Michelle Lane

List of Publications by Year
in descending order

137 papers	14,984 citations	17405 63 h-index	18606 119 g-index
137 all docs	137 docs citations	137 times ranked	8496 citing authors

#	Article	IF	Citations
1	Blastocyst score affects implantation and pregnancy outcome: towards a single blastocyst transfer. Fertility and Sterility, 2000, 73, 1155-1158.	0.5	1,490
2	Oocyte-secreted factors: regulators of cumulus cell function and oocyte quality. Human Reproduction Update, 2008, 14, 159-177.	5.2	796
3	Culture and transfer of human blastocysts increases implantation rates and reduces the need for multiple embryo transfers. Fertility and Sterility, 1998, 69, 84-88.	0.5	557
4	Enhanced Rates of Cleavage and Development for Sheep Zygotes Cultured to the Blastocyst Stage in Vitro in the Absence of Serum and Somatic Cells: Amino Acids, Vitamins, and Culturing Embryos in Groups Stimulate Development1. Biology of Reproduction, 1994, 50, 390-400.	1.2	512
5	Paternal obesity initiates metabolic disturbances in two generations of mice with incomplete penetrance to the F₂generation and alters the transcriptional profile of testis and sperm microRNA content. FASEB Journal, 2013, 27, 4226-4243.	0.2	486
6	Amino Acids and Ammonium Regulate Mouse Embryo Development in Culture1. Biology of Reproduction, 1993, 48, 377-385.	1.2	376
7	Environment of the preimplantation human embryo in vivo: metabolite analysis of oviduct and uterine fluids and metabolism of cumulus cells. Fertility and Sterility, 1996, 65, 349-353.	0.5	346
8	Obese Women Exhibit Differences in Ovarian Metabolites, Hormones, and Gene Expression Compared with Moderate-Weight Women. Journal of Clinical Endocrinology and Metabolism, 2009, 94, 1533-1540.	1.8	317
9	Vitrification of mouse and human blastocysts using a novel cryoloop container-less technique. Fertility and Sterility, 1999, 72, 1073-1078.	0.5	309
10	High-Fat Diet Causes Lipotoxicity Responses in Cumulusâ€“Oocyte Complexes and Decreased Fertilization Rates. Endocrinology, 2010, 151, 5438-5445.	1.4	285
11	Impact of obesity on male fertility, sperm function and molecular composition. Spermatogenesis, 2012, 2, 253-263.	0.8	283
12	Noninvasive assessment of human embryo nutrient consumption as a measure of developmental potential. Fertility and Sterility, 2001, 76, 1175-1180.	0.5	278
13	Blastocyst culture and transfer: analysis of results and parameters affecting outcome in two in vitro fertilization programs. Fertility and Sterility, 1999, 72, 604-609.	0.5	268
14	Paternal obesity negatively affects male fertility and assisted reproduction outcomes: a systematic review and meta-analysis. Reproductive BioMedicine Online, 2015, 31, 593-604.	1.1	255
15	Effect of incubation volume and embryo density on the development and viability of mouse embryos in vitro. Human Reproduction, 1992, 7, 558-562.	0.4	253
16	Parenting from before conception. Science, 2014, 345, 756-760.	6.0	244
17	Fertilization and early embryology: Selection of viable mouse blastocysts prior to transfer using a metabolic criterion. Human Reproduction, 1996, 11, 1975-1978.	0.4	236
18	Fertilization and early embryology: Alleviation of the '2-cell block' and development to the blastocyst of CF1 mouse embryos: role of amino acids, EDTA and physical parameters. Human Reproduction, 1996, 11, 2703-2712.	0.4	229

#	Article	IF	Citations
19	Containerless vitrification of mammalian oocytes and embryos. Nature Biotechnology, 1999, 17, 1234-1236.	9.4	210
20	Ammonium Induces Aberrant Blastocyst Differentiation, Metabolism, pH Regulation, Gene Expression and Subsequently Alters Fetal Development in the Mouse. Biology of Reproduction, 2003, 69, 1109-1117.	1.2	210
21	Paternal body mass index is associated with decreased blastocyst development and reduced live birth rates following assisted reproductive technology. Fertility and Sterility, 2011, 95, 1700-1704.	0.5	197
22	Diet and exercise in an obese mouse fed a high-fat diet improve metabolic health and reverse perturbed sperm function. American Journal of Physiology - Endocrinology and Metabolism, 2012, 302, E768-E780.	1.8	186
23	Glucose consumption of single post-compaction human embryos is predictive of embryo sex and live birth outcome. Human Reproduction, 2011, 26, 1981-1986.	0.4	166
24	Embryo culture medium: which is the best?. Best Practice and Research in Clinical Obstetrics and Gynaecology, 2007, 21, 83-100.	1.4	162
25	Human cumulus cell gene expression as a biomarker of pregnancy outcome after single embryo transfer. Fertility and Sterility, 2011, 96, 47-52.e2.	0.5	157
26	Anti-MÃ¼llerian hormone as a predictor of IVF outcome. Reproductive BioMedicine Online, 2007, 14, 602-610.	1.1	155
27	Preconception diet or exercise intervention in obese fathers normalizes sperm microRNA profile and metabolic syndrome in female offspring. American Journal of Physiology - Endocrinology and Metabolism, 2015, 308, E805-E821.	1.8	155
28	Exposure to lipid-rich follicular fluid is associated with endoplasmic reticulum stress and impaired oocyte maturation in cumulus-oocyte complexes. Fertility and Sterility, 2012, 97, 1438-1443.	0.5	153
29	Lactate Regulates Pyruvate Uptake and Metabolism in the PreimplantationMouse Embryo1. Biology of Reproduction, 2000, 62, 16-22.	1.2	152
30	Developmental Competence and Metabolism of Bovine Embryos Cultured in Semi-Defined and Defined Culture Media1. Biology of Reproduction, 1999, 60, 1345-1352.	1.2	144
31	Paternal diet-induced obesity impairs embryo development and implantation in the mouse. Fertility and Sterility, 2011, 95, 1349-1353.	0.5	144
32	Towards a single embryo transfer. Reproductive BioMedicine Online, 2003, 6, 470-481.	1.1	138
33	Vitrification of mouse oocytes using a nylon loop. Molecular Reproduction and Development, 2001, 58, 342-347.	1.0	137
34	Fetal development after transfer is increased by replacing protein with the glycosaminoglycan hyaluronan for mouse embryo culture and transfer. Human Reproduction, 1999, 14, 2575-2580.	0.4	135
35	Understanding cellular disruptions during early embryo development that perturb viability and fetal development. Reproduction, Fertility and Development, 2005, 17, 371.	0.1	133
36	Exogenous growth differentiation factor 9 in oocyte maturation media enhances subsequent embryo development and fetal viability in mice. Human Reproduction, 2007, 23, 67-73.	0.4	132

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37	Maternal supply of omega-3 polyunsaturated fatty acids alter mechanisms involved in oocyte and early embryo development in the mouse. American Journal of Physiology - Endocrinology and Metabolism, 2008, 294, E425-E434.	1.8	132
38	Ex vivo early embryo development and effects on gene expression and imprinting. Reproduction, Fertility and Development, 2005, 17, 361.	0.1	131
39	Embryo Nutrition and Energy Metabolism and Its Relationship to Embryo Growth, Differentiation, and Viability. Seminars in Reproductive Medicine, 2000, 18, 205-218.	0.5	129
40	ADAMTS1 Cleavage of Versican Mediates Essential Structural Remodeling of the Ovarian Follicle and Cumulus-Oocyte Matrix During Ovulation in Mice1. Biology of Reproduction, 2010, 83, 549-557.	1.2	129
41	Quality Control in Human In Vitro Fertilization. Seminars in Reproductive Medicine, 2005, 23, 319-324.	0.5	112
42	Perturbations in Mouse Embryo Development and Viability Caused by Ammonium Are More Severe after Exposure at the Cleavage Stages1. Biology of Reproduction, 2006, 74, 288-294.	1.2	104
43	Cryo-survival and development of bovine blastocysts are enhanced by culture with recombinant albumin and hyaluronan. Molecular Reproduction and Development, 2003, 64, 70-78.	1.0	102
44	Mitochondrial Malate-Aspartate Shuttle Regulates Mouse Embryo Nutrient Consumption. Journal of Biological Chemistry, 2005, 280, 18361-18367.	1.6	101
45	Peri-conception parental obesity, reproductive health, and transgenerational impacts. Trends in Endocrinology and Metabolism, 2015, 26, 84-90.	3.1	101
46	Nonessential amino acids and glutamine decrease the time of the first three cleavage divisions and increase compaction of mouse zygotes in vitro. Journal of Assisted Reproduction and Genetics, 1997, 14, 398-403.	1.2	100
47	Altering Intracellular pH Disrupts Development and Cellular Organization in Preimplantation Hamster Embryos1. Biology of Reproduction, 2001, 64, 1845-1854.	1.2	100
48	Physiology and culture of the human blastocyst. Journal of Reproductive Immunology, 2002, 55, 85-100.	0.8	99
49	Impaired Mitochondrial Function in the Preimplantation Embryo Perturbs Fetal and Placental Development in the Mouse1. Biology of Reproduction, 2011, 84, 572-580.	1.2	99
50	Oxidative Stress in Mouse Sperm Impairs Embryo Development, Fetal Growth and Alters Adiposity and Glucose Regulation in Female Offspring. PLoS ONE, 2014, 9, e100832.	1.1	97
51	Addition of ascorbate during cryopreservation stimulates subsequent embryo development. Human Reproduction, 2002, 17, 2686-2693.	0.4	92
52	Sperm DNA damage is associated with assisted reproductive technology pregnancy. Journal of Developmental and Physical Disabilities, 2008, 31, 518-526.	3.6	91
53	Changing the start temperature and cooling rate in a slow-freezing protocol increases human blastocyst viability. Fertility and Sterility, 2003, 79, 407-410.	0.5	87
54	SIRT6 in mouse spermatogenesis is modulated by diet-induced obesity. Reproduction, Fertility and Development, 2011, 23, 929.	0.1	87

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55	Uptake and metabolism of pyruvate and glucose by individual sheep preattachment embryos developed in vivo. Molecular Reproduction and Development, 1993, 36, 313-319.	1.0	86
56	Paternal Obesity, Interventions, and Mechanistic Pathways to Impaired Health in Offspring. Annals of Nutrition and Metabolism, 2014, 64, 231-238.	1.0	86
57	Women with reduced ovarian reserve or advanced maternal age have an altered follicular environment. Fertility and Sterility, 2012, 98, 986-994.e2.	0.5	82
58	Metabolic and Mitochondrial Dysfunction in Early Mouse Embryos Following Maternal Dietary Protein Intervention1. Biology of Reproduction, 2009, 80, 622-630.	1.2	79
59	Effect of essential amino acids on mouse embryo viability and ammonium production. Journal of Assisted Reproduction and Genetics, 2001, 18, 519-525.	1.2	77
60	Effect of culturing mouse embryos under different oxygen concentrations on subsequent fetal and placental development. Journal of Physiology, 2006, 572, 87-96.	1.3	77
61	Sperm microRNA Content Is Altered in a Mouse Model of Male Obesity, but the Same Suite of microRNAs Are Not Altered in Offspringâ€™s Sperm. PLoS ONE, 2016, 11, e0166076.	1.1	76
62	Cryopreservation reduces the ability of hamster 2-cell embryos to regulate intracellular pH. Human Reproduction, 2000, 15, 389-394.	0.4	70
63	Increased gonadotrophin stimulation does not improve IVF outcomes in patients with predicted poor ovarian reserve. Journal of Assisted Reproduction and Genetics, 2008, 25, 515-521.	1.2	70
64	Use of G1.2/G2.2 media for commercial bovine embryo culture: equivalent development and pregnancy rates compared to co-culture. Theriogenology, 2003, 60, 407-419.	0.9	68
65	Disruption of Mitochondrial Malate-Aspartate Shuttle Activity in Mouse Blastocysts Impairs Viability and Fetal Growth1. Biology of Reproduction, 2009, 80, 295-301.	1.2	67
66	Vitrification of human blastocysts using the cryoloop method: successful clinical application and birth of offspring. Journal of Assisted Reproduction and Genetics, 2002, 19, 304-306.	1.2	66
67	To QC or not to QC: the key to a consistent laboratory?. Reproduction, Fertility and Development, 2008, 20, 23.	0.1	64
68	Regulation of Intracellular pH in Hamster Preimplantation Embryos by theSodium Hydrogen (Na+/H+) Antiporter1. Biology of Reproduction, 1998, 59, 1483-1490.	1.2	63
69	Na+/H+Antiporter Activity in Hamster Embryos Is Activated during Fertilization. Developmental Biology, 1999, 208, 244-252.	0.9	63
70	Does obesity really matter? The impact of <scp>BMI</scp> on embryo quality and pregnancy outcomes after <scp>IVF</scp> in women aged â‰38Âyears. Australian and New Zealand Journal of Obstetrics and Gynaecology, 2012, 52, 270-276.	0.4	61
71	Obese fatherâ€™s metabolic state, adiposity, and reproductive capacity indicate sonâ€™s reproductive health. Fertility and Sterility, 2014, 101, 865-873.e1.	0.5	61
72	Altered composition of the cumulus-oocyte complex matrix during in vitro maturation of oocytes. Human Reproduction, 2007, 22, 2842-2850.	0.4	60

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73	Improving Metabolic Health in Obese Male Mice via Diet and Exercise Restores Embryo Development and Fetal Growth. PLoS ONE, 2013, 8, e71459.	1.1	60
74	Day 4 embryo selection is equal to Day 5 using a new embryo scoring system validated in single embryo transfers. Human Reproduction, 2008, 23, 1505-1510.	0.4	58
75	Male obesity and subfertility, is it really about increased adiposity?. Asian Journal of Andrology, 2015, 17, 450.	0.8	58
76	Paternal under-nutrition programs metabolic syndrome in offspring which can be reversed by antioxidant/vitamin food fortification in fathers. Scientific Reports, 2016, 6, 27010.	1.6	56
77	EDTA stimulates cleavage stage bovine embryo development in culture but inhibits blastocyst development and differentiation. Molecular Reproduction and Development, 2000, 57, 256-261.	1.0	54
78	Bicarbonate/Chloride Exchange Regulates Intracellular pH of Embryos but Not Oocytes of the Hamster1. Biology of Reproduction, 1999, 61, 452-457.	1.2	52
79	Regulation of intracellular pH in bovine oocytes and cleavage stage embryos. Molecular Reproduction and Development, 1999, 54, 396-401.	1.0	50
80	Regulation of Ionic Homeostasis by Mammalian Embryos. Seminars in Reproductive Medicine, 2000, 18, 195-204.	0.5	50
81	Disruption of Bidirectional Oocyte-Cumulus Paracrine Signaling During In Vitro Maturation Reduces Subsequent Mouse Oocyte Developmental Competence1. Biology of Reproduction, 2009, 80, 1072-1080.	1.2	47
82	Removal of embryo-toxic ammonium from the culture medium by in situ enzymatic conversion to glutamate. The Journal of Experimental Zoology, 1995, 271, 356-363.	1.4	42
83	Inflammatory markers in human follicular fluid correlate with lipid levels and Body Mass Index. Journal of Reproductive Immunology, 2018, 130, 25-29.	0.8	41
84	Calcium Homeostasis in Early Hamster Preimplantation Embryos1. Biology of Reproduction, 1998, 59, 1000-1007.	1.2	40
85	The CryoLoop facilitates re-vitrification of embryos at four successive stages of development without impairing embryo growth. Human Reproduction, 2006, 21, 2978-2984.	0.4	40
86	An Exerciseâ€Only Intervention in Obese Fathers Restores Glucose and Insulin Regulation in Conjunction with the Rescue of Pancreatic Islet Cell Morphology and MicroRNA Expression in Male Offspring. Nutrients, 2017, 9, 122.	1.7	40
87	Intracellular divalent cation homeostasis and developmental competence in the hamster preimplantation embryo. Molecular Reproduction and Development, 1998, 50, 443-450.	1.0	38
88	Alterations in mouse embryo intracellular pH by DMO during culture impair implantation and fetal growth. Reproductive BioMedicine Online, 2010, 21, 219-229.	1.1	38
89	Granulocyteâ€"macrophage colony-stimulating factor stimulates mouse blastocyst inner cell mass development only when media lack human serum albumin. Reproductive BioMedicine Online, 2005, 10, 511-518.	1.1	37
90	Inhibiting 3-phosphoglycerate kinase by EDTA stimulates the development of the cleavage stage mouse embryo. Molecular Reproduction and Development, 2001, 60, 233-240.	1.0	36

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91	Mammalian Preimplantation Embryo Culture. Methods in Molecular Biology, 2014, 1092, 167-182.	0.4	35
92	The presence of 1ÂmM glycine in vitrification solutions protects oocyte mitochondrial homeostasis and improves blastocyst development. Journal of Assisted Reproduction and Genetics, 2013, 30, 107-116.	1.2	34
93	Combined advanced parental age has an additive negative effect on live birth ratesâ€"data from 4057 first IVF/ICSI cycles. Journal of Assisted Reproduction and Genetics, 2018, 35, 279-287.	1.2	34
94	Differential Effect of Hexoses on Hamster Embryo Development in Culture1. Biology of Reproduction, 2001, 64, 1366-1374.	1.2	32
95	Differences in Intracellular pH Regulation by Na+/H+ Antiporter among Two-Cell Mouse Embryos Derived from Females of Different Strains1. Biology of Reproduction, 2001, 65, 14-22.	1.2	29
96	Gene expression and epigenetic aberrations in F1â€placentas fathered by obese males. Molecular Reproduction and Development, 2017, 84, 316-328.	1.0	28
97	Metabolism, protein content, and in vitro embryonic development of goat cumulus-oocyte complexes matured with physiological concentrations of glucose andL-lactate. Molecular Reproduction and Development, 2006, 73, 256-266.	1.0	27
98	Single blastocyst embryo transfer maintains comparable pregnancy rates to double cleavage-stage embryo transfer but results in healthier pregnancy outcomes. Australian and New Zealand Journal of Obstetrics and Gynaecology, 2011, 51, 406-410.	0.4	27
99	The most common vices of men can damage fertility and the health of the next generation. Journal of Endocrinology, 2017, 234, F1-F6.	1.2	27
100	Blastocyst Transfer. Clinical Obstetrics and Gynecology, 2003, 46, 231-238.	0.6	26
101	Phosphate induced developmental arrest of hamster two-cell embryos is associated with disrupted ionic homeostasis. Molecular Reproduction and Development, 1999, 54, 410-417.	1.0	25
102	Female offspring sired by diet induced obese male mice display impaired blastocyst development with molecular alterations to their ovaries, oocytes and cumulus cells. Journal of Assisted Reproduction and Genetics, 2015, 32, 725-735.	1.2	25
103	Stimulation of mitochondrial embryo metabolism by dichloroacetic acid in an aged mouse model improves embryo development and viability. Fertility and Sterility, 2014, 101, 1458-1466.e5.	0.5	23
104	Insulin Increases Epiblast Cell Number of In Vitro Cultured Mouse Embryos via the PI3K/GSK3/p53 Pathway. Stem Cells and Development, 2012, 21, 2430-2441.	1.1	21
105	Mitochondrial SIRT5 is present in follicular cells and is altered by reduced ovarian reserve and advanced maternal age. Reproduction, Fertility and Development, 2014, 26, 1072.	0.1	21
106	Dietary Micronutrient Supplementation for 12 Days in Obese Male Mice Restores Sperm Oxidative Stress. Nutrients, 2019, 11, 2196.	1.7	20
107	Reduction of Mitochondrial Function by FCCP During Mouse Cleavage Stage Embryo Culture Reduces Birth Weight and Impairs the Metabolic Health of Offspring1. Biology of Reproduction, 2015, 92, 124.	1.2	18
108	Slow freezing and vitrification of mouse morula and early blastocysts. Journal of Assisted Reproduction and Genetics, 2013, 30, 1091-1098.	1.2	15

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109	Metformin treatment of high-fat diet-fed obese male mice restores sperm function and fetal growth, without requiring weight loss. Asian Journal of Andrology, 2020, 22, 560.	0.8	15
110	Adaptive Responses of Early Embryos to Their Microenvironment and Consequences for Post-Implantation Development. , 2006, , 58-69.		10
111	Ongoing development of a human blastocyst culture system. Fertility and Sterility, 2002, 78, S8.	0.5	9
112	Mitochondrial inhibition during preimplantation embryogenesis shifts the transcriptional profile of fetal mouse brain. Reproduction, Fertility and Development, 2011, 23, 691.	0.1	9
113	Development of a Mouse Model for Studying the Effect of Embryo Culture on Embryonic Stem Cell Derivation. Stem Cells and Development, 2011, 20, 1577-1586.	1.1	8
114	Blastomere Homeostasis. , 2001, , 69-90.		8
115	Media Composition: Energy Sources and Metabolism. , 2012, 912, 81-96.		7
116	Use of a male antioxidant nutraceutical is associated with superior live birth rates during IVF treatment. Asian Journal of Andrology, 2021, 23, 16.	0.8	7
117	Development of Viable Mammalian Embryos In Vitro. , 2002, , 187-213.		6
118	Culture of Viable Mammalian Embryos In Vitro. , 2014, , 63-84.		5
119	Embryo Culture Systems. , 2017, , 205-244.		5
120	Epiblast Cell Number and Primary Embryonic Stem Cell Colony Generation Are Increased by Culture of Cleavage Stage Embryos in Insulin. Journal of Reproduction and Development, 2013, 59, 131-138.	0.5	5
121	One-step versus two-step culture of mouse preimplantation embryos. Human Reproduction, 2006, 21, 1935-1936.	0.4	4
122	The Future of Human Embryo Culture Media â€“ Or Have We Reached the Ceiling?. , 2012, , .		4
123	Gamete cryopreservation of Australian 'old endemic' rodents â€“ spermatozoa from the plains mouse (Pseudomys australis) and spinifex hopping mouse (Notomys alexis). Australian Mammalogy, 2018, 40, 76.	0.7	4
124	Extended Culture in IVF. , 2012, , 141-150.		4
125	Sequential clomiphene/corifollitrophin alpha as a technique for mild controlled ovarian hyperstimulation in IVF: a proof of concept study. Journal of Assisted Reproduction and Genetics, 2018, 35, 1047-1052.	1.2	3
126	Sequential Media for Human Blastocyst Culture. , 2019, , 157-170.		3

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127	Use of Insulin to Increase Epiblast Cell Number: Towards a New Approach for Improving ESC Isolation from Human Embryos. BioMed Research International, 2013, 2013, 1-7.	0.9	2
128	Paternal Obesity and Programming of Offspring Health. , 2016, , 105-131.		2
129	Cryosystem assessment by glucose uptake of murine blastocysts. Reproductive BioMedicine Online, 2005, 11, 601-607.	1.1	1
130	Amino acids and ammonium. , 0, , 95-111.		1
131	Culture systems for the human embryo. , 2012, , 218-239.		1
132	Embryo Culture Systems. , 2006, , 221-282.		1
133	Extended Culture in IVF. , 2013, , 99-113.		1
134	Non-Genetic Inheritance, Fertility and Assisted Reproductive Technologies. Non-Genetic Inheritance, 2015, 2, .	0.8	0
135	Culture Systems and Blastocyst Development. , 2001, , 118-143.		0
136	Culture systems for the human embryo. , 2008, , 219-240.		0
137	Carbohydrate Analysis and Embryo Viability. , 2013, , 259-265.		0