



Annual Conference of the Society for Cryobiology
Peter L. Steponkus Crystal Award Winners

2015 Jennie Briard, University of Ottawa, Canada
Carbohydrate-Based Small Molecule Ice Recrystallization Inhibitors as Cryopreservatives for Red Blood Cells

2014 Daisuke Takahashi, Iwate University, Morioka, Japan
Compositional and Functional Analyses of Glyco-sylphosphatidylinositol-anchored Protein (GPI-AP) During Plant Cold Acclimation

2013 Justin S. Feig, Carnegie Mellon University, Pittsburgh, PA, USA
Integration of polarized light into scanning cryomacroscopy

2012 Ruqayyah Almizraq, University of Alberta, Canada
The effects of biochemical rejuvenation on red blood cell microvesiculation, phosphatidylserine and CD47 expression during hypothermic storage

2011 Allyson K. Fry, Oregon State University, USA
Rational design of toxicity minimized cryoprotectant addition and removal procedures for vitrification of adherent cell monolayers

2010 Ida Risenga, University of the Witwatersrand, South Africa
Does cryo-preparative drying cause apoptotic-like programmed cell death or necrosis in isolated eucalyptus grandis axillary buds?

2009 Alireza Abazari, University of Alberta, Canada
Modeling transport phenomena in cartilage

2008 Jelena L. Holovati, University of Alberta, Canada
Liposomes improve recovery and minimize membrane injury of frozen red blood cells

James D. Benson, University of Missouri-Columbia, USA
A coupled concentration and fluid transport model for cells, tissues and their boundary layers

2007 Andrew D. Weiss, University of Alberta, Canada
Contributions of individual cryoprotective agents to the glass stability of solutions

2006 Shannon L. Stott, Georgia Institute of Technology, USA
Cell perimeter modulates the kinetics of intracellular ice formation and frequency of paracellular ice formation in micropatterned endothelial cells

2005 Ansgar Petersen, Helmholtz Institute Aachen, Germany
Ice nucleus formation on demand and its benefits for freeze applications

2004 Julia Kopeika, University of Luton, UK
Cryoinjury to the genome. Any consequences?

2003 Kristi K. Snyder, State University of New York-Binghamton, USA
Cardiomyocyte responses to thermal excursions: implications for electrophysiological cardiac mapping

2002 Phillip H. Purdy, Colorado State University, USA
Flow cytometric assessment of fluctuations in the membrane fluidity and viability of chinese hamster ovary (CHO) and bull sperm cells using the fluorescent stains TMAP-DPH and propidium iodide

2001 Nancy Ekdawi-Sever, University of Wisconsin-Madison, USA
Optimization of the freeze-drying protocol for maximum cell recovery

2000 Abira Pyne, University of Minnesota, USA

Crystallization of mannitol below the glass transition temperature in binary and ternary systems during freeze-drying

1999 John M. Baust, State University of New York-Binghamton, USA
Identification and quantification of cryopreservation induced apoptosis

1998 Ramachandra Devireddy, University of Minnesota, USA
Water Permeability Parameters of Mouse Sperm during Freezing in the Presence of Extracellular Ice and Glycerol

1997 Ralph Speetzen, Helmholtz Institute Aachen, Germany
MRI-controlled minimally invasive interstitial cryotherapy of the liver by percutaneous access

1996 Jiang Zhang, Cornell University, USA
Proposed mechanism for depression of the liquid-crystalline-to-gel phase transition temperature of phospholipids in dehydrated sugar-phospholipid mixtures

1995 John A. Mugnano, Miami University, USA
Antifreeze glycoproteins promote lethal intracellular freezing of rat cardiomyocytes at high subzero temperatures

1994 Poula Reinhoud, Leiden University, The Netherlands
Vitrification of tobacco cells: cryoprotection by proline

1993 Jens O.M. Karlsson, Massachusetts Institute of Technology, USA
A model of crystal growth in cells during cryopreservation

1992 Carol A. Podlasek, University of Notre Dame, USA
*A study of polyol metabolism in *hyalophora cecropia* by ¹⁹H and ¹³C NMR spectroscopy*