Abstracts for the 32nd Annual Conference of the Society for Reproductive Biology, Gold Coast, 9–12 September 2001

CONTENTS

1: Animal cloning: innovative technologies for improving outcomes <u>Andrew J. French</u>

2: From stem cells to spermatozoa: using *Drosophila* to dissect genetic regulation of germ cell differentiation Gary Hime

3: Rapid assays for functional gene analysis using the chicken embryo <u>Craig A. Smith</u>, Melissa Katz and Andrew H. Sinclair

4: Real-time PCR used to monitor differentiation of granulosa cells Jock Findlay, Mitzi Dyson and <u>Ann Drummond</u>

5: Ovarian grafting: a tool to investigate, propagate and preserve the female germ line J.M. Shaw

6: Expression of endometrial calcium binding proteins in mice and humans <u>Kien Luu</u>, Gui-ying Nie, Jock Findlay and Lois Salamonsen

7: Cytokine and COX-2 mRNA expression in the endometrium during early pregnancy in pigs

Sean O'Leary, Melinda J. Jasper, David T. Armstrong and Sarah A. Robertson

8: Interleukin 11 enhances and accelerates progesterone-induced decidualization of human endometrial stromal cells

Evdokia Dimitriadis, Lorraine Robb and Lois A. Salamonsen

9: The timing of degeneration and apoptosis of endometrial cells in ovary intact bitches

Po-yin Chu, C.S. Lee and P.J. Wright

10: The roles of progestagen and/or silk suture in the maintenance of silk sutureinduced cystic endometrial hyperplasia in ovariectomised bitches <u>Y.M.M. Chen</u>, P.J. Wright and C.S. Lee

11: Expression of the thioredoxin system in mouse reproductive tissues in early pregnancy

Vivian Tang, Kathryn Tonissen and Frank Clarke

12: Seminal plasma treatment stimulates progesterone synthesis during early pregnancy in the pig

Sean O'Leary, Sarah A. Robertson and David T. Armstrong

13: Isolation, culture and characterisation of a bovine trophectoderm cell line

Natasha A. Korfiatis, <u>Nancy T. Ruddock</u>, Ling Wang, Alan O. Trounson and Andrew J. French

14: An inhibitor of TGF β signalling, h*nma*, in human testis

<u>Viktoria von Schönfeldt</u>, Elizabeth Christy, Stefan Schlatt, David M. de Kretser and Kate Lakoski Loveland

15: Effects of temporary cryptorchidism on the testes and the subsequent fertility of adult male rats

B.P. Setchell and Aida Wahab-Wahlgren

16: Protein-protein interactions with TPX-1, a mouse sperm protein

<u>Deborah Hickox</u>, Ricky Johnstone, Giovanna Berruti, Kim Sebire, Karin Sedelies, David de Kretser and Moira O'Bryan

17: Identification of an htrA-like serine protease in the mammalian testis <u>Denise R. Goldman</u>, Marilyn Bakker, Liz Christy, Michael Holland, David de Kretser and Kate Lakoski Loveland

18: Hormonal control of testicular descent in the tammar wallaby Douglas Coveney, Geoff Shaw and Marilyn B. Renfree

19: Scrotal temperature changes in bulls as measured with a non-contact infrared thermometer

A. Brockway, K. MacMillan, J. Shaw and S. McClintock

20: Pregnancies after insemination of ewes with low numbers of sex-sorted, cryopreserved ram spermatozoa

F.K. Hollinshead, J.K. O'Brien, L. He, W.M.C. Maxwell and G. Evans

21: Autocrine induction of capacitation in mammalian spermatozoa C.J. Wu, T. Stojanov, O. Chami and <u>C. O'Neill</u>

22: In vitro sperm-egg binding, penetration and fusion in an Australian marsupial species, the brushtail possum (*Trichosurus vulpecula*) K.S. Sidhu, K.E. Mate, F.C. Molinia, D. Berg and J.C.Rodger

23: Effect of possum synthetic oviduct fluid and oviduct conditioned media on the motility and viability of brushtail possum (*Trichosurus vulpecula*) epididymal sperm

J.F. Smith, D.K. Berg, R.M. McDonald, S. Beaumont, K.S. Sidhu, F.C. Molinia and D.M. Duganzich

24: Antral follicle development following xenotransplantation of cryopreserved wombat ovarian tissue into nude mice

M. Cleary, M. Paris, J. Shaw, G. Jenkin and A. Trounson

25: Bovine cells selected in G1 of the cell cycle are totipotent following somatic cell nuclear transfer

David Wells, Jan Oliver, Andria Miller, Jacqui Forsyth, Martin Berg, Katie Cockrem, John Lange and Robin Tervit

26: The effect of repeated transvaginal recovery from FSH-stimulated and control heifers on the development of recovered oocytes

P.A. Pugh, D.K. Berg, S. Beaumont, H. Troskie, J. Forsyth, M. Berg, K. Cockrem, Z.Z. Xu, S. Simpson, J. Hooper, H.R. Tervit, W. Vivanco and R. Vishwanath

27: Cryopreservation of day 14 mouse pup ovaries

M. Snow, S-L. Cox, J. Shaw and G. Jenkin

28: The effect of interleukin-10 deficiency on pregnancy outcome and postnatal development in mice

Christine White, Claire Roberts, Alistair Ramsay and Sarah Robertson

29: Progesterone clearance rates in lactating dairy cows with two different levels of milk yield

A.R. Rabiee, K.L. Macmillan and F. Schwarezenberger

30: Ultrasound imaging of milk ejection in the human lactating breast Donna Ramsay, Jacqueline Kent, Robyn Owens and Peter Hartmann

31: Stimulation of the human milk ejection reflex by an electric breast pump Jacqueline Kent, Donna Ramsay, Michael Larsson and Peter Hartmann

32: Efficacy of milk removal from the breast using an electric breast pump Peter E. Hartmann, Leon R. Mitoulas, Lyle C. Gurrin and Michael Larsson

33: Does feeding rumen-protected fish oil alter the expression of oxytocin receptor mRNA in endometrium or luteal tissues? S. Meier

34: Uropathogenic virulence factors in *E. coli* isolates from canine pyometra and faeces of healthy bitches

Y.M.M. Chen, P.J. Wright, G.F. Browning and C.S. Lee

35: The transforming growth factor (TGF- β) and its receptors in the marsupial placenta

Claudia Freyer, Ulrich Zeller and Marilyn B. Renfree

36: Cellulomics of the mammalian ovarian follicle: epigenetic determinants of recruitment and selection

David F. Albertini, Mary Jo Carabatsos, Catherine Combelles and Alexandra Sanfins

37: Getting your paper published Camilla M. Myers

38: Allocation and early differentiation of primordial germ cells and the gonad in the mouse embryo

Patrick P.L. Tam, Tania Tsang and Cathy Watson

39: Sex determination: a developmental jigsaw puzzle

Andrew Sinclair, Craig Smith and Peter McClive

40: SRY evolution – how a brain determining gene became a testis determining gene

Jennifer A. Marshall Graves

41: Differential regulation by type-specific phosphodiesterases of bovine oocyte meiotic maturation and cAMP levels

R.E. Thomas, D.T. Armstrong and R.B. Gilchrist

42: Glucose signals through the hexosamine biosynthetic pathway in mouse preimplantation embryos

M. Pantaleon, J. Scott and P.L. Kaye

43: Short-term nutritional effects before and after mating on embryo quality in sheep

M.A. Kakar, S. Maddocks and S.K. Walker

44: Effect of leptin on meiotic resumption of mouse oocytes

N.K. Ryan, C.M. Woodhouse, R.B. Gilchrist, D.T. Armstrong and R.J. Norman

45: Quantification of growth differentiation factor-9 (GDF-9) and GDF-9B mRNA during mouse oocyte growth and maturation using real-time RT-PCR <u>L.J. Ritter</u>, M.J. Jasper, S.A. Robertson, R.J. Norman, D.T. Armstrong and R.B. Gilchrist

46: In vitro maturation of wombat oocytes: not an easy option for production of M2 oocytes

Monica C.J. Paris, Michelle Cleary and Alan O. Trounson

47: The effect of leptin on mouse embryo development *in vitro*: dose and stagedependent regulation

M. Herrid and J.R. McFarlane

48: Establishment of hypoblast as a measure of developmental competence in **IVP** hatched bovine embryos

N.I. Alexopoulos, P. Hyttel, G. Vajta and A.O. Trounson

49: The effect of FGF4 addition on IVP bovine embryo development

Vanessa J. Hall, Natasha A. Korfiatis, Ian M. Lewis, Alan O. Trounson and Andrew J. French

50: Changes in plasma concentrations of inhibin A in Holstein cows during the oestrous cycle with two or three ovarian follicular waves <u>Katrina I. Parker</u>, David M. Robertson, Nigel P. Groome and Jock Macmillan

51: The age and diet related appearance of male type somatic cells, within abnormal follicles of the female ArKO mouse

Kara Britt, Jeff Kerr, Margaret Jones, Ann Drummond, Liza O'Donnell, Evan Simpson and Jock Findlay

52: Nitric oxide-induced corpus luteum apoptosis is independent of the tumour necrosis factor – alpha cell death pathway M.A. Abdo, M.B. Dalrymple and A.M. Dharmarajan

53: Apoptosis-related proteins are regulated following induced regression of the rat corpus luteum (CL)

S.A. Roughton and A.M. Dharmarajan

54: Localisation of matrix components in bovine corpora lutea

H.F. Irving-Rodgers and R.J. Rodgers

55: Expression of FSHR in the ovaries of the tammar wallaby, *Macropus eugenii* <u>D. Mattiske</u>, A. Pask, G. Shaw and J. Shaw

56: The role of kit/kit ligand in primordial follicle development in the rabbit <u>K. Muirhead</u>, R. Moor and M. Holland

57: The isolation of cells expressing the macrophage markers IA and F480 from the murine ovary

K.H. Van der Hoek, N.K. Ryan and R.J. Norman

58: Immunocontraceptive effect of recombinant myxoma virus expressing mouse zona pellucida C protein in rabbits

<u>Eileen A. McLaughlin</u>, Sandra Beaton, Peter J. Kerr, Ron J. Jackson and Michael K. Holland

59: Post-coital LH surge in the koala (*Phascolarctos cinereus*) S.D. Johnston, P. O'Callaghan, K. Nilsson and J.D. Curlewis

60: Ultrastructure of mast cells in the cul-de-sac of the brushtail possum P.M. Mahoney, P.R. Hurst and B.J. McLeod

61: The vitelline membrane spermatozoa and egg fertilization in the emu <u>Irek A. Malecki</u>, John A. Koppen and Graeme B. Martin

62: The oestrous cycle of the common wombat (*Vombatus ursinus*) assessed by comparing vaginal smears and plasma progesterone concentrations <u>Matt West</u>, Monica Paris, David Galloway, Patrick Wright, Jill Shaw and Alan Trounson

63: Comparative analysis of the gene encoding ZPB from four lagomorph species C. Musso and <u>M. Holland</u>

64: Reproductive health – who is setting the agenda in Australia? Dianne Proctor and Rachel Ingwersen

65: Pest control in Australia: winning the battle(s) – but not the war?

Lyn A. Hinds

66: Capturing the industrial opportunities of reproductive biology A. Panow

67: Donor cell sired offspring born by germ cell transplantation between rat to rat

Zhen Zhang, Marilyn B. Renfree and Roger V. Short

68: Expression of hypoxia-inducible factor-1 and -2α during bovine preimplantation embryo development J. Harvey, L.J. Ritter and J.G. Thompson

69: Impaired ovarian function and preimplantation embryo development in TGF β 1 null mutant mice

Wendy V. Ingram and Sarah A. Robertson

70: Effect of insemination on corpus luteum macrophage populations and progesterone secretion in mice

Melanie L. Sutton, Sarah A. Robertson and David T. Armstrong

71: A novel marsupial Y-linked homologue of the human sex reversing ATRX gene

Andrew J. Pask, Marilyn B. Renfree and Jennifer A. Marshall Graves

72: Granulocyte-macrophage-colony stimulating factor (GM-CSF) promotes inner cell mass viability in human embryos through prevention of apoptosis C. Sjöblom, M. Wikland and S.A. Robertson

73: Control of cell division in pluripotent cells: understanding cell proliferation during embryogenesis and during stem cell differentiation Stephen Dalton, Elaine Stead, Josephine White, Renate Faast, Duane Rivett, Michael Bettess, Sherilyn Goldstone and Peter Cartwright.

74: Cell cycle checkpoints ensuring genomic stability Matthew J. O'Connell

75: ECM, the next frontier of regulation of ovarian follicle development Ray J Rodgers and HF Irving-Rodgers

76: Invasive phenotypes associated with hormone-independence in breast and prostate cancer cell lines: implication of the epithelio-mesenchymal transition Elizabeth D. Williams, Angela Arvanitis, Mark Waltham and Erik W. Thompson

77: Fibronectin and its proteolytic fragments: diverse roles in mammary gland involution and cartilage degradation Heather Stanton and Amanda J. Fosang

78: Regulation of a putative metastasis-promoting proteoglycan in prostate stroma by cancer cell production of transforming growth factor beta-1

Carmela Ricciardelli, Andrew Sakko, Keiko Mayne, Wayne Tilley, Villis Marshall and <u>David Horsfall</u>

79: Stress physiology of green turtles (*Chelonia mydas*) in eastern Australia J. Whittier, T. Jessop, M. Hamann and C. Limpus

80: Isolation and restraint stress does not affect the LH response to GNRH in hypothalamo-pituitary disconnected rams and ewes <u>C.A. Stackpole</u>, A.I. Turner, I.J. Clarke and A.J. Tilbrook

81: Fetal programming of peripubertal leptin receptor expression in the rat <u>Jeremy T. Smith</u> and Brendan J. Waddell

82: Pituitary production of LH in female flying foxes, genus *Pteropus* <u>G.M. O'Brien</u>, J.R. McFarlane and P.J. Kearney

83: Egg nuclear maturation status following superovulation of the brushtail possum during seasonal anoestrus

F.C. Molinia, A.M. Glazier and J.V. Myers

84: Postpartum anoestrous interval, LH release and metabolic changes in heifers with restricted intakes or supplemented with pasture pre-calving <u>Lúcia M. Chagas</u>, Fiona M. Rhodes, Stuart R. Morgan, Peter J.S. Gore and Gwyneth A. Verkerk

85: A Ca²⁺ dependent increase in intracellular cAMP is associated with activation of motility in quiescent caudal epididymal sperm from the rat <u>M.A. Wade</u>, R.C. Jones, R.N. Murdoch and R.J. Aitken

86: Sperm hyperactivation induced by cAMP in the tammar wallaby (*Macropus eugenii*)

Donna Morton, Minjie Lin and R. John Aitken

87: Thaddeus Mann and the metabolism of fructose by sperm <u>A.R. Jones</u> and D.E. Connor

88: Factors regulating tyrosine phosphorylation in murine spermatozoa <u>H. Ecroyd</u>, R.J. Aitken and R.C. Jones

89: Analysis of gene-specific DNA damage in human spermatozoa treated with hydrogen peroxide and iron D.E. Sawyer and R.J. Aitken

90: Evidence for an NAD(P)H oxidase in spermatozoa silenced by flavoprotein inhibitors and zinc

P. Vernet, B. Curry, N. Fulton, C. Wallace and R.J. Aitken

91: Generation of reactive oxygen species by spermatozoa of a marsupial species, the tammar wallaby (*Macropus eugenii*) L. Bennetts, S. Roman and R.J. Aitken

92: Ross Coppel – Speaker Profile

93: PTHrP – from endocrinology to intracrinology <u>T.J. Martin</u>