

SHORT COMMUNICATIONS

STUDENT COMPETITION

1. Jiayi Yang, Jorke H. Kamstra, Hilde Aardema: *Uptake and effects of nanoplastics in maturing oocytes*.....
2. Ben Meulders, Waleed F.A. Marei, Peter E.J. Bols, Jo L.M.R. Leroy. *Mitochondrial dysfunction during oocyte maturation and its impact on embryo epigenetic programming: mechanistic insights*.
3. Rosane Mazzarella, José María Sánchez, Beatriz Fernandez-Fuertes, Sandra Guisado Egado, Alberto Álvarez-Barrientos, Esperanza González, Juan Manuel Falcón-Pérez, Mikel Azkargorta, Félix Elortza, Encina González, Pat Lonergan, Dimitrios Rizos. *Embryo-induced alterations in the protein profile of bovine oviductal extracellular vesicles*.
4. Pilar Sòria-Monzó, Yanan Liu, Rong Li, Miriam Balastegui-Alarcón, Paula Cots-Rodríguez, José Ballesta, Zhongde Wang, Manuel Avilés, María José Izquierdo-Rico. *ZP2 is essential for embryo development in golden hamster (*Mesocricetus auratus*)*.
5. Jessica Patricia Kurzella, Franca Rings, Ernst Tholen, Christine Große-Brinkhaus, Dessie Salilew-Wondim, Eva Held-Hoelker, Michael Hoelker. *Sex-specific contours of mitochondrial respiration characteristics at the pre-elongation stage in individual bovine embryos*.

TAI/FTET/AI, OPU - IVF and ET

6. Eleni Dovolou, Alexia Fytsilli, Themistoklis Giannoulis, Ioannis Nanas, Aikaterini Ntemka, Ilektra Kateri, Katerina Moutou, Zissis Mamuris, Georgios S Amiridis. *Zinc sulfate attenuates the negative effects of Roundup on in vitro bovine oocyte maturation*.
7. Michal A. Kosior, Maria P. Benitez Mora, Maria T. Alfano, Federica Piscopo, Riccardo Esposito, Valentina Longobardi, Giuseppe Albero, Salvatore Monti, Giorgio A. Presicce, Bianca Gasparrini. *Single administration of FSH delivered in hyaluronic acid for ovarian Stimulation prior to ovum pick up in Italian Mediterranean buffalo*
8. Henar Gonzalez-Ramiro, Maria A. Gil, Cristina Cuello, Josep M. Cambra, Alejandro Gonzalez-Plaza, Juan M. Vazquez, Jose L. Vazquez, Heriberto Rodriguez-Martinez. *The use of a brief synchronization treatment after weaning, combined with superovulation, affects the gene expression of surviving blastocysts*.....
9. Cesar J. Arreseigor, Miguel A. Gutierrez-Reinoso, Arnaldo Mosqueira, Alejandra De los Rios, Silvano Mosqueira, Fernando Arza-Spinzi, Alejandro Pereira, Manuel Garcia-Herreros. *Ovum pick-up (OPU) in *Bos indicus* dairy cattle breeds: Oocyte recovery*

rates and in vitro embryo production using unsorted and sex-sorted sperm.

10. Miguel A. Gutierrez-Reinoso, Cesar J. Arreseigor, Melany G. Córdor, Luisa M. Coyago, Arnaldo Mosqueira, Alejandra De los Rios, Silvano Mosqueira, Fernando Arza-Spinzi, Alejandro Pereira, Manuel Garcia-Herreros. *HCG application at the time of embryo transfer in Brangus cattle recipients: Effects on pregnancy rate under tropical heat-stress conditions.*
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11. Erik Mullaart, Geart Ludema, Helga Flapper, John Hepburn, Björn Oback. *Birthweight data of IVP calves.*
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12. Cesar J. Arreseigor, Miguel A. Gutierrez-Reinoso, Arnaldo Mosqueira, Alejandra De los Rios, Silvano Mosqueira, Fernando Arza-Spinzi, Alejandro Pereira, Manuel Garcia-Herreros. *Embryo transfer in Brangus cattle recipients: Effects of transfer side on pregnancy rate and embryonic/fetal loss under subtropical conditions.*
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13. Izabela Woclawek-Potocka, Milena Traut, Ilona Kowalczyk-żieba, Dorota Boruszewska, Joanna Jaworska, Sandra Gasiorowska. *Are there any differences between blastocysts derived from prepubertal and pubertal heifers in the aspect of mitochondrial function?.....*
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14. Nuria Martínez de los Reyes, Melissa Carvajal-Serna, Pilar Marigorta, Patricia Peris-Frau, Julián Santiago-Moreno, Pablo Bermejo-Álvarez, Priscila Ramos-Ibeas. *Optimization of heterologous IVF with Iberian ibex (Capra pyrenaica) sperm and domestic goat (Capra hircus) oocytes.*
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15. Maleke Dimpho Sebopela, Masindi Lottus Mphaphathi, Sindisiwe Mbali Sithole, Tlou Caswell Chokoe, Tshimangadzo Lucky Nedambale. *Correlation between sperm traits and in vitro fertilization outcomes in X-sexed and non-sexed sperm.*

16. Selim Alcay, Hakan Sagirkaya. *Effect of embryo transfer application on pregnancy success in repeat breeder cows and heifers.....*

17. Eleni Dovolou, Leda Oikonomopoulou, Ioannis Nanas, Georgios S Amiridis. *Acylated ghrelin diminishes the superovulatory response in dairy sheep.*

18. Hemant D. Kadam, Prasad D. Deshpande, Gautami S. Joshi, Vitthal N. Ghadge, Jayant R. Khadse, Ashok B. Pande. *Comparative study of In-vitro embryo production (IVEP) in Gir & Sahiwal (Bos indicus) Indian cattle breeds Sahiwal (Bos indicus) Indian cattle.....*

19. Ann-Selina Fries, Lukas Demattio, Christine Wrenzycki. *In vitro maturation of bovine oocytes using a portable CO₂ incubator.....*

20. Armando Quintero-Moreno, Sebastián Canovas, Sonia Heras, Jon Romero-Aguirregomezcorta, Joaquín Gadea, Rakel Romar. *Preliminary results on glycaemic response after oral glucose tolerance test (OGTT) in sows derived from assisted reproductive technologies.*
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21. Giselle Gamarra, Nicole Hagen, Serge Lacaze. *Laser-Assisted Biopsy is an efficient technique to perform genetic analysis of Bovine Embryos in Selected Breeding Programs.*
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FOLLICULOGENESIS, OOGENESIS and SUPEROVULATION

22. Miguel A. Gutierrez-Reinoso, Andres Vera-Cedeño, Melany G. Córdor, Luisa M. Coyago, Ignacio Cabezas, Florence I. Hugues, Natalie C. Parra, Oliberto Sánchez, Jorge R. Toledo, Manuel Garcia-Herreros. *Recombinant FSH (bscrFSH) vs. pituitary FSH (FSH-p): Ovarian response and in vitro embryo production in superovulated Brahman cattle.*

23. Waleed F.A. Marej, Jessie De Bie, Inne Xhonneux, Jo L.M.R. Leroy. *Metabolic stress during the postpartum period in dairy cows might influence follicular growth dynamics at the time of breeding. A retrospective analysis.*

24. Fataneh Ghafari, Richard Piercy, Ali Fouladi-Nashta. *Beneficial effects of melatonin in hypoxic condition on canine oocyte nuclear maturation through reduction of oxidative stress.*
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25. Konstantina Asimaki, Richard Wubbolts, Hilde Aardema, Majorie van Duursen, Bart Gadella. *Endocrine disrupting chemicals induce alterations in lipid droplets of bovine cumulus cells.*

26. Ilda G. Fernández, Gerardo Duarte, Horacio Hernández, María J. Palomo, Raúl Ulloa-Arvizu, José A. Flores. *Sexually inexperienced photo-stimulated bucks increased plasma testosterone concentrations during first contact with nulliparous and multiparous anestrous goats*.....

27. Sylwia Dudkiewicz, Patricia Peris-Frau, Helena Nieto-Cristóbal, Julián Santiago-Moreno, Eduardo de Mercado, Manuel Álvarez-Rodríguez. *Bicarbonate and caffeine trigger capacitation-like changes (acrosome damage) in boar sperm after 2 h in vitro incubation*.....

28. Nerea Gala, Eduardo de Mercado, Helena Nieto-Cristóbal, Manuel Álvarez-Rodríguez. *Evaluation of the progesterone inhibitor RU486 in boar sperm cryopreservation*.

29. Patricia Peris-Frau, Ana Sanchez-Rodriguez, Rosario Velázquez, Adolfo Toledano-Díaz, Cristina Castaño, Eduardo R. S. Roldan, Julián Santiago-Moreno. *Bioenergetics changes during in vitro capacitation of ram spermatozoa*.....

30. Estibaliz Lacalle, Estela Fernández-Alegre, Belén Gómez-Giménez, Guillermo Rivas, Andrés Hernández-Barriuso, José Ramiro González-Montaña, Felipe Martínez-Pastor, Cristina Soriano-Úbeda. *Multidimensional characterization of the pig sperm chromatin by flow cytometry*.....

31. Chiara Luongo, Francisco Alberto García-Vázquez. *A new protocol combining uterine fluid and sperm selection improves porcine in vitro fertilization output*

32. Chiara Luongo, Francisco Alberto García-Vázquez. *The reproductive fluids surrounding boar sperm before in vitro selection determines sperm molecular changes*. ...

33. Enrique H. García-Ramírez, Estibaliz Lacalle, Nerea Tabuyo, Esther Fernández-Serrano, Rafael Pérez-Romero, Beatriz Martín-Fernández, Cristina Soriano-Úbeda, Felipe Martínez-Pastor. *Validation of the open source OpenCASA sperm motility analysis software in three wild ruminant species*.....

34. Saúl Barrera-Santos, Estibaliz Lacalle, Estela Fernández-Alegre, Cristina Lanza, Andrés Hernández-Barriuso, Belén Gómez-Giménez, José Ramiro

González-Montaña, Felipe Martínez-Pastor, Cristina Soriano-Úbeda. *The sperm DNA oxidative damage and fragmentation are early predictive factors of the in vivo fertility of boar.*

35. Naima Hamidallah, Saad Salhi, Abdellatif Rahim, Mouad Chentouf, Hasnaâ Harrak, Nathalie Kirschvink, Bouchra El Amiri. *Effect of date palm pollen on ram semen quality parameters during liquid storage at 5°C.*

36. Mamonene Angelinah Thema, Masindi Lottus Mphaphathi, Mahlatsana Ramaesela Ledwaba, Tlou Caswell Chokoe, Ntuthuko Raphael Mkhize. *Comparative study of Windsnyer and Large White boars sperm cryo survival rate.*

37. Anass Ben Moula, Abdellatif Rahim, Abdelkhalid Essamadi, Bouchra El Amiri. *The potential of Spirulina platensis as a feed supplement for rams reared in endemic fluorosis areas to enhance semen characteristics and seminal plasma composition.*

38. Julieta Hamze, Beatriz Galiano-Cogolludo, Cristina Tomás-Almenar, Pablo Bermejo-Álvarez. *IZUMO1 is required for gamete fusion in rabbits.*

39. Ester Párraga-Ros, Santa Toledo, Chiara Luongo, Francisco Alberto García-Vázquez, Juan Seva, Carmen Matas. *Impact of ejaculate fractions used during artificial insemination on porcine uterine vascularization.*

40. Alexandra Marie Shattock, Fataneh Ghafari, Richard J Piercy, Ali Fouladi-Nashta. *Localization of toll-like receptor 7 (TLR7) in bull, ram and dog spermatozoa and assessment of its use as a sexing target.*

41. María Cortina Navarro, Cristina Martínez López, María José Izquierdo Rico, Francisco A. García Vázquez. *Sperm interaction with oviductal tissue in porcine.*

42. Silvia Gimeno-Martos, María Arias-Alvarez, Alejandra C. Quiroga, Pedro L. Lorenzo, Manuel Alvarez-Rodriguez, Pilar G. Rebollar, Rosa M. García-García. *Identification and quantification of tyrosine phosphorylated proteins induced by FERT medium during rabbit sperm capacitation at different times.*

43. Paulina Grudzinska, Chiara Luongo, Armando Quintero-Moreno, Francisco Alberto García-Vázquez. *Effect of different temperature conditions on sperm quality during storage: a comparison between sperm rich fraction and the whole ejaculate in boars.*

44. Sofia Luque, Abigail Tabarez, Ilda-G Fernandez, María-Jesus Palomo. *Potential sperm freezability biomarkers in young bucks of Cabra Blanca de Rasquera.*

46. Marcos Luis-Calero, Pablo Fernández-Hernández, José M. Ortiz-Rodríguez, Carmen C. Muñoz-García, Lauro González-Fernández, Beatriz Macías-García. *Secretome of follicular fluid influences cytokine uptake by equine cumulus-oocyte complexes when added during in vitro maturation.*

47. Linda Marijke Dekker Haug, Robert C. Wilson, Reina Jochems, Ann Helen Gaustad, Anne Hege Alm-Kristiansen. *Cumulus cell gene expression identifies key mechanisms influencing porcine oocyte developmental competence.*

48. Maibritt Schreiber, Jessica Kurzella, Dessie Salilew-Wondim, Dirk Teuteberg, Carina Blaschka, Nasser Ghanem, Michael Hölker. *Supplementation of Mito-TEMPO during in vitro maturation and its effects on development and cryogenic viability of bovine embryos.*

49. Pablo Fernández Hernández, Marcos Luis Calero, Jose Manuel Ortiz Rodríguez, Isaac Jardín Polo, Carmen Cristina Muñoz García, Lauro González Fernández, Beatriz Macías García. *Description of a new quantitative method for the evaluation of mitochondrial distribution pattern in equine mature oocytes.*

50. Mohamed Hedia, Jo L.M.R. Leroy, Koen Chiers, Jan Govaere, Ann Van Soom, Katrien Smits. *High concentrations of lipopolysaccharides are associated with decreased progesterone concentrations in equine follicular fluid.*

51. Santa María Toledo Guardiola, Chiara Luongo, Laura Abril Parreño, Francisco Alberto García Vázquez, Carmen Matás Parra. *Derived-proteome of extracellular vesicles from uterine fluid is modified depending on seminal plasma fraction during early pregnancy.*

52. Ramses Belda Perez, Sonia Heras, Costanza Cimini, Jon Romero-Aguirregomezcorta, Luca Valbonetti, Alessia Colosimo, Bianca Maria Colosimo, Silvia Santoni, Nicola Bernabo, Pilar Coy. *Effects of a polycaprolactone and polyethylene glycol diacrylate, 3-D printed scaffolds, on bovine embryo development in vitro.*

53. Ilona Kowalczyk-Zieba, Dorota Boruszewska, Joanna Jaworska, Izabela Woclawek-Potocka. *The effect of iloprost on energy status of the in vitro produced bovine blastocysts.*

54. Dorota Boruszewska, Ilona Kowalczyk-Zieba, Joanna Jaworska, Izabela Woclawek-Potocka. *Stage- and quality grade-dependent expression of developmental*

competence gene markers in comparison with prostaglandin E2 synthesis in the early- and late-cleaved bovine blastocysts.

55. Dessie Salilew-Wondim, Ernst Tholen, Eva Held-Hoelker, Dennis Miskel, Dawit Tesfaye, Urabn Besenfelder, Vita Havlicek, Carina Blaschka, Michael Hoelker. *Sex-specific gene expressions of bovine elongated embryos triggered by the physiological conditions of the recipients.....*

56. Mònica Ferrer-Roda, Ana Gil, Dolors Izquierdo, Maria-Teresa Paramio. *The BMP15 added to IVM medium of prepubertal goat oocytes increases oocyte EGFR expression and cumulus-oocyte communication.....*

57. Ana Gil, Monica Ferrer-Roda, Maria Teresa Paramio, Dolors Izquierdo. *Effect of a biphasic in vitro maturation system with c-type natriuretic peptide and oestrogens on the quality of prepubertal lamb oocytes.*

58. Inés Flores-Borobia, Beatriz Galiano-Cogolludo, Nuria Martínez de los Reyes, Pilar Marigorta, Pablo Bermejo-Álvarez, Priscila Ramos-Ibeas. *GATA3 is dispensable for ovine blastocyst formation and first lineage differentiation, but plays a role in epiblast development.....*

59. Nuria Martínez de los Reyes, Pilar Marigorta, Pablo Bermejo-Álvarez, Priscila Ramos-Ibeas. *MEK signalling pathway is required for hypoblast specification in ovine blastocysts in vitro.*
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60. Thanya Pranomphon, Coline Mahé, Marie-Veronique Demattei, Pascal Papillier, Anaís Vitorino Carvalho, Karine Reynaud, Carmen Almiñana, Stefan Bauersachs, Pascal Mermillod, Marie Saint-Dizier. *Characterisation of oviduct epithelium spheroids for the study of embryo-maternal communication in cattle.*
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61. Thanya Pranomphon, Coline Mahé, Viviane Lopes Brair, Karine Reynaud, Carmen Almiñana, Stefan Bauersachs, Rangsun Parnpai, Pascal Mermillod, Marie Saint-Dizier. *Oviduct epithelium spheroids support embryo development under oxidative stress conditions in cattle.*

62. Elena Navarro, Sonia Heras, Armando A. Quintero-Moreno, Jon Romero-Aguirregomezcorta, Raquel Romar. *Sex steroid determination during periestrus and peridiestrus period in saliva of sows derived from assisted reproductive techniques....*

63. Yulia N Cajas, Karina Cañón-Beltrán, Rosane Mazzarella, Javier López, David Gascón Collado, María G Millán de la Blanca, Paula Beltrán-Breña, Lucy V.S. Ñaupas, Cristina A. Martinez, Encina M. González, Dimitrios Rizos. *MicroRNA-181d*

secreted by extracellular vesicles from bovine uterine fluid improve quality of in vitro produced embryos.

64. Karina Cañón-Beltrán, Yulia N Cajas, Rosane Mazzarrela, Javier López, David Gascón Collado, Lucy V. S. Ñaupas, Paula Beltrán-Breña, Carolina Nuñez-Puente, Cristina A. Martinez, Encina M. González, Dimitrios Rizos. *MicroRNA-133b from oviductal extracellular vesicles of pregnant cows improve in vitro embryo quality.*

65. Yulia N Cajas, Karina Cañón-Beltrán, Pilar Salazar, Carolina Nuñez-Puente, María G Millán de la Blanca, Encina M. González, Dimitrios Rizos, Cristina A. Martinez. *Nobiletin supplementation to the culture medium increases in vitro porcine embryo development*

66. Merle Friederike Fenner, Michal Benc, Alexandra Bartkova, Maria Pihl, Martine Chebrou, Kristine Freude, Frantisek Strejcek, Poul Hyttel, Andrea Lucas-Hahn, Jozef Laurincik, Amelie Bonnet-Garnier. *3D-organization and spatial localization of chromatin and epigenetic marks in relation to nucleolar activity in porcine oocytes*

67. Sonia Heras, Jon Romero-Aguirregomezcorta, Raquel Romar, Pilar Coy. *Comparison between liquid and lyophilized media for bovine embryo production.*

68. Alba Pérez-Gómez, Beatriz Galiano-Cogolludo, Julieta Hamze, Priscila Ramos-Ibeas, Pablo Bermejo-Álvarez. *Transforming growth factor beta (TGFB) pathway is required for the proliferation of bovine extra-embryonic membranes following blastocyst hatching.*

69. Beatriz Galiano-Cogolludo, Alba Pérez-Gómez, Julieta Hamze, Priscila Ramos-Ibeas, Pablo Bermejo-Álvarez. *The replacement of N2 and B27 supplements by ITS-X reduces epiblast proliferation during bovine post-hatching development.*

**70. Rosane Mazzarella, José María Sánchez, Sandra Guisado Egado, Alberto Álvarez-Barrientos, Esperanza González, Juan Manuel Falcón-Pérez, Mikel Azkargorta, Félix Elortza, Encina González, Pat Lonergan, Dimitrios Rizos, Beatriz Fernandez-Fuertes
*Profiling the protein cargo of uterine extracellular vesicles isolated from pregnant and cyclic heifers.***

71. Abdellatif Rahim, Abdelkhalid Essamadi, Mounia Sibaoueih, Bouchra El Amiri. *Impact of Spirulina platensis as a feed supplement of ewes reared in endemic fluorosis areas from late pregnancy to early lactation.*

72. Elisabeth Hemberg, Adnan Niazi, Yongzhi Guo, Viktoria J. Debnár, Jane M. Morrell, Gabriella Kútvolgyi. *Microbiota of the equine placenta*.

73. Amira Salem, AbdElkhalek Essamadi, Maha Ghazi Soliman, Nehal Ali Abu El Naga, Khalid Ahmed El Bahrawy, Ahmed Mohamed Kamel, Hesham Attia Shedeed, Nasser Ghanem. *Gonadotropin supplementation improved in vitro developmental capacity of Egyptian goat oocytes by modulating mitochondrial distribution and utilization*

74. Qurat Ul Ain, Afshan McCarthy, Kathy Niakan, Ali Fouladi Nashta, Fataneh Ghafari, Maryam Javed. *Validation of sgRNAs to target GATA3 gene in Bovine cell lines using CRISPR/Cas9 gene editing*.

75. Amos A. Oladipupo, Zhangrui Cheng, Ali A. Fouladi-Nashta. *Investigating the roles of interferon tau stimulated genes in sheep embryo implantation*.

CLONING, TRANSGENESIS AND STEM CELLS

76. Celia Piñeiro-Silva, Sergio Navarro-Serna, John Parrington, Joaquín Gadea. *Effective generation of double knock-out TPC1 and TPC2 porcine embryos by CRISPR-Cas9 electroporation of oocytes before insemination*.

77. Sergio Navarro-Serna, Celia Piñeiro-Silva, John Parrington, Joaquín Gadea. *Creating porcine phospholipase C zeta knockout (PLCζ-KO) embryos by CRISPR-Cas9 electroporation of oocytes before insemination*.

78. Miriam Balastegui-Alarcón, Yanan Liu, Rong Li, Leopoldo González-Brusi, Paula Sáez-Espinosa, Blanca Algarra, Ismael Lamas-Toranzo, Paula Cots-Rodríguez, Pilar Sòria-Monzó, Carla Moros-Nicolás, José Ballesta, María José Gómez-Torres, María José Izquierdo-Rico, Zhongde Wang, Manuel Avilés. *OVGP1 KO female hamsters are infertile due to a failure in early preimplantation embryo development*.

SUPPORT BIOTECHNOLOGIES, CRYOPRESERVATION and CRYOBIOLOGY, DIAGNOSIS THROUGH IMAGING, MOLECULAR BIOLOGY and “OMICS”

79. Amr Kchikich, Nathalie Kirschvink, Sara El Kadili, Marianne Raes, Samira El otmani, Youssef Chebli, Jean- Loup Bister, Bouchra El amiri, Said Barrijal, Mouad Chentouf. *Thymus satureioides essential oil and antibiotics: Evaluation of their effect on the quality of frozen thawed Beni Arouss bucks semen*.

80. Véronique Duranthon, Aurélie Chaulot-Talmon, Francesca Ali, Ludivine Laffont, Anne Frambourg, Derya Sebukhan, Olivier Desnoës, Eugénie Canon, Aurélie Bonnet, Valentin Costes, Marjolaine André, Beatrice Mandon-Pépin, Pascal Salvetti, Laurent Schibler, Hélène Jammes. *In vitro production of bovine embryos modified sex-dimorphisms in fetal liver methylome.....*

81. Linda Dujíčková, Lucia Olexiková, Alexander V. Makarevich, Alexandra Bartková, Lucie Němcová. *Astaxanthin during post-warm recovery period improved quality of bovine blastocysts obtained from vitrified oocytes.....*

82. Phakjira Sanguansook, Cristina Martínez-López, M^a José Izquierdo-Rico, Carlos Martínez-Cáceres, Kaywalee Chatdarong, Francisco Alberto García-Vazquez. *Decellularization of female domestic cat's reproductive organs: ovary, oviduct and uterine horn.*
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83. Konstantina Magkrioti, Konstantina Stamperna, Themistoklis Giannoulis, Eleni Dovolou, Zissis Mamuris, Katerina Moutou, Georgios Amiridis. *Molecular alterations in oviductal epithelial cells during heat stress in dairy cows.*
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84. Cristina Martínez López, Carlos Manuel Martínez Cáceres, María José Izquierdo Rico, Francisco Alberto García Vázquez. *Efficiency of immersion-agitation decellularization method on pig uterus: histological analysis of fresh and frozen-thawed tissue.*

85. Cristina Cuello, Alejandro Gonzalez-Plaza, Manuela Garcia-Canovas, Inmaculada Parrilla, Maria A Gil, Emilio A Martinez. *Effect of Cryotop simultaneous vitrification of large batches of pig blastocysts on miRNAs expression.*
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86. Maria A Gil, Josep M Cambra, Heriberto Rodriguez-Martinez, Cristina Cuello, Inmaculada Parrilla, Emilio A Martinez. *Proteome characterization of endometrium during implantation in the domestic pigs.*

87. Judith Diaz-Muñoz, Sonia Gago, Adam Z Higgins, Tania García-Martínez, Iris Martínez-Rodero, Teresa Mogas. *In silico-designed vitrification protocols using propylene glycol for bovine oocytes as an alternative to dimethyl sulfoxide based protocols.*

PRACTITIONERS´ and CLINICAL REPORTS

88. Ilga Sematovica, Ivars Lulis, Vita Antane. *Cultivation of bovine oocytes in a medium intended to cultivate human oocytes.*
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89. Thabang Luther Mashilo, Masindi Lottus Mphaphathi, Ayanda Maqhashu, Mahlatsana Ramaesela Ledwaba, Mamonene Angelinah Thema, Maleke Dimpho Sebopela. *Sire conception rate and incidence of pregnancy loss according to estrus occurrence of dairy and beef cows subjected to timed artificial insemination with sexed semen.*

WORKSHOP

90. Pascal Salvetti. *Animal welfare in ART's.*