
Saturday, September 11, 2004

13.00 - 18.00	Registration	
18.00 - 19.00	Welcome reception	Pascoli Terrace
19.00 - 19.30	KEYNOTE LECTURE IN FETAL AND NEONATAL PROGRAMMING John Challis (Canada) Preterm birth, glucocorticoids and programming Moderator: Emanuela Marinoni (Italy)	Pascoli Hall
20.00	Welcome Dinner	"La Veranda" Restaurant

Sunday, September 12, 2004

07.00 - 08.00	Breakfast	"La Veranda" Restaurant
08.00 - 09.00	GEOFFREY DAWES PLENARY LECTURE Angelo Vescovi (Italy) Functional properties of neural stem cells and their therapeutic potential Moderator: Emanuela Marinoni (Italy) - Romolo Di Iorio (Italy)	Pascoli Hall

09.00 - 10.30	Oral Session I FETAL AND NEONATAL PROGRAMMING (part. 1) Moderators: Lucy Green (UK) - Megan Cock (Australia)	Pascoli Hall
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09.00 - 09.15	1 Hypobaric versus hypoxic effects of high altitude on fetal growth ¹ D.A. Giussani, ² C.E. Salinas, ³ M. Villena, ¹ A.L. Forhead & ³ C.E. Blanco ¹ Department of Physiology, University of Cambridge, Downing Street, Cambridge CB2 3EG, UK; ² IBBA, Bolivian Institute for High Altitude Biology, La Paz, Bolivia; ³ GROW Institute, Maastricht University, The Netherlands.	
09.15 - 09.30	2 Placental restriction and small size at birth increase plasma cortisol postnatally in sheep <u>Julie A. Owens</u> , Miles J. De Blasio, Kathryn L. Gatford and Jeffrey S. Robinson Dept. Obstetrics and Gynaecology University of Adelaide, Australia	
09.30- 09.45	3 Placental restriction of fetal growth decreases size at birth and increases growth rate and suckling in the neonatal lamb <u>Miles J. De Blasio</u> , Melissa R. Walker, Brenton D. Bennett, Kathryn L. Gatford, Jeffrey S. Robinson, Julie A. Owens Dept. Obstetrics and Gynaecology University of Adelaide, Australia	
09.45 - 10.00	4 Factors influencing birth weight in sheep over eight breeding seasons. <u>D.S. Gardner</u> & F. Broughton Pipkin Centre for Reproduction and Early Life, Institute of Clinical Research, University Hospital, Nottingham, UK	
10.00 -10.15	5 Enhanced growth and improved vascular function in offspring from successive pregnancies in endothelial nitric oxide synthase knockout mice <u>M. Longo</u> , V. Jain, R. Bukowski, R.E. Garfield, G.D. Anderson, G.D.V. Hankins, G.R. Saade Dept. Obstetrics and Gynecology University of Texas Medical Branch, Galveston Vanuatu USA	
10.15-10.30	6 The influence of birthweight on neuromotor outcomes in adult humans. <u>Julia Pitcher</u> , Alexandra Robertson, Timothy Miles, Richard Cockington & Vivienne Moore Dept. Obstetrics & Gynaecology, The University of Adelaide, Australia	
10.30 - 11.00	Refreshment Break	Pascoli Terrace

11.00 - 12.30	Oral Session I FETAL AND NEONATAL PROGRAMMING (part. 2) Moderators: Laura Bennet (New Zealand) - Jan G. Nijhuis (NL)	Pascoli Hall
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11.00 -11.15	7 Influence of sex on hypothalamic-pituitary-adrenal axis function in adult sheep B.W.M. van Bon, S. Pearce, M.E. Symonds & <u>D.S. Gardner</u>	
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Centre for Reproduction and Early Life, Institute of Clinical Research, University Hospital, Nottingham, UK

- 11.15 -11.30 8 **The relationship of blood pressure and salivary cortisol levels to low birth weight in African American adolescents**
Maureen M. Covelli
Dept. Nursing University of Central Florida, USA
- 11.30- 11.45 9 **Determinants of body composition and glucose metabolism in adult sheep following moderate undernutrition in early gestation and in early postnatal life**
K.R. Poore, J.K. Cleal, J.P. Newman, J. Boullin, D. Noakes†, M.A. Hanson and L.R. Green
Centre for Developmental Origins of Health and Disease, University of Southampton, Princess Anne Hospital, Level F (MP 887), Coxford Road, Southampton and † Department of Veterinary Reproduction, Royal Veterinary College, Hawkshead Lane, North Mymms, Hatfield, UK
- 11.45 – 12.00 10 **The renin-angiotensin system in young adult sheep following moderate postconceptional undernutrition and undernutrition in early postnatal life**
J.K. Cleal, J.P. Newman, K.R. Poore, A.J. Forhead*, D. Noakes**, F. Broughton Pipkin***, M.A. Hanson, L.R. Green
Centre for Fetal Origins of Adult Disease, University of Southampton, UK. *Department of Physiology, University of Cambridge, UK. **Department of Veterinary Reproduction, Royal Veterinary College, UK. ***Academic division of Obstetrics and Gynaecology, Queen’s Medical Centre, Nottingham, UK
- 12.00 –12.15 11 **Reduction in pancreatic GLUT-2 expression in neonates after exposure to an *in utero* high fat diet**
Cerf M., Nkomo X., Muller C., Du Toit D., Louw J. and Wolfe-Coote S.
Diabetes Research Group Medical Research Council, Cape Town, South Africa
- 12.15-12.30 12 **Fetal Cerebral Leucine Metabolism in Response to Induced Hyper and Hypoaminoacidemia**
J.N. MacLachlan¹, J. Homan¹, J.D. McCallum¹, A.C. Rupa², N.B. Smith², B.S. Richardson¹
¹Departments of OB/GYN, Physiology and Pediatrics, Child Health Research Institute, University of Western Ontario, London, Canada; ²Department of Clinical Biochemistry, University of Western Ontario, London, Canada
- 12.30 - 14.00 Lunch “La Veranda” Restaurant

14.00 – 14.30 **KEYNOTE LECTURE IN CARDIOVASCULAR DEVELOPMENT** Pascoli Hall
P. Nathanielsz (USA)
The heart is a hungry hunter: nutrition and stress and the development of the cardiovascular system
Moderator: **Dino Giussani (UK)**

14.30 - 16.00 **Oral Session II**
GLUCOCORTICOIDS IN PREGNANCY Pascoli Hall
Moderators: **Gerard Visser (NL) – Alan Bocking (Canada)**

- 14.30 –14.45 13 **Long-term effects of antenatal dexamethasone treatment on the adult mouse hippocampus**
Cornelle W. Noorlander, Pierre N.E. de Graan, Amer Kamal, Peter G.J. Nikkels, Gerard H.A. Visser
Dept. of Pharmacology & Anatomy, University Medical Center, Utrecht, The Netherlands
- 14.45 -15.00 14 **Effect of maternal dexamethasone treatment on circulating and tissue angiotensin-converting enzyme concentration in fetal sheep**
Emma Johnson, Dino A Giussani, Abigail L Fowden and Alison J. Forhead
Dept. of Physiology University of Cambridge, UK
- 15.00- 15.15 15 **Effects of maternal betamethasone administration on the intrauterine growth restricted (IUGR) ovine fetus**
Miller S.L.¹, Supramaniam V.G.¹, Jenkin G.¹, Wallace E.M.²
Departments of Physiology¹ and Obstetrics and Gynaecology², Monash University, Victoria, 3800, Australia
- 15.15 – 15.30 16 **A single course of prenatal betamethasone, growth retardation, and cell proliferation within the brain and the lungs**
Bruschettini M., van den Hove D.L.A., Gazzolo D., Zimmermann L.J.I., Steinbusch H.W.M., Blanco C.E.
Department of Pediatrics Research Institute Growth and Development, Maastricht University, The Netherlands
- 15.30 –15.45 17 **Influence of cortisol on uncoupling protein-2 (UCP2) mRNA expression in perirenal adipose tissue in fetal sheep during late gestation**
M.G. Gnanalingham, A. Mostyn, A. Forhead, A.L. Fowden¹, M.E. Symonds and T. Stephenson
Academic Division of Child Health, School of Human Development, University of Nottingham University Hospital, Nottingham, UK
- 15.45-16.00 18 **Betamethasone suppresses fetal diurnal rhythms**
R. de Heus, S.V. Koenen, E.J.H. Mulder, G.H.A. Visser.
Department of Perinatology and Gynaecology, University Medical Centre, Utrecht, The Netherlands
- 16.00 - 16.30 Refreshment Break Pascoli Terrace

Moderators: **Dan Rurak (Canada) – Andrea Tranquilli (Italy)**

- P1 19 **Iron supplementation at different stages in pregnancy differentially effects iron status, fetal growth and gene expression in the rat**
Lorraine Gambling and Harry J. McArdle
Dept. of Development, Growth & Function, Rowett Research Institute, Aberdeen, UK
- P2 20 **Withdrawn**
- P3 21 **Effect of maternal nutrient restriction on pup and dam growth**
K. Brennan, S. Reynolds, M. Symonds and D. Olson
University of Nottingham, UK
- P4 22 **Development of the pancreas in fetal sheep during late gestation: localisation of leptin, leptin receptor and pancreatic hormones**
D.M. O’Connor, V. Mahendra-Vogam, F.B.P. Wooding, N. Hoggard*, A.L. Fowden and A.J. Forhead
Department of Physiology, University of Cambridge, Cambridge, CB2 3EG and *Rowett Research Institute, Bucksburn, Aberdeen, AB21 9SB, UK
- P5 23 **Withdrawn**
- P6 24 **The effect of moderate early gestation undernutrition with or without undernutrition in early postnatal life on renal vascular function in adult sheep**
O.R.H. Hambidge¹, C. Torrens¹, D. Noakes², L. Poston³, MA Hanson¹ and LR Green¹
¹Centre for Developmental Origins of Health and Disease, University of Southampton, UK, ²Department of Veterinary Reproduction, Royal Veterinary College, UK, ³Maternal and Fetal Research Unit, Division of Reproductive Health, Endocrinology and Development, GKT School of Medicine, King’s College, London, UK
- P7 25 **Japanese term baby has become lighter in recent 20 years**
Akagi K., Takahashi N., Ishigaki N., Oota S., Hayasaka A., Fujita N., Chiba Y., Asano K. and Wada Y.
National Health Organization, Sendai Medical Center, Department of Obstetrics and Gynecology, Sendai, Japan
- P8 26 **Programming of femoral artery endothelial dysfunction in adult rats exposed to severe intrauterine hypoxia**
F.A. Moraga¹, E. Karahanian², A. Reyes³, D. Salinas⁴
¹Laboratorio de Fisiologia, ²Laboratorio de Biología Molecular, ³Laboratorio de Biología del Desarrollo, and ⁴Laboratorio de Biofísica, Facultad de Ciencias de la Salud, Universidad Diego Portales, Santiago, Chile
- P9 27 **Doppler flow uterine artery abnormalities and postnatal growth in VLBW infants with fetal growth restriction**
Di Leo L.¹, Todros T.², De Felice C.³, Mombro M.¹, Castelli E.², Prandi G.¹, Fabris C.¹
¹Chair of Neonatology and ²Department of Obstetrics and Gynecology, Maternal-Fetal Medicine Unit, University of Turin; and ³Neonatal Intensive Care Unit, Azienda Ospedaliera Universitaria Senese, Siena, Italy
- P10 28 **Age related changes in cortisol and sex hormones in the guinea pig from birth to adulthood**
Grover S.^{1,2}, Coulter C.L.¹, Walker M.R.², Kind K.L.², Robinson J.S.² and Owens J.A.²
School of Molecular and Biomedical Science, Discipline of Physiology¹, Department of Obstetrics and Gynaecology², The University of Adelaide, Adelaide, SA, Australia
- P11 29 **Measurement of activity in newborn lambs using actigraphy**
Dan Rurak, Nancy Gruber, Pritpal Dhilon and Sarah Fay
Dept. Obstetrics & Gynecology, University of British Columbia, Vancouver, Canada
- P12 30 **Transport of methotrexate in perfused human placental lobule in vitro**
Nandakumaran M., Al-Saleh E., Al-Shammari M., Sadan T., George S., Al-Harmi J.
Dept. Obstetrics & Gynecology Kuwait University, Faculty of Medicine, Kuwait City, Kuwait
- P13 31 **Placental expression of substance P and vasoactive intestinal peptide: evidence for a local effect on hormone release**
Marzioni D., Fiore G., Giordano A., Nabissi M., Florio P., Capparuccia L., Petraglia F., Castellucci M.
Department of Obstetrics and Gynaecology, University of Turin, Italy
- P14 32 **Atypical ischiopagus conjoined twins: discription of a case**
Guven Alanur, Kiran Hakan, Kiran Gurkan, Ozkan U.
Kahramanmaraş Medical Faculty Department of Obstetrics and Gynecology, Kahramanmaraş, Turkey
- P15 33 **The weight ratio of the fetus to the placenta and perinatal outcome**
Kozo Kadowaki, Noriyuki Suehara, Makoto Takeuchi, Masahiro Nakayama
Department of Obstetrics and Department of Pathology, Osaka Medical Center and Research Institute for Maternal and Child Health, Izumi, ,Osaka, Japan
- P16 34 **Effects of antenatal corticosteroid therapy on hippocampal histology of preterm infants**
Lia D.E. Wijnberger, Peter G.J. Nikkels, Frank van Bel, Gerard H.A. Visser
Dept. of Perinatology & Gynaecology, University Medical Center, Utrecht, The Netherlands

- P17 35 **Evidence of reduced adrenal responsiveness in late gestation fetal sheep exposed to repeated maternal, but not fetal, betamethasone injections**
T.J.M. Moss, S. Li, I. Nitsos, D.M. Sloboda, M.L. Cock, R. Harding & J.P. Newnham
 School of Women's and Infants' Health, University of Western Australia, Crawley, Australia
- P18 36 **Fetal glucocorticoid metabolism in a porcine model of intra-uterine growth retardation**
C.J. McNeil, A.M. Finch, K.R. Page, C.J. Ashworth, H.J. McArdle
 Dept. of Development, Growth and Function, Rowett Research Institute, Aberdeen, UK
- P19 37 **Cerebral leucine metabolism in response to maternal betamethasone administration in the near term ovine fetus**
Jeremy D. McCallum, Norman Smith, Matthias Schwab, Peter Nathanielsz, Bryan S. Richardson
 Dept. Obstetrics/Gynecology/Physiology, University of Western Ontario, Lawson Research Institute, London, Canada
- P20 38 **Differential effects of maternal dexamethasone treatment on maternal and fetal hepatic glucose-6-phosphatase activity in sheep**
K.L. Franko, A.J. Forhead, D.A. Giussani and A.L. Fowden
 Department of Physiology, University of Cambridge, Downing Street, Cambridge, CB2 3EG, UK
- P21 39 **Elevated sympathetic activity may play a role in adult hypertension, induced by prenatal exposure to cortisol**
 McAlinden A, Moritz K, Jefferies A, Cock M, Wintour EM, May CN & Dodic M.
 Dept. of Physiology, Monash University, Victoria, Australia
- P22 40 **Brain maturation after repeated fetal exposure to betamethasone in sheep**
Iwa Antonow-Schlorke¹, Claudia Colberg¹, Martin Ebert¹, Turhan Coksaygen, Peter W. Nathanielsz², Otto W. Witte¹, Matthias Schwab¹
¹Department of Neurology, Friedrich Schiller University, Jena, Germany, ²Department of Obstetrics and Gynecology, New York University School of Medicine, New York, USA
- P23 41 **Antenatal dexamethasone treatment and hippocampal development: a pilot study**
Cornelle W. Noorlander, Pierre N.E. de Graan, Peter, G.J. Nikkels, Gerard H.A. Visser
 Dept. of Pharmacology & Anatomy, University Medical Center, Utrecht, The Netherlands
- P24 42 **Expression of MR –regulated genes in fetal lungs after alteration of maternal cortisol concentrations**
Maureen Keller-Wood and Charles E. Wood
 Dept. of Pharmacodynamics, University of Florida, Gainesville, USA
- P25 43 **Effects of hypoxia and betamethasone on kynurenine output by the human placenta**
 Ursula Manuelpillai¹, Poonam Ligam², Euan M Wallace¹ & David Walker²
¹Department of Obstetrics & Gynaecology, ²Department of Physiology, Monash University, Clayton, Victoria, Australia
- P26 44 **The effect of early gestation nutrient restriction on ovine fetal growth and the development of the renin-angiotensin system**
J.K. Cleal, C. Gardiner, M. Nankervis, P. Englefield, J.P. Newman, K.R. Poore, D. Noakes*, M.A. Hanson, L.R. Green
 Centre for Developmental Origins of Health and Disease, University of Southampton, UK. *Department of Veterinary Reproduction, Royal Veterinary College, UK

18.00 - 19.15

**Oral Session III
 CARDIOVASCULAR DEVELOPMENT**

Pascoli Hall

Moderators: **Julian Parer (USA) – Graham Jenkin (Australia)**

- 18.00 -18.15 45 **Embryo transfer to a normal maternal environment prevents vascular dysfunction in offspring of endothelial nitric oxide synthase knockout mice**
M. Longo, V. Jain, R. Bukowski, R.E. Garfield, G.D. Anderson, G.R. Saade, G.D.V. Hankins
 Dept. of Obstetrics and Gynecology, University of Texas Medical Branch, Galveston Vanuatu, USA
- 18.15 -18.30 46 **Nitric oxide modulates alpha adrenergic stimulation of the umbilical and femoral vascular beds in the sheep fetus during late gestation**
A.S. Thakor & D.A. Giussani
 Department of Physiology, University of Cambridge, Downing Street, Cambridge CB2 3EG, UK
- 18.30- 18.45 47 **Erythropoietin inhibits contractility of placental arteries: a mechanism for hypoxia-induced fetal vascular programming?**
Venu Jain, Maria Lim, Monica Longo, Nicholas M. Fisk
 Dept. of Obstetrics and Gynaecology, Imperial College, London, UK
- 18.45 – 19.00 48 **Effect of in vivo and in vitro iron deficiency on embryonic development in the rat**
Henriette S. Andersen, Lorraine Gambling, Susan Harrison and Harry J. McArdle
 Dept. of Development, Growth and Function, Rowett Research Institute, Greenburn Road AB21 9SB. Bucksburn, UK
- 19.00 –19.15 49 **Cerebral autoregulation in extremely low birth weight infants**
 M.J. Munro, C.P. Barfield* and A. Walker
 Ritchie Centre for Baby Health Research, Monash Institute of Reproduction and Development, Monash University, Clayton, Melbourne, Victoria, 3168, Australia, *Newborn Services, Monash Medical Centre, Victoria, 3168, Australia

20.00

Dinner

"La Veranda" Restaurant

Monday, September 13, 2004

07.00 - 08.00 Breakfast "La Veranda" Restaurant

08.00 - 08.30 **KEYNOTE LECTURE IN PLACENTA** Pascoli Hall
L. Myatt (USA)
 Oxidative and nitrate stress and placental function
 Moderator: **Carl Weiner (USA)**

08.30 - 10.30 **Oral Session IV**
HYPOXIA AND ASPHYXIA Pascoli Hall
 Moderators: **Robert Gagnon (Canada) - David Gardner (UK)**

08.30 - 08.45 50 **Effects of intracervical sodium nitroprusside on fetal-maternal hypoxia and cardiovascular parameters**
 L. Blasi, S. Hemstreet*, B. Matuszewski*, B. Richardson*, F. Facchinetti.
 Mother-Infant Dept., University of Modena and Reggio-Emilia, Modena, Italy, * Obstet and Gynecol Dept, University of Western Ontario, London, Ontario, Canada

08.45 - 09.00 51 **Increased nitrotyrosine and iNOS expression during acute fetal hypoxia**
 Alma Martinez, Raquel Castellanos, Leonel Briozzo, Patricia Cassina, Homero Rubbo, Justo Alonso
 Dept. of Obstetrics & Gynecology, University of Uruguay, Montevideo, Uruguay

09.00 - 09.15 52 **Melatonin suppresses the plasma catecholamine response to hypoxia in fetal sheep during late gestation**
 A.S. Thakor, M. Bloomfield & D.A. Giussani
 Department of Physiology, University of Cambridge, Downing Street, Cambridge CB2 3EG, UK

09.15 - 09.30 53 **Long-term hypoxia (LTH) enhances proopiomelanocortin processing in the near-term ovine fetus**
 C.A. Ducsay, P. Bell, M. Mlynarczyk, and D.A. Myers
 Center for Perinatal Biology, School of Medicine, Loma Linda University, CA, USA

09.30 - 09.45 54 **Organ sparing and stunting: genetic dependence and the effect of fetal**
Jordi Altimiras, Yi-Lin Chou and Isa Lindgren
 Dept. of Biology, University of Linköping, Switzerland

09.45 - 10.00 55 **Prostaglandin endoperoxide synthase -1 and -2 (PGHS-1 and -2) modulate fetal hypothalamus-pituitary-adrenal axis responsiveness to cerebral hypoperfusion**
Charles E. Wood and Sharon Reimsnyder.
 Department of Physiology and Functional Genomics, University of Florida College of Medicine, Gainesville, FL, USA

10.00 - 10.15 56 **Cerebral blood flow response to repetitive severe two minute umbilical cord occlusion and induced placental insufficiency in fetal sheep**
Masato Senoo, Greg Duncombe, Bryan Richardson, Vitor daSilva, Robert Gagnon
 Dept. of Ob/Gyn and Physiology, University of Western Ontario, London, Canada

10.15 - 10.30 57 **Activin A in the intra-uterine growth restricted (IUGR) ovine fetus**
Supramaniam V.G., Jenkin G., Wallace E.M. & Miller S.L.
 Dept. of Physiology, Monash University, Melbourne, Victoria, Australia

10.30 - 11.00 Refreshment Break Pascoli Terrace

11.00 - 12.30 **Poster Session II**
FETAL HYPOXIA AND ASPHYXIA - FETAL BRAIN DEVELOPMENT AND INJURY L'Ora di Barga Hall
 Moderators: **Tom Hasaart (NL) - Pasquale Florio (Italy)**

P27 58 **Cardiovascular responses to acute hypoxemia in highland and lowland newborn llamas**
E.A. Herrera, R.A. Riquelme, E.M. Sanhueza, V.M. Pulgar, V.R. Reyes, G. Ebersperger, R. Ebersperger, J.T. Parer, D.A. Giussani, C.E. Blanco, M.A. Hanson, A.J. Llanos
 Programa de Fisiopatología, Universidad de Chile, Santiago, Chile

P28 59 **Role of the α -adrenergic system in femoral vasoconstriction in the neonatal llama**
E.A. Moraga¹, V.M. Pulgar², P.C. Casanello², A.J. Llanos^{2,3}
¹Laboratorio de Fisiología, Facultad de Ciencias de la Salud, Universidad Diego Portales, ²Programa de Fisiopatología,

- P29 60 **Vulnerability and importance of protecting the auditory system**
Eileen Nicole Simon
Dept. Research, conradsimon.org, Lexington, MA, USA
- P30 61 **Cerebrospinal fluid activin A measurement in asphyxiated full-term newborns predicts hypoxic ischemic encephalopathy**
I. Zerbetto, P. Florio, S. Luisi, M. Bruschetti, D. Gazzolo, M. Torricelli, F. Petraglia
Department of Pediatrics, Obstetrics and Reproductive Medicine, University of Siena, Italy
- P31 62 **Effects of quinolinic acid on albumin, 4-HNE and GFAP immunoreactivities in late gestation fetal sheep brain**
Edwin Yan, Margie Castillo-Melendez, George Smythe*, and David Walker
Fetal and Neonatal Research Group, Department of Physiology, Monash University, Clayton, VIC 3800, Australia,
*Biomedical Mass Spectrometry Facility, University of New South Wales, Kensington, NSW 2052, Australia
- P32 63 **The effect of low dose endotoxin on lipid peroxidation and DNA/RNA damage in the late gestation fetal sheep brain**
Margie Castillo-Melendez, Edwin Yan, Trish Nicholls, David Walker
Department of Physiology, Monash University, Clayton, Victoria, Australia
- P33 64 **Time course of maternal LPS-induced fetal proinflammatory cytokine response and fetal brain injury**
Patrick L.A.¹, Farley A.E.², and Smith G.N.^{1,2}
¹Dept. of Anatomy and Cell Biology, Queen's University and ²Dept. of Obstetrics and Gynecology, Kingston General Hospital, Kingston ON, Canada
- P34 65 **Synergistic effect of bacterial endotoxin and acute hypoxia on neural cell survival and metabolism in the chick embryo**
X. Wang¹, D.W. Carmichael², O. Gearing², G. Raivich¹, D. Peebles¹
Centre for Perinatal Brain Research, Departments of Obstetrics and Gynaecology¹, and Medical Physics², University College, London, UK
- P35 66 **Do brief intermittent cord occlusion insults precondition the brain against necrotic cell injury with subsequent severe insults in the pre-term ovine fetus?**
H.Hamrahi¹, S.Hemstreet¹, R.Hammond², B.Richardson¹ and A.Bocking^{1,3}
¹Department of Obstetrics and Gynecology and Physiology; CIHR Group in Fetal and Neonatal Health and Development, University of Western Ontario, London, Ontario, Canada; ²Department of Pathology, University of Western Ontario, London, Ontario, Canada; ³Department of Obstetrics and Gynecology, University of Toronto, Toronto, Ontario, Canada
- P36 67 **Cerebral oxygenation during post-asphyxial seizures in near term fetal sheep**
Gonzalez H., Hunter C.J., Bennet L., Power G.G., Roelfsema V., George S., and Gunn A.J.
The Liggins Institute and Dept. of Paediatrics, University of Auckland, Auckland, New Zealand
- P37 68 **Developmental profile of the expression of glucose transporter proteins GLUT1 and GLUT3 in the fetal ovine brain**
Iwa Antonow-Schlorke¹, Martin Ebert¹, Thomas Müller², Turhan Coksaygen³, Harald Schubert², Peter Nathanielsz³, Otto Witte¹, Matthias Schwab¹
¹Department of Neurology, ²Institute of Laboratory Animal Science, Friedrich Schiller University, Jena, Germany,
³Department of Obstetrics and Gynecology, New York University School of Medicine, New York, USA
- P38 69 **Endothelin-1 triggers placental oxidative stress pathways: putative role in pre-eclampsia**
¹Giovina Fiore, ¹Pasquale Florio, ¹Lucia Micheli, ²Cristina Nencini, ¹Marco Rossi, ¹Filiberto Maria Severi, ¹Irene Zerbetto, ¹Felice Petraglia.
¹Chair of Obstetrics & Gynecology, Department of Pediatrics, Obstetrics & Reproductive Medicine; and ²Department of Farmacology "Giorgio Segre", University of Siena, Siena, Italy
- P39 70 **Correlation of neuron specific enolase and s100b with histological cerebral damage in fetal sheep after severe asphyxia**
Eriko Y. Fujii, Masatomo Kozuki, Yuji Murata
National Center for Child Health and Development, Dept. of Ob. & Gyn., Reproductive Science, Tokyo, Japan
- P40 71 **Na⁺-K⁺-ATPase and voltage-gated Na⁺ channels expression after 24h of prolonged hypoxemia in the brain of the llama fetus**
V.R. Reyes, ¹R. Ebensperger, ¹G. Ebensperger, ²R.A. Riquelme, ¹E.M. Sanhueza, ¹J.J. Marengo, ¹E.A. Herrera and ^{1,3}J.A. Llanos
¹Programa de Fisiopatología, ICBM, Facultad de Medicina, ²Departamento de Bioquímica y Biología Molecular, Facultad de Ciencias Químicas y Farmacéuticas, ³Centro Internacional de Estudios Andinos (INCAS), Universidad de Chile
- P41 72 **Does sympathetic innervation protect the cerebral circulation during sleep?**
N. Loos*, D. Grant, J. Wild, S. Paul, C. Barfield, G. Zoccoli**, C. Franzini**, and A. Walker
Ritchie Centre for Baby Health Research, Monash Institute of Reproduction and Development, Monash University, Clayton, Melbourne, Victoria, 3168, Australia; *Laboratoire de Dysrégulations Métaboliques Acquisées et Génétiques, Faculté de Médecine, Université de Picardie Jules Verne, Amiens, Picardie – France, **Department of Human and General Physiology, University of Bologna, Bologna, Italy
- P42 73 **Withdrawn**
- P43 74 **Development of small intestine cellular and humoral immunity in suckling rats**
Pérez-Cano FJ, Franch A, Pelegrí C, Castellote C, Castell M.

Departament de Fisiologia, Facultat de Farmàcia, Universitat de Barcelona, Spain

- P44 75 **Hypoxemia sensitizes the noradrenergic system in highland newborn lambs**
Riquelme R.A., Herrera E.A., Sanhueza E.M., Pulgar V.M., Reyes V.R., Ebersperger G., Parer J.T., Giussani D.A., Blanco C.E., Hanson M.A., Llanos A.J.
Facultad de Medicina, Centro Internacional de Estudios Andinos (INCAS), Facultad de Ciencias Químicas y Farmacéuticas, Universidad de Chile, Santiago, Chile; U California San Fco, USA; U Cambridge, UK; U Maastricht, The Netherlands, U Southampton, UK
- P45 76 **Amniotic fluid S100B protein in mid-gestation and intrauterine foetal death**
L. Galleri, M. Torricelli, P. Florio, S. Luisi, A. Imperatore, F. Michetti, M. Bruschetti, F. M. Severi, D. Gazzolo, F. Petraglia
Department of Pediatrics, Obstetrics and Reproductive Medicine, Siena, Italy
- P46 77 **Urinary S100B protein concentrations are increased in intrauterine growth retarded newborns**
Diego Gazzolo⁰, Emanuela Marinoni¹, Romolo Di Iorio¹, Moatza Bashir², Sabina Ciotti⁰, Renata Sacchi⁰, Matteo Bruschetti⁰, Maria Kornacka³, Mario Lituania⁰, Giovanni Serra⁰, and Fabrizio Michetti⁴
⁰Dept. of Pediatrics, Obstetrics and Gynecology, Giannina Gaslini Children's University Hospital, Genoa, Italy; ¹Laboratory of Perinatal Medicine and Molecular Biology, Department of Obstetrics and Child Health, "La Sapienza" University, Rome, Italy; ²Dept. of Neonatology, University Hospital, Cairo, Egypt; ³Dept. of Neonatology Warsaw Medical University Hospital, Warsaw, Poland; ⁴Institute of Anatomy and Cell Biology, Catholic University, Rome, Italy
- P47 78 **Perinatal hypoxia influences adult pulmonary circulation and vascular reactivity**
Tolsa JF, Muehlethaler V, Peyter AC, Marino M, Moessinger A.
Neonatal Research Laboratory, Pediatric Department, University Hospital, Lausanne, Switzerland
- P48 79 **Activin A plasma levels at birth: an index of fetal hypoxia in preterm newborn**
M.Torricelli, S.Luisi, S.Perrone, G.Buonocore, C.Sposato, A.Dell'Anna, P.Florio, F.Petraglia.
Department of Pediatrics, Obstetrics and Reproductive Medicine, University of Siena, Italy
- P49 80 **Perinatal hypoxia/asphyxia: cerebral palsy's false clue?**
George Malcolm Morley
Northport MI, USA
- P50 81 **Neonatal resuscitation: pathogenic disruption of birth physiology**
George Malcolm Morley
Northport MI, USA
- P51 82 **Concerns about clamping the umbilical cord**
Eileen Nicole Simon
Dept. Research, conradsimon.org, Lexington, MA USA
- 12.30 - 14.00 Lunch "La Veranda" Restaurant
- 14.00 Tour to Lucca
- 20.00 Dinner "La Veranda" Restaurant

Tuesday, September 14, 2004

- 07.00 - 08.00 Breakfast "La Veranda" Restaurant
- 08.00 – 08.30 **KEYNOTE LECTURE IN PERINATAL ENDOCRINOLOGY**
F. Petraglia (Italy)
Placental neuroendocrinology
Moderator: **John Challis (Canada)** Pascoli Hall
- 08.30 - 10.30 **Oral Session V**
BRAIN INJURY Pascoli Hall
Moderators: **Bryan Richardson (Canada) – Dino Giussani (UK)**
- 08.30 – 08.45 83 **Prenatal hypoxia affects the functional and structural development of the chick brain**
Candice L. Rodricks, Marie E. Gibbs and Suzanne L. Miller
Dept. Physiology, Monash University, Melbourne, Australia

08.45 – 09.00	84	Changes in cerebral metabolism and oxygen availability measured by magnetic resonance imaging and spectroscopy (MRI/S) during acute hypoxia in the chick embryo D.W. Carmichael ² , X. Wang ¹ , O. Gearing ² , G. Raivich ¹ , <u>D. Peebles</u> ¹ Centre for Perinatal Brain Research, Depts Obstetrics and Gynaecology ¹ , and Medical Physics ² , University College London, UK	
09.00 - 09.15	85	MRI, DWI, perfusion, MRS and ¹⁴C-2-DG-autoradiography of the brain in near term fetal lambs subjected to fetal cord occlusion <u>K. Thorngren-Jerneck</u> , D. Ley, I. Burtscher, R. D'Argy, B. Geijer, L. Hellström-Westas, E. Hernandez, G. Lingman, T.Ohlsso, S-E. Strand, O. Werner, S. Holtås and K. Marsal Departments of Pediatrics [K.T-J, D.L, L.H-W], Obstetrics & Gynecology [E.H,G.L,K.M], Pediatric Anesthesiology [O.W], Neuroradiology [I.B, B.G, S.H] and Radiation Physics [R.dÁ, T.O, A.S, S-E.S],and Active Biotech Research, Lund [R.d'A.], Lund University, Sweden	
09.15 - 09.30	86	Neuroprotection with insulin-like growth factor (IGF) -1 is associated with reduced caspase-3 activation and differential effects on glial proliferation after ischemia in near-term fetal sheep George S., Lenders D., Bennet L., Guan J., Dean J., Gunn A.J. Dept of Physiology and the Liggins Institute, University of Auckland, New Zealand	
09.30- 09.45	87	Influence of the alpha2 adrenoceptor agonist clonidine on hypoxic-ischemic brain injury in the preterm fetal sheep <u>Justin M. Dean</u> , Alistair J. Gunn, Sherly George, Laura Bennet Department of Physiology, University of Auckland, New Zealand	
09.45 – 10.00	88	Evidence of mild brain injury in fetal sheep exposed to chronic intrauterine inflammation <u>I. Nitsos</u> , T.J.M. Moss, B.W. Kramer, J.R. Duncan, S.M. Rees, R. Harding and J.P. Newnham School of Women's and Infants Health University of Western Australia. Crawley, Australia	
10.00 –10.15	89	Acute maternal alcohol administration induces brain injury in the ovine fetus at 0.7 of gestation <u>Megan L Cock</u> ¹ , Penelope Dalitz ¹ , Sandra M Rees ² , Jhodie Duncan ² , Philip N, Henschke ³ , Richard Harding ¹ ¹ Physiology, Monash University, ² Anatomy & Cell Biology, University of Melbourne, and ³ Womens Alcohol and Drug Service, Royal Women's Hospital, Melbourne, VIC, Australia	
10.15 - 10.30	90	Epileptiform activity during rewarming from moderate cerebral hypothermia in the near-term fetal sheep Luella C. Gerrits, ^{1,2} Malcolm R. Battin, ² Laura Bennet, ³ Hernan Gonzalez, ² <u>Alistair J. Gunn</u> ^{2,3} ¹ University Medical Center, Nijmegen, The Netherlands, and ² Depts of Paediatrics and ³ Physiology, Auckland, New Zealand	
10.30 - 11.00		Refreshment Break	Pascoli Terrace
11.00 - 12.30		Oral Session VI CLINICAL PERINATOLOGY	Pascoli Hall
Moderators: Irene Cetin (Italy) – Adrian Walker (Australia)			
11.00 -11.15	91	Can computerized nonstress test parameters predict metabolic status at birth? Chang P., DaSilva V., Poole M., Schmidt G., <u>Gagnon R.</u> St. Joseph's Hospital Dept. of Obstetrics and Gynecology, London ON, Canada	
11.15 -11.30	92	Fetal heart rate patterns and ECG: interobserver agreement rate <u>Isis Amer-Wählin</u> , Ingemar Ingemarsson, Karel Marsal, Andreas Herbst, Dept. Ob&Gyn University Hospital, Lund, Sweden	
11.30- 11.45	93	Screening small for gestational age fetuses with velocity charts Ciriminna V., Gaglioti P., Bertino E., Biolcati M., Demaria F., Oberto M., <u>Todros T.</u> Department of Obstetrics and Gynecology, University of Turin	
11.45 – 12.00	94	Preeclampsia affects the Ca-ATPase activity of neonatal red blood cell ghosts <u>Reinaldo Marín</u> , Milagros M. Carreiras, Teresa Proverbio, Fulgencio Proverbio Instituto Venezolano de Investigaciones Científicas (IVIC), Centro de Biofísica y Bioquímica (CBB), AP 21827, Caracas 1020A, Venezuela	
12.00 – 12.15	95	The localization of prostaglandin E2 receptors (EP1-4) in paired upper and lower segment human myometrium with advancing gestation and labor <u>Peta L Grigsby*</u> , Bernice Adu-Amankwa, Diane E Brockman, and Leslie Myatt Dept. Obstetrics and Gynecology University of Cincinnati, OH, USA	
12.15 - 12.30	96	Differential effects of maternal psychological stress and cortisol levels on fetal behaviour <u>P.G. Robles de Medina</u> , E.J.H. Mulder, A.C. Huizink, J.K. Buitelaar, G.H.A. Visser Department of Perinatology and Gynaecology, Wilhelmina Children's Hospital, Utrecht, The Netherlands	
12.30 - 14.00		Lunch	“La Veranda” Restaurant

14.00 - 15.00	Oral Session VII PLACENTA	Pascoli Hall
Moderators: Tullia Todros (Italy) – Leslie Myatt (USA)		
14.00 – 14.15	97 Determination of human placental production and transplacental transfer of pro-inflammatory cytokines <u>L.A. Patrick</u> ¹ , L.K. Moore ¹ , A.E. Farley ² , and G.N. Smith ^{1,2} ¹ Dept. of Anatomy and Cell Biology, Queen's University and ² Dept. of Obstetrics and Gynecology, Kingston General Hospital, Kingston ON Canada	
14.15 -14.30	98 Systemic endotoxin exposure leads to a dose-dependent increase in proliferation of the placenta in preterm fetal sheep <u>M. Gantert</u> , ² M. Kadyrov, ² B. Huppertz, ¹ A. Einig, ¹ W. Rath, ¹ Y. Garnier ¹ Department of Obstetrics and Gynecology and ² Institute of Anatomy II, University Hospital RWTH Aachen, Germany	
14.30-14.45	99 Early to mid gestation nutrient restriction on uncoupling protein-2 mRNA abundance in the fetal placenta and adolescent lung <u>M.G. Gnanalingham</u> , J. Dandrea, G.S. Gopalakrishnan, J. Bispham, M.E. Symonds and T. Stephenson Centre for Reproduction and Early Life, Institute of Clinical Research, University of Nottingham NG7 2UH, UK	
14.45 -15.00	100 Assessing placental vascularization via US volumetric imaging: preliminary results & speculations M. Oberto, P. Gaglioti, E. Piccoli, T. Todros & <u>C. Guiot</u> Dept. of Gynecol & Obstet and Dept. of Neuroscience, University of Turin, Italy	
15.00 - 15.30	Business Meeting	Pascoli Hall
16.00	Society Sport Event	
20.00	Conference Banquet	Taverna dello Scoiattolo

Wednesday, September 15, 2004

07.00 - 08.00	Breakfast	“La Veranda” Restaurant
08.30 – 09.00	KEYNOTE LECTURE IN BRAIN INJURY - DEVELOPMENT L. Calzà (Italy) Stem cells in the brain: a link between development and injury? Moderator: Diego Gazzolo (Italy)	Pascoli Hall
09.00 - 10.30	Poster Session III CLINICAL PERINATOLOGY	L’Ora di Barga Hall
Moderators: Brian Koos (USA) – Fabio Facchinetti (Italy)		
P52	101 withdrawn	
P53	102 Obstetric high care in a tertiary perinatal centre <u>Guid Oei</u> Department of Obstetrics and Gynecology, Maxima Medical Centre, Veldhoven, The Netherlands	
P54	103 Biometric parameters of fetal weight estimation in children of diabetic mothers <u>Cledil Castro</u> , Marisol García, Aleida Rivas Unit of Diabetes and Pregnancies- Unit of Perinatology	
P55	104 A new methodology to measure uterine arteries blood flow in human pregnancy <u>S. Rigano</u> , S. Boito, G. Pennati, F. Gervaso, F. Migliavacca, A. Padoan, P. Ficarazzi, G. Pardi, F.C. Battaglia, E. Ferrazzi Dept. of OB/GYN, DSC Sacco, Milan, Italy	
P56	105 Umbilical vein blood flow assessment in the human fetus: comparison between two methodologies <u>S. Rigano</u> , S. Boito, P.C. Struijk, P. Ficarazzi, A. Padoan, G. Pardi, J.W. Wladimiroff, E. Ferrazzi Dept. of OB/GYN, DSC Sacco, Milan, Italy	
P57	106 A Doppler venous outflow method for the continuous measurement of cerebral blood flow in the ovine fetus <u>Neesha Rao</u> , Brad Matushewski, Shannon Hemstreet, and Bryan Richardson	

- P58 107 **Withdrawn**
- P59 108 **A comparison between abdominal ECG and direct ECG in durante partum fetal heart rate monitoring**
S.M.M. Martens, S.G. Oei, J.W.M. Bergmans
Dept. of Electrical Engineering, University of Technology, Eindhoven, The Netherlands
- P60 109 **The localization of the relaxatory and contractile prostaglandin receptors in rat cervical tissue**
Andrea Hinton, Peta L Grigsby, Brad Pitzer, Diane E Brockman, and Leslie Myatt
Dept. of Obstetrics and Gynecology University of Cincinnati, OH, USA
- P61 110 **Prostaglandin administration decreases placental adrenomedullin production**
M. Santoro, E. Marinoni, R. Di Iorio, E. Feliciani, C. Zacharopoulou, M.P. Vitagliano, A. Petrilli, E.V. Cosmi
Dept. of Gynecology, Perinatology and Child Health, University "La Sapienza", Rome, Italy
- P62 111 **The assessment of the uterine cervix to predict preterm delivery by three-dimensional ultrasound**
C. Bocchi, F.M. Severi, A. Dell'Anna, C. Ferretti, C. Voltolini, I. Zerbetto, S. Luisi, F. Petraglia
¹Department of Pediatrics, Obstetrics and Reproductive Medicine, University of Siena, Siena
- P63 112 **The increase in maternal plasma corticotrophin releasing hormone. with true preterm labour is greatest at 32-36 weeks gestation**
H. Chisaka¹, J.R.G. Challis¹, M.K. Campbell², T. Thompson², A. Bocking¹
Departments of Obstetrics and Gynaecology and Physiology, University of Toronto, Toronto¹ and Department of Epidemiology and Biostatistics, University of Western Ontario, London,² Canada
- P64 113 **Early amnioinfusion in pregnancy with pPROM**
A.L. Tranquilli, S. R. Giannubilo, V. Bezzeccheri, C. Scagnoli, A., Rinci, G. Buscicchio
Dept. of Obstetrics and Gynecology, Polytechnic University of Marche, Ancona, Italy
- P65 114 **A vascular origin for the fetal inflammatory response associated with PPROM**
Trudinger B., Athayde N., Wang X.
Dept. of Obstetrics and Gynecology, University of Sydney, Wenworthville, Australia
- P66 115 **Mechanism of acute fetal cardiovascular depression following maternal inflammatory challenge in mouse**
Rounioja S., Räsänen J., Autio-Harmanen H., Ojaniemi M., Glumoff V., Hallman M.
Dept. of Pediatrics, University of Oulu and Biocenter Oulu, Finland
- P67 116 **Antioxidant vitamins in normal and intrauterine growth restricted pregnancies (IUGR)**
G. Alvino, V. Cozzi, S. Tabano, E. Herrera*, H. Ortega, I. Cetin
University of Milan, Italy and *University San Pablo-CEU, Madrid, Spain
- P68 117 **Cord blood inhibin A and inhibin B levels in umbilical artery Doppler alterations**
C. Ferretti, F.M. Severi, C. Bocchi, P. Florio, A. Dell'Anna, C. Voltolini, F. Calonaci, F. Petraglia
Department of Pediatrics, Obstetrics and Reproductive Medicine, University of Siena Italy
- P69 118 **The measurement of maternal plasma corticotropin-releasing factor (CRF), and CRF-binding protein (CRF-BP) improves the early prediction of preeclampsia**
A. Imperatore, M. Torricelli, P. Florio, G. Fiore, M. Rossi, L. Galleri, A. Mercone, I. Zerbetto, P.J. Lowry, F. Petraglia
Department of Pediatrics, Obstetrics and Reproductive Medicine, University of Siena, Italy
- P70 119 **Is the Na,K-ATPase activity of the neonatal red blood cell ghosts affected by preeclampsia?**
Fulgencio Proverbio, Milagros M. Carreiras, Teresa Proverbio, Reinaldo Marín
Instituto Venezolano de Investigaciones Científicas (IVIC), Centro de Biofísica y Bioquímica (CBB), A.P. 21827, Caracas 1020A, Venezuela.
- P71 120 **What is the role of glycemic control in the development of preeclampsia in type 1 diabetic women?**
G. Mello, E. Parretti, R. Cioni, F. Tondi, L. Carignani, D. Nannoni, R. Abbate, P. Borri, G. Scarselli
Department of Obstetrics and Gynecology, University of Florence, Italy
- P72 121 **The association of insulin resistance with angiotensin-converting enzyme gene and endothelial nitric oxide synthase gene polymorphisms in women with previous HELLP syndrome**
G. Mello, E. Parretti, C. Fatini, F. Tondi, A. Magrini, R. Cioni, F. Mecacci, M. Marchionni, R. Abbate
Department of Obstetrics and Gynecology, University of Florence, Italy
- P73 122 **Withdrawn**
- P74 123 **Increased S100B urinary measurements at birth may predict neonatal death in preterm newborns**
Diego Gazzolo, ¹Pasquale Florio, ²Emanuela Marinoni, ²Romolo Di Iorio, Matteo Bruschetti, Renata Sacchi, Giovanni Serra, Sabina Ciotti, Mario Lituania, ³Fabrizio Michetti
Department of Pediatrics and of Obstetrics and Gynecology, G. Gaslini Children's Hospital University of Genoa, Genoa;
¹Department of Pediatrics, Obstetrics and Reproductive Medicine, University of Siena, Siena; ²Laboratory of Perinatal Medicine and Molecular Biology, University "La Sapienza", Rome, and ³Institute of Anatomy and Cell Biology, Catholic University, Rome – Genoa, Siena and Rome, Italy
- P75 124 **Fetal intravascular high-dose immunoglobulin administration for treatment of erythroblastosis**

Alonso, Justo
Dept. of Obstetrics & Gynecology University of Uruguay, Montevideo Uruguay

P76	125	Treatment of neonatal hyperbilirubinemia with phototherapy in different italian populations <u>Romolo Di Iorio</u> ¹ , Gian Franco Meloni ² , Erich Cosmi ³ , Maria Nicotra ¹ , Mauro La Torre ⁴ , Fulvia Gloria-Bottini ⁵ . ¹ .Department of Obstetrics and Gynaecology, University of Rome La Sapienza, Rome, ² Department of Pediatrics, University of Sassari, School of Medicine, Sassari, ³ Department of Obstetrics and Gynaecology, University of Sassari, School of Medicine, Sassari, ⁴ Division of Pediatrics, USSL, Penne ⁵ Division of Medical Statistics, Department of Biopathology and Imaging Diagnostics, University of Rome Tor Vergata, School of Medicine, Rome, Italy
P77	126	The influence of maternal psycho-social adversity on maternal and infant sleep/wake organisation in a population at risk for SIDS <u>P. Johnson</u> , D. Andrews, A Cronin*, J. Morrell*, P. Cooper*, & L. Murray* Nuffield Department of Obstetrics & Gynaecology, John Radcliffe Hospital, Oxford, UK. *Winnicott Research Unit, Dept of Psychology, University of Reading, UK
P78	127	The influence of maternal psycho-social adversity on foetal and infant growth in weight and head circumference, including the influence of parenting on postnatal growth <u>P. Johnson</u> , J. Morrell*, D.C. Andrews, L. Murray*, P. Cooper* Nuffield Department of Obstetrics & Gynaecology, John Radcliffe Hospital, Oxford, UK. *Winnicott Research Unit, Dept of Psychology, University of Reading, UK
P79	128	Withdrawn
P80	129	Twin gestation: survival and loss <u>Elizabeth Noble</u> Having Twins 448, Pleasant Lake Avenue, Harwich, MA, USA
10.30 - 11.00	Refreshment Break	Pascoli Terrace
11.00 - 12.30	Oral Session VIII LUNG DEVELOPMENT	Pascoli Hall
Moderators: Peter Nathanielsz (USA) - Gian Paolo Donzelli (Italy)		
11.00 -11.15	130	A bronchial epithelium factor modulates the newborn rat pulmonary artery muscle tone <u>Jaques Belik</u> , Jingyi Pan, Robert P. Jankov and A. Keith Tanswell Dept Pediatrics University of Toronto / Hospital for Sick Children, Toronto, Canada
11.15 -11.30	131	Hypoxia down-regulates cGMP-dependent protein kinase (PKG) in fetal pulmonary vascular smooth muscle cell (PVSMC) through generation of reactive oxygen species (ROS) and promotes development of pulmonary hypertension Fred Sander, Yuansheng Gao, <u>J. Usha Raj</u> Dept. Neonatology, Harbor-UCLA Medical Center, Torrance, USA
11.30- 11.45	132	Normal and pathological development of the mammalian respiratory rhythm generating centre <u>Silvia Pagliardini</u> , Jun Ren and John J. Greer Dept. Physiology- Perinatal Research Centre University of Alberta, Edmonton, Canada
11.45 – 12.00	133	A novel technique for detailed quantitative assessment of lung compliance in the perinatal period <u>A.J.W. Fletcher</u> , R. Weerakkody, M. Swann, P.D. Abbott, A.S. Thakor, S.C. Gentle & D.A. Giussani Department of Physiology, University of Cambridge, Downing Street, Cambridge, UK
12.00 – 12.15	134	Mild preterm birth results in persistent changes in alveolar and airway epithelium <u>Megan L. Cock</u> , Foula Sozo, Sharon Flecknoe, Megan J. Wallace, Keiji Suzuki, *Gert Maritz, Tamara Yawno, Stuart Hooper and Richard Harding Dept. of Physiology, Monash University, Clayton VIC. 3800, Australia, and *Dept. of Physiological Sciences, University of the Western Cape, Bellville, South Africa
12.15 - 12.30	135	Etiology of congenital diaphragmatic hernia: the retinoid hypothesis <u>John J. Greer</u> , Randal P. Babiuk, Robin Clugston and Bernard Thebaud Dept. Physiology University of Alberta, Edmonton, AB Canada
12.30	Adjournment	Pascoli Hall