.pl	48-85-7457662	Institute of Computer Science, University of Bialystok, 15-887 Białystok, Sosnowa 64 St., POLAND	Uterine contractility: Visualization of synchronization measures in two simultaneously recorded signals (4752)
Speaker 5	Kaori Togashi, Takashi Koyama	ktogashi@kuhp.kyoto-u.ac.jp	81-75-751-3760	Department of Diagnostic Imaging and Nuclear Medicine Graduate School of Medicine, Kyoto University Sakyo-ku, Kyoto 606-8507 JAPAN	Uterine contractility evaluated on Cine MRI (6783)

Session 2: Placental vasculature and blood flow

Activity	Name	email	Phone No.	Address	Talk Title
Co-chairman	Martin van Gemert	m.j.vangemert@amc.uva.nl			
Co-chairman	Christiane Pfarrer	Christiane.Pfarrer@gyn.med.uni-giessen.de			
Speaker 1	Christiane Pfarrer	Christiane.Pfarrer@gyn.med.uni-giessen.de	+49-(0)641-99-45282	Dept. of Obstetrics and Gynecology, Justus-Liebig-University Giessen, Klinikstr.32, 35392 Giessen, Germany	Smoking during pregnancy and IUGR lead to adverse fetal villous and vascular development (4841)
Speaker 2	Martin van Gemert	m.j.vangemert@amc.uva.nl		Department of Obstetrics and Gynecology, Academic Medical Center, University of Amsterdam, Meibergdreef 9, 1105 AZ Amsterdam, The Netherlands	Twin-twin transfusion syndrome modelling (5676)
Speaker 3	Martin van Gemert	m.j.vangemert@amc.uva.nl			The circulation of acardiac twins in monochorionic twin pregnancies (5671)
Speaker 4	Zoya Gordon, Ariel J Jaffa, David Elad, Osnat Eytan	gordonzo@post.tau.ac.il	972-3-640-8956	Dept. Biomedical Engineering, Tel Aviv University, Tel Aviv 69978, Israel	Hemodynamics of fetal blood flow in Hyrtl anastomosis (5663)
Speaker 5	Christopher Smith, Brian Duffy, Stephen Wilson	rs.csmi@maths.strath.ac.uk	0141 548 4480	Dept. of Applied Mathematics, Strathclyde University, Glasgow, Scotland	Mathematical modelling of blood flow and oxygen transport in the human placenta (4472)
Speaker 6	Zoya Gordon, Osnat Eytan, Ariel J Jaffa, David Elad	gordonzo@post.tau.ac.il	972-3-640-8956	Dept. Biomedical Engineering, Tel Aviv University, Tel Aviv 69978, Israel	Analysis of the placental vasculature network (5661)

Session 3: Myometrial contractility and calcium transport

Activity	Name	email	Phone No.	Address	Talk Title
Co-chairman	Roger C Young	Roger.C.Young@Hitchcock.org			
Co-chairman	Anthony Shmygol	A.Shmygol@warwick.ac.uk			
Speaker 1 30 min	Roger C Young	Roger.C.Young@Hitchcock.org		General Obstetrics and Gynecology, Dartmouth-Hitchcock Medical Center, Dartmouth College, Lebanon, NH 03756, USA	Myocytes, myometrium, and uterine contractions (5398)
Speaker 2	Ted Burgyga, Susan Wray	burgyga@liverpool.ac.uk		The Physiological Laboratory, University of Liverpool, Liverpool , UK	In situ Ca ²⁺ signalling in pregnant rat uterine smooth muscle cells (5890)
Speaker 3	Anthony Shmygol, A. Blanks, G. Bru- Mercier D. Spanswick, S. Thornton	A.Shmygol@warwick.ac.uk		The University of Warwick Medical School, Coventry, CV2 2DX, UK	Ultra-thin tissue slices – a new approach to study Ca signalling in human myometrium (6476)
Speaker 4	Limor Bursztyn, Osnat Eytan, Ariel J. Jaffa, David Elad	burszty@post.tau.ac.il elad@eng.tau.ac.il		Dept Biomedical Engineering, Tel Aviv University, Israel	Mathematical model of myometrial smooth muscle contraction (5588)
Speaker 5	Sanda M. Ciontea, D. Cretoiui, L.M. Popescu	lpopescu@univermed-cdgm.ro		Department of Cellular and Molecular Medicine, 'Carol Davila' University of Medicine and Pharmacy, Bucharest, Romania	Interstitial Cajal-like cells in human uterus and fallopian tube (5711)

Session 4: Mechanics of the uterus and cervix in pregnancy

Activity	Name	email	Phone No.	Address	Talk Title
Co-chairman	Simona Socrate	ssocrate@mit.edu			
Co-chairman	Michelle Oyen	mloyen@virginia.edu			
Speaker 1 30 min	Simona Socrate, Anastassia P. Paskaleva, Kristin M. Myers , Michael D. House	ssocrate@mit.edu		Department of Mechanical Engineering, MIT, Room 3-334, Cambridge, MA 02139, USA	The cervical function in pregnancy (7586)
Speaker 2	Michelle Oyen, Steve E. Calvinb	mloyen@virginia.edu		Center for Applied Biomechanics, University of Virginia, Charlottesville, VA 22902 USA	Thickness effects on fracture properties of the placental membranes (7138)
Speaker 3	Thibault P. Prevost, Subra Suresh, Michael D. House, Simona Socrate	ssuresh@MIT.EDU		Department of Material Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA, USA	Biomechanics of the human chorioamnion (7572)
Speaker 4	Margit Bauer, Edoardo Mazza, Alessandro Nava, Michael Bajka, Uwe Lang, Gerhard A. Holzapfel,	gh@half.kth.se, mazza@imes.mavt.ethz.ch		Royal Institute of Technology, School of Engineering Sciences, 10044 Stockholm, Sweden, Swiss Federal Institute of Technology, Department of Mechanical Engineering, 8092 Zurich, Switzerland	In vivo characterization of the mechanics of human uterine cervixes (7152)
Speaker 5	Rimma Pugatsch, David Elad	elad@eng.tau.ac.il		Dept. Biomedical Engineering, Tel Aviv University, Tel Aviv 69978, Israel	Analysis of cervical dynamics using ultrasound image processing (5593)

Session 5: Mechanics of embryonic development

Activity	Name	email	Phone No.	Address	Talk Title
Co-chairman	Bradley B. Keller	Bradley.Keller@chp.edu			
Co-chairman	C. Wayne Brodland	brodland@uwaterloo.ca			
Speaker 1	Bradley Keller et al	Bradley.Keller@chp.edu	412-692-6054	Division of Pediatric Cardiology, Children's Hospital of Pittsburgh, University of Pittsburgh School of Medicine, 3705 Fifth Avenue, Pittsburgh, PA 15213, USA	Lessons from embryos: Insights into cardiovascular morphogenesis and adaptation (6711)
Speaker 2	C. Wayne Brodland	brodland@uwaterloo.ca	(519) 888-4567 x6211/x3862	University of Waterloo Department of Civil Engineering University of Waterloo, Waterloo ON N2L 3G1, Canada	Cell mechanics: bridging the gap between gene expression and morphogenetic movements in embryonic tissues (4096)
Speaker 3	Niamh Nowlan, Patrick J Prendergast	nowlann@tcd.ie, pprender@tcd.ie, paula.murphy@tcd.ie	+353 1 608 2061	Trinity Centre for Bioengineering & Department of Mechanical Engineering, Trinity College, Dublin 2, Ireland	The characterisation of mechanical stresses in the growing avian embryonic limb (4477)
Speaker 4	Mary E. Dickinson	mdickins@bcm.tmc.edu	713-798-2104	Department of Molecular Physiology and Biophysics, Baylor College of Medicine One Baylor Plaza, Houston, TX 77030, USA	Dynamic Imaging of Fluid Forces and Heart Motions in Developing Embryos (7828)
Speaker 5	Jay R. Hove	hovej@ucmail.uc.edu	513-558-1090	Genome Research Institute, University of Cincinnati, 2180 E Galbraith Rd, Cincinnati, OH 45237	Quantifying intravital fluid flow in development and disease (6160)
Speaker 6	Takashi Nagase	tnagase@fb3.so-net.ne.jp	81-42-561-1221	Clinical Research Center, National Hospital Organization Murayama Medical Center, Tokyo, Japan	Failure of conformational turning and aortic fusion defect in the cultured mouse embryo under inhibition of Hedgehog signaling (4456)

Session 6: Penile mechanics and hemodynamics

Activity	Name	email	Phone No.	Address	Talk Title
Co-chairman	Amit Gefen	gefen@eng.tau.ac.il			
Co-chairman	Ofer Barnea	barneao@eng.tau.ac.il		Department of Biomedical Engineering,	
Speaker 1 30 min	Amit Gefen, Juza Chen, David Elad	gefen@eng.tau.ac.il	972-3-6408093	Dept. of Biomedical Engineering, Faculty of Engineering, Tel Aviv University, Tel Aviv 69978 Israel	State of knowledge in structural mechanics of penile erection, and some areas of ignorance (4108)
Speaker 2	Haibiao Luo, Irwin Goldstein, Daniel Udelso	dgu@enga.bu.edu, meu@mymailstation.com		Department of Aerospace and Mechanical Engineering, Boston University, College of Engineering, Boston, Massachusetts 02118, USA	The relationship between cavernosal expandability and percent smooth muscle: a theoretical model (5918)
Speaker 3	Shimon Hayun , Gabriel Gillon, Ofer Barnea	shimonh@eng.tau.ac.il	972-3-6405840	Dept. of Biomedical Engineering, Faculty of Engineering, Tel Aviv University, Tel Aviv 69978 Israel	Noninvasive assessment of penile vascular dysfunction during induced erection (6862)
Speaker 4	Diane A. Kelly	dkelly@bio.umass.edu	413- 545-1863	Biology Department, University of Massachusetts, 611 North Pleasant St., 205 Morrill 3 South, Amherst, MA. 01003-	Increasing and maintaining stiffness in Amniote penises: Convergence in tissue design (5262)
Speaker 5	Eran Linder-Ganz, Amit Gefen, Juza Chen, David Elad	ganzeran@post.tau.ac.il	972-3-6408291	Dept. of Biomedical Engineering, Faculty of Engineering, Tel Aviv University, Tel Aviv 69978 Israel	A three-dimensional model of the penis for analysis of tissue stresses during erection (5360)

Session 7: Sperm propulsion

Activity	Name	email	Phone No.	Address	Talk Title
Co-chairman	Lisa Fauci	fauci@tulane.edu			
Co-chairman	David Woolley	D.M.Woolley@bristol.ac.uk			
Speaker 1, 30 min	David Woolley	D.M.Woolley@bristol.ac.uk		Department of Physiology, School of Medical Sciences, University of Bristol, Bristol BS8 1TD, U.K.	Sperm motility: a re-emphasis on hydrodynamics (6264)
Speaker 2	Charles Lindemann	lindeman@oakland.edu	248-370-3576	Dept. of Biological Sciences, Oakland University, Rochester, Michigan 48309, USA	The geometric clutch as a working hypothesis for future research (6083)
Speaker 3	Lisa Fauci, Robert Dillon, Xingzhou Yang	fauci@tulane.edu	5049058219	Tulane University, Dept. of Mathematics, New Orleans, Louisiana 70118, USA	Fluid dynamic models of flagellar and ciliary beating (7186)
Speaker 4	Kazuo Inaba	inaba@kurofune.shimoda.tsukuba.ac.jp	81-558-23-6357	Shimoda Marine Research Center, University of Tsukuba, 5-10-1 Shimoda, Shizuoka 415-0025, Japan	Flagellar axonemes: the motile machinery of sperm for the movement in micro-environmental field (7737)
Speaker 5	Robert Dillon, Xingzhou Yang, Lisa Fauci	dillon@math.wsu.edu		Department of Mathematics, Washington State University, Pullman, WA, USA	Fluid dynamic models of flagellar and ciliary beating with viscoelasticity (7922)

Session 8: Pelvic floor mechanics

Activity	Name	email	Phone No.	Address	Talk Title
Co-chairwoman	Margot Damaser	damasem@ccf.org	216-444-1103	Dept of Biomedical Engineering, Cleveland Clinic Foundation, 9500 Euclid Ave. ND20, Cleveland, OH 44195, USA	
Co-chairman	James Ashton-Miller	jaam@umich.edu			
Speaker 1, 30 min	James Ashton-Miller	jaam@umich.edu	734-763-2320	Mechanical Engineering, Biomechanics Research Lab, 3208 G.G. Brown Building, 2350 Hayward Street, Ann Arbor, Michigan 48109-2125	On the functional anatomy and biomechanics of the female pelvic floor (7249)
Speaker 2	Linda McLean	mcleanl@post.queensu.ca	613-533-6103	School of Rehabilitation Therapy, Queen's University Louise D Acton Building 31 George St., Kingston, Ontario K7L 3N6 Canada	Pelvic floor EMG and pressure differences during coughing between women with and without stress urinary incontinence (5125)
Speaker 3	Christos Constantinou, et al.	chris.constantinou@stanfordalumni.org	650-493-5000 x64817	Palo Alto VAMC (640/128), 3801 Miranda Ave., Palo Alto, CA 94304	Dynamic aspects of female pelvic floor function (5141)
Speaker 4	Joao Martins	martins@civil.ist.utl.pt		Instituto Superior Tecnico, Av Rovisco Pais, 1049-001 Lisboa Portugal	Finite element studies of the deformation of the pelvic floor (6079)
Speaker 5	Lennox Hoyte, et al, Margot S. Damaser	lennox@mindspring.com	617-732-4838	Brigham and Women's Hospital, Department of Obstetrics and Gynecology, 500 Brookline Ave., Ste. E Boston, MA 02115	Computational model of Levator Ani muscle stretch during vaginal delivery (4644)