



Society for Cryobiology

September 2012

*International Scientific Society for Low-Temperature Biology and Medicine*

## Welcome

Dear Colleague

Welcome to the September 2012 issue of the Society for Cryobiology newsletter. This is the first newsletter to be produced and distributed from the Editorial Office of Cryobiology journal, and we are very excited to be involved. We welcome contributions from members of the Society to be included in the newsletter as we want to celebrate and share achievements, interesting articles or other resources. We also encourage feedback and suggestions from readers. **We would like readers to suggest a title for the newsletter** and will select the one we feel most suitable. Please send all correspondence to Christie Roman at the Cryobiology Editorial office (Christie.roman@beds.ac.uk).

## Message from the President

**An update from John Crowe, President of the Society for Cryobiology.**

### Website

We have been trying for some time to find a way to provide some help for Andreas in maintaining the website. As you probably know, he has been doing all this work himself, for which we are all grateful. David Rawson volunteered that his editorial assistant, Christie Roman, could take this on, so with Andreas' blessing, we are transferring that job to her. Andreas will continue to consult with her, at least in the initial phases.

### Logo

The Rosario meeting sported a rather nice logo, drawn by Julia Rodriguez, daughter of Joaquin Rodriguez, one of the meeting's organizers. Julia is an independent designer, with her own business in Rosario, I understand. Several of you commented on the logo, so I contacted Julia and began discussions about acquiring the rights to it. I imagine using it on the news letter, meeting announcements, etc. Here's a copy for you to have a look. What do you think? Comments are welcome.

### ACC-Cryo in January

As you will recall, we are having an exploratory meeting with the American College of Cryosurgeons in January. I have organized a short symposium on blood cell preservation to represent the SfC, with Mike Fitzpatrick, Jason Acker, Amir Arav and me as speakers. I encourage anybody interested in exploring a relationship with the ACC to attend. Just in case you haven't seen it, the URL for the meeting announcement is <http://accryo2013.org/>.

### Cryo2013

Our main meeting in 2013 will be in Washington, DC, and Eric James and the Program Committee are hard at work organizing it.



## Cryo2014

Jason Acker, chair of the Program Committee, is negotiating with the Society for In Vitro Biology for a joint meeting in 2014, to be held in Savannah, Georgia. We'll be hearing from him about that possibility soon.

## Cryo 2012

The Rosario meeting was a great success, scientifically and socially. For those of you who didn't make it, here are a few photos of the social part, including Iguazu Falls and a demonstration of tango by two folk dancers.



A sample of the falls at Iguazu, on the Argentine side. It's possible to stand in one spot and see as many as 20 falls. It's an amazing place.



Another brave cryobiologist (Ido) joined the guitarist on his flute



We enjoyed a barbecue, followed by these folk dancers.



Two brave cryobiologists (Janet and Adam) joined the dancers.





## News Updates

The Society for Cryobiology established the category of Cryo-Fellows in 2005. The purpose of this is to recognize individuals who have had an exemplary impact on the field of cryobiology. In the wider context, the category is aimed at raising the profile of the Society for Cryobiology, as well as the individual elected, to a wider scientific audience.

Fellows have been nominated by the Board of Governors on the basis of their scientific impact of their research on cryobiology, and their sustained nature of that impact. Also of importance was whether the individual has generated scientific offspring and has contributed service to the Society.

At the 49th meeting of the Society for Cryobiology, held in Rosario, Argentina, in June, Dr. Mehmet Toner and Dr. Ken Storey were elected to this prestigious rank. A [brief](#) biography of these two honorees follows:

### **Mehmet Toner, PhD**

Dr. Toner is the Helen Andrus Benedict Professor of Bioengineering at the Harvard Medical School and the Director of the BioMicroElectroMechanical Systems Resource Center (BMRC) at the Massachusetts General Hospital. Dr. Toner is a very well-known member of the Society for Cryobiology, having served the society in various roles including President of the Society, Associate Editor of the Journal and hosting the Annual Meeting in Boston in 2002. As put by Dr. John Baust, "He has made significant and sustaining contributions that will impact the discipline for years to come." Mehmet is internationally known for contributions to the field of cryobiology, including the successful cryopreservation of living cells for a broad range of therapeutic applications. His professional pursuits and accomplishments have significantly raised the profile of Cryobiology to a broader scientific audience.

### **Kenneth Storey, PhD**

Dr. Storey is the Canada Research Chair in Molecular Physiology (Tier I) and Professor at the Institute of Biochemistry and Biology at Carleton University, Ottawa. He has also been awarded the Flavelle Medal (2010) as a top biological scientist by the Royal Society of Canada, and the Fry Award (2011) as the top zoologist by the Canadian Society of Zoology. Dr. Storey is another long-standing member of the Society. He is widely published and has presented over 500 lectures world-wide and ranks among the top 1% in animal sciences citations and one of the top two in the discipline of cryobiology with over 12,000 citations. Dr. Storey's research has profound impact not only in humans, but also agriculture and wildlife. Dr. Virginia Walker describes Dr. Storey as an "energetic, internationally known and established scientist who has practiced his science of cryobiology with daring and innovation."

We welcome Dr. Toner and Dr. Storey as Fellows of the Society for Cryobiology, and look forward to their formal induction at Cryo 2013 in Bethesda, Maryland, USA next summer.

Erik J. Woods, PhD  
Chairman, Fellows Nominating Committee  
President Elect, Society for Cryobiology



## Events

### Advances in Low Temperature Biology

#### SLTB Conference 2012

Thursday 11<sup>th</sup> October 2012, 10 a.m. – 5 p.m.

And

Friday 12<sup>th</sup> October 2012, 10 a.m. – 3.30 p.m.

(Annual general meeting of SLTB 3.30 p. m. - 5 p.m.)

**Location:** Linnean Society, London, UK

And

Saturday 13<sup>th</sup> October 2012, 10 a.m. – 4 p.m.

**Location:** The Royal Botanic Gardens, Kew (Guided tour)

**For more information please contact** Dr. Jayanthi Nadarajan

**Phone:** +44 (0)1444 894140

**Email:** [j.nadarajan@kew.org](mailto:j.nadarajan@kew.org)

**website:** <http://www.sltb.info/PDF/SLTB2012.pdf>

### ACCryo2013

**Annual meeting for the American College of Cryosurgery and a satellite conference for the Society for Cryobiology**

Wed Jan 2, 2013 12:00 AM - Mon Jan 7, 2013 12:00 AM

**Location:** Hyatt Regency Miami, Florida, USA; Cruise Ship Constellation

**For more information:**

**Phone:** +1-607-87711

**Email:** [ACCadmin@accryosurgery.org](mailto:ACCadmin@accryosurgery.org)

**Website:** <http://www.accryo2013.org>

### Cryo2013

#### 50th Annual Meeting of the Society for Cryobiology

Sunday July 28th 8am—Wednesday July 31st 5pm 2013

**Location:** Marriott Bethesda North Hotel & Conference Center, Bethesda, Maryland, USA

**For more information please contact** Eric R. James, Ph.D.,  
Senior Director Sanaria Inc., Rockville, MD, USA

**Phone:** +1 240 4032725

**Email:** [ejames@sanaria.com](mailto:ejames@sanaria.com)

**Website:** TBA



## Member's Corner

*You are invited to use this space to announce exciting new progress in your areas of Cryobiology, new projects starting or grant successes, important publications or vacancies in your research groups*

**Dr. John Morris, of Asymptote Ltd, is looking for people to carry out beta testing on a product in development which may be of interest to members. Asymptote Ltd is releasing samples of its proprietary ice nucleant, Ice Start™, for beta testing.**

Aqueous solutions have a tendency to undercool, i.e. to cool significantly below their melting point before ice nucleation occurs. The extent of undercooling is the single most important physical variable which is uncontrolled during conventional cryopreservation.

Ice nucleation at a temperature close to the melting point is standard procedure during the cryopreservation of embryos and oocytes for IVF. Controlled ice nucleation has recently been demonstrated to be beneficial for stem cells, PBMCs and encapsulated hepatocytes. This has a marked effect on both the number of cells recovered and the viability of the recovered cells.

Manual ice nucleation is impractical with large numbers of samples, when processing cryovials in passive cooling devices and with samples in formats such as microtitre plates and matrix tubes: alternative methods are required. Asymptote Ltd has identified a range of biocompatible ice nucleants. One of these, IceStart™, is now being offered for beta testing ([www.asymptote.co.uk](http://www.asymptote.co.uk)) in order to understand the efficacy of this products in a wider range of cell types and cell constructs and to get feedback from potential end users before product launch.

Contact John Morris, Asymptote Ltd, tel. +44 (0)1223 421161 , email [jmorris@asymptote.co.uk](mailto:jmorris@asymptote.co.uk)

## Volume 65, Issue 1, Pages 1-78 (August 2012)

**Synthetic polymers improve vitrification outcomes of macaque ovarian tissue as assessed by histological integrity and the in vitro development of secondary follicles**

*Alison Y. Ting, Richard R. Yeoman, Maralee S. Lawson, Mary B. Zelinski*

**Cooling-increased phospho- $\beta$ -arrestin-1 and  $\beta$ -arrestin-1 expression levels in 3T3-L1 adipocytes**

*Yasuhito Ohsaka, Hoyoku Nishino*

**Preliminary report of novel technique for cryopreservation—Vacuum-assisted cryoprotectant infiltration**

*Kazutaka Soejima, Katsumi Shimoda, Masaki Takeuchi, Takashi Yamaki, Taro Kono, Hiroyuki Sakurai, Hiroaki Nakazawa*

**Effects of milrinone on left ventricular cardiac function during cooling in an intact animal model**

*Torkjel Tveita, Gary C. Sieck*

**Moderate hypothermia attenuates  $\alpha$ 1-adrenoceptor-mediated contraction in isolated rat aorta: The role of the endothelium**

*Jin-Young Chung, Jung-Eun Kim, Hyuk-Jun Yoon, Seok-Young Song, Si-Oh Kim, Woon-Seok Roh*

**Hypothermic reconditioning by gaseous oxygen persufflation after cold storage of porcine kidneys**

*Thomas Minor, Patrik Efferz, Bastian Lürer*

**Comparison of cryopreservation methods for the long term storage of the marine diatom *Haslea ostrearia* (simonsen)**

*Anaëlle Tanniou, Vincent Turpin, Thierry Lebeau*

**Effect of hormone implantation on cryopreservation of Atlantic halibut (*Hippoglossus hippoglossus* L.) sperm**

*Fuhong Ding, Joyce E. Milley, Melissa Rommens, Jun Li, Jilin Lei, Santosh P. Lall*

**Effect of transcatheter renal arterial embolization combined with cryoablation on regulatory CD4+CD25+ T lymphocytes in the peripheral blood of patients with advanced renal carcinoma**

*Y. Li, Z. Guo, C.F. Liu, W.G. Xing, T.G. Si, F. Liu, X.Y. Guo, J.Z. Xing*

**Ezrin functionality and hypothermic preservation injury in LLC-PK1 cells**

*Tao Tian, Susanne L. Lindell, Melody Lam, Martin J. Mangino*

**Comparison of dual- and triple-freeze protocols for hepatic cryoablation in a Tibet pig model**

*Jialiang Li, Jibing Chen, Liang Zhou, Jianying Zeng, Fei Yao, Binghui Wu, Gang Fang, Chunjuan Deng, Zhixian Chen, Yin Leng, Keqiang Xu, Lizhi Niu, Jiansheng Zuo, Kecheng Xu*

**Does the cryogenic freezing process cause shorter telomeres?**

*Edmund C. Jenkins, Lingling Ye, Wayne P. Silverman*

**Regulatory volume decrease in COS-7 cells at 22 °C and its influence on the Boyle van't Hoff relation and the determination of the osmotically inactive volume**

*Diana Peckys, Peter Mazur*

## Articles Volume 65, Issue 2, Pages 79-162 (October 2012)

**Is it best to cryopreserve human cumulus-free immature oocytes before or after in vitro maturation?**

*Haiyan Wang, Catherine Racowsky, Catherine M.H. Combelles*

**Porcine uterus cryopreservation: An analysis of contractile function using different uterotonics**

*Daniel Schölch, Sebastian Schölch, Olga Strahl, Inge Hoffmann, Matthias W. Beckmann, Ralf Dittrich*

**The effects of different sugars on motility, morphology and DNA damage during the liquid storage of rat epididymal sperm at 4 °C**

*Serpil Sariözkan, Mustafa Numan Bucak, Fazile Canturk, Saim Özdamar, Arzu Yay, Pürhan Barbaros Tuncer, Servet Özcan, Neslihan Sorgucu, Yusuf Caner*

**Vitreous preservation of articular cartilage from cryoinjury in rabbits**

*Issei Onari, Masayuki Hayashi, Noriyuki Ozaki, Hiroyuki Tsuchiya*

**Hypothermia produces rat liver proteomic changes as in hibernating mammals but decreases endoplasmic reticulum chaperones**

*Teiji Oda, Kouji Shimizu, Akane Yamaguchi, Kazumi Satoh, Ken-ichi Matsumoto*

**Supercooling and vitrification of aqueous glycerol solutions at normal and high pressures**

*K. Miyata, S. Hayakawa, K. Kajiwara, H. Kanno*

**Thermal expansion of the cryoprotectant cocktail DP6 combined with synthetic ice modulators in presence and absence of biological tissues**

*David P. Eisenberg, Michael J. Taylor, Yoed Rabin*

**In vivo validation of in vitro quality tests for cryopreserved honey bee semen**

*Jakob Wegener, Tanja May, Ulrich Knollmann, Günter Kamp, Karin Müller, Kaspar Bienefeld*

**The potential role of nerve growth factor in cryoneurolysis-induced neuropathic pain in rats**

*Hui Ju, Yi Feng, Zhifeng Gao, Ba-Xian Yang*

**In vitro fertilization of ovine oocytes vitrified by solid surface vitrification at germinal vesicle stage**

*Adel R. Moawad, Patricia Fisher, Jie Zhu, Inchul Choi, Zsuzsanna Polgar, Andras Dinnyes, Keith H.S. Campbell*

**Achieving elongated lesions employing cardiac cryoablation: A preclinical evaluation study**

*M. Seger, G. Fischer, M. Handler, M. Stöger, C.-N. Nowak, F. Hintringer, G. Klima, C. Baumgartner*

**Effects of vitrification cryoprotectant treatment and cooling method on the viability and development of buffalo oocytes after intracytoplasmic sperm injection**

*Yuan Yuan Liang, Kanokwan Srirattana, Tatsanee Phermthai, Tamas Somfai, Takashi Nagai, Rangsun Parnpai*

**First frozen repository for the Great Barrier Reef coral created**

*Mary Hagedorn, Madeleine J.H. van Oppen, Virginia Carter, Mike Henley, David Abrego, Eneour Puill-Stephan, Andrew Negri, Andrew Heyward, Doug MacFarlane, Rebecca Spindler*

**Viscosity of supercooled aqueous glycerol solutions, validity of the Stokes–Einstein relationship, and implications for cryopreservation**

*José A. Trejo González, M. Paula Longinotti, Horacio R. Corti*

**Thinking of publishing your paper in Cryobiology?**

- Visit the website ([www.societyforcryobiology.org](http://www.societyforcryobiology.org))
- Go to Member's Area and Publications - Details can be found for on-line submission or electronic access to past volumes.

**Have you any material you would like to share with members? Please send to Christie Roman at the Cryobiology Editorial Office: [Christie.roman@beds.ac.uk](mailto:Christie.roman@beds.ac.uk).**

