PUBLICATIONS

USA PATENT or PCT APPLICATIONS:

Han X, Koulen P, Crister J. 2018. An Efficient Cryopreservation Device Preventing the Direct Contact Between Samples and Extracellular Ice, US62/724,959

Han X, White H, Koulen P. 2018. Improved Ultra-Fast Cooling System and Methods of Use US62/652,986

Han X, Yuan Y, and Roberts R.M. 2017. Cryopreservation Medium And Method To Prevent Recrystallization, PCT/US2017/032606.

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Cryogenic Thin Film Evaporator, US Appl. No. 61/960, 111, Inventors: Ma H.B, Su F.M, **Han X**, and Chen X.H., 2014.

A Cryopreservation Device and Method, US Appl. No.12/374,622, Inventors: Critser J.K, **Han X**, and Ma H.B, February 2, 2008.

Methods and Compositions for Storage of Animal Cells, PA-7223-PRV-022119-000027, Inventors: **Han X** and Woods E., 2012.

BOOK CHAPTER:

Erik W, Sreeda T, **Han X**, Critser J.K, Fundamental cryobiology of reproductive cells and tissues, Chapter 11 in "Principles and Practice of Fertility Preservation", Cambridge University Press, 2011

MANUSCRIPTS PUBLISHED IN PEER-REVIEWED JOURNALS:

As the corresponding author:

Mao Y, Zhang Y, **Han X** (2018). Cryoprotective Mechanism of Using Ficoll for Cell Cryopreservation at Non-Cryogenic Temperatures: A Molecular Dynamics Study. Int. J. of Heat and Mass Transfer. 127: 319-325.

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As first or co-author:

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Wu Y.F, **Han X**, Benson J. Almasri M (2012) Micromachined Coulter counter for dynamic impedance study of time sensitive cells. *Biomedical Microdevices* 14:739-750.

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Han X, Ma H.B, Wilson C, Critser J.K (2008) Effects of nanoparticles on the nucleation and devitrification temperatures of cryoprotectant solutions. *Microfluidics and Nanofluidics* 4: 357-361.

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Han X, Gao D, Luo D, Yu C, Lu C. C (2005) Numerical simulation of the microwave rewarming process of cryopreserved organs. *Microwave and optical technology letters* 5: 201-205.

Luo D, **Han X**, Gao D (2002) A modified differential scanning calorimetry for determination of cell volumetric change during the freezing process. *Cryoletters* 23: 229-236.

SELECTED CONFERENCE PRESENTATIONS & PROCEEDING PUBLICATIONS:

As a corresponding author

Han X, Life in Nano Ice: Application of CryoCrate C80EZ Medium for Cell and Tissue Cryopreservation, Biobanking 2017, Aug. 13-15th. 2017, Santiago CA (as an invited speaker)

Han X, Yuan Y, Roberts R M, Challenges facing the 21st century cryopreservation technology and our current and potential solutions with micro/nano technology, 7th World Congress of Biomechanics, July 6-11, 2014, Boston, Massachusetts. (Also as invited Podium Speaker)

Yuan Y, Tian Y, Roberts R M, **Han X**, Efficient long-term cryopreservation of porcine pluripotent stem cells at -80°C, Society for the Study of Reproduction 47th Annual Meeting Fertility: A Global Challenge, July 19–23, 2014, Grand Rapids, Michigan.

Han X, Liu Y, Determination of the Compositions of Intracellular Lipid Droplets in Porcine Oocytes and Investigation of the Mechanisms of Their Thermal Mechanical Damages During Cryopreservation. Presented in the 48th Annual Meeting of the Society for Cryobiology, July 24-27, 2011, Corvallis, Oregon.

Han X, Ma, H B, Liu Y, Development of An Inexpensive Method for Long-term Storage of Mouse Embryos at −80 °C, Presented in the 48th Annual Meeting of the Society for Cryobiology, July 24-27, 2011, Corvallis, Oregon.

As a presenter or first author

Han X, Ma H, Critser J.K, A Simple Cryomicroscopic Method to Measure the Size of Intracellular Ice Crystals, ASME 2009 Second International Conference on Micro/Nanoscale Heat and Mass Transfer, Volume 3, pp. 489-493.

Han X, Liu Y, Benson J.D, Ma H, Critser J.K, Measurement of Water-cryoprotectant Mutual Diffusivity in Micro-scale Biological Tissues at Subzero Temperatures, ASME 2009 Second International Conference on Micro/Nanoscale Heat and Mass Transfer, Volume 3, pp. 495-499.

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Han X, Ma H. B, Wilson C, Critser J. K, Effects of Nanoparticles on the Nucleation and Devitrification Temperatures of Polyol Cryoprotectant Solutions. Presented in the 44th Annual Meeting of the Society for Cryobiology, July 28- August 1, 2007, Lake Louise, Canada

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