

# **FREEZING BIOLOGICAL TIME**

## **Announcement**

### **Society for Low Temperature Biology 50<sup>th</sup> Anniversary Celebration, Annual Scientific Conference & AGM**

**8<sup>th</sup> – 10<sup>th</sup> October 2014**

**The Royal Botanic Gardens, Kew, Jodrell Laboratory**

The 2014 SLTB conference is hosted by The Royal Botanic Gardens, Kew London. This special event celebrates the 50<sup>th</sup> Anniversary of the Society for Low Temperature Biology and reflects the diverse specialisms of low temperature science and its application across multidisciplinary fields including: environmental and polar cryobiology, the cryo-conservation of biodiversity, biopreservation for biobanks, cryopreservation as applied to IVF and cold technologies used in therapeutic medicine.

A day of celebration on 8<sup>th</sup> October will showcase the SLTB, invited speakers will share their views and experiences regarding past, present and future developments in different low temperature fields. Celebrations include an afternoon reception with special events, posters and exhibitions followed by an anniversary dinner.

Looking to the future, three special symposia (9<sup>th</sup> - 10<sup>th</sup> October) have been compiled to commemorate the SLTB's anniversary conference; their themes convey the contemporary contributions that low temperature science and technologies are making in areas that are of global significance.

The first symposium '*Global Food Security and Cryopreservation*' addresses the critical issue of crop genetic resources security and sustainability. The second, '*Low Temperature Biobanking for Healthcare & Bio-management*' focuses on implementing low temperature best practices and technologies in the rapidly expanding biobanking sector. The concluding symposium '*Innovations in Low Temperature Biopreservation*' explores cutting edge technologies and novel research applications. Traditional SLTB activities include a Free Communications session 'Low Temperature Science', posters, student best poster competition and prize, exhibitions and the 50<sup>th</sup> SLTB AGM.

The conference organizers invite you to join in the Society for Low Temperature Biology's 50<sup>th</sup> anniversary celebrations and special symposia. Further information will be posted on the SLTB website [www.sltb.info](http://www.sltb.info)



#### **Local Organizers - Royal Botanic Gardens, Kew**

Professor Hugh Pritchard (SLTB Trustee),

Dr Jayanthi Nadarajan (SLTB Treasurer)

Dr Erica E Benson & Dr Keith Harding

Dr Bart Panis (SLTB Meeting Secretary)

#### **SLTB 50<sup>th</sup> Anniversary Celebration Organizers**

Professor Barry Fuller (Royal Free Hospital, University College London)

Professor Brian Grout (University of Copenhagen)

contact [j.nadarajan@kew.org](mailto:j.nadarajan@kew.org) / website: [www.kew.org](http://www.kew.org)

**Kew**  
ROYAL BOTANIC GARDENS

**The Palm House (built 1848)**



**Kew Palace (built 1631)**



## **Programme and Travel Guide**

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### **The Royal Botanic Gardens, Kew (<http://www.kew.org/>)**

Having been a royal retreat since the 17<sup>th</sup> century, the Royal Botanic Gardens, Kew was founded in 1759 by Princess Augusta and declared a UNESCO World Heritage Site in 2003.

The landscape design of Kew Botanic Gardens, the buildings and plant collections combine to form a unique testimony to developments in garden art and botanical science that were subsequently diffused around the world. The 18<sup>th</sup> century English landscape garden concept was adopted in Europe and Kew's influence in horticulture, plant classification and economic botany spread internationally from the time of Joseph Banks' directorship in the 1770s. As the focus of a growing level of botanic activity, the mid-19<sup>th</sup> century garden, which overlays earlier royal landscape gardens is centred on two large iron framed glasshouses - the Palm House (front cover) and the Temperate House became models for conservatories around the world.



This vista's focal point is the Pagoda - a ten-storey (50 metre) Chinese-style octagonal building built by William Chambers in 1762.



Grass garden, with the Princess of Wales conservatory (named after Princess Augusta – Kew's founder) in the background.

With 121 hectares of gardens and botanical glasshouses The Royal Botanic Gardens, Kew houses the world's largest collection of living plants with over 30,000 taxa. The herbarium at Kew, originally an 18<sup>th</sup> century hunting lodge, was founded by Sir William Hooker (director of Kew 1841 – 1865) and is one of the largest in the world with over seven million preserved plant specimens. A more recent contributor to the world-class collections that Kew maintains is the holdings in the Millennium Seed Bank. These constitute the most botanically diverse *ex situ* plant collections in the world, with more than 2 billion seeds conserved from over 34,000 wild plant species.

Since their creation in 1759, the gardens have made a significant and uninterrupted contribution to the study of plant diversity and economic botany, and Kew continues to be a global resource for plant science and botanical knowledge.



The Wellcome Trust Millennium Building in West Sussex, south of London, home to the Millennium Seed Bank.

## Meeting location

The conference will be held in the Jodrell theatre at the main site of the Royal Botanic Gardens, Kew, Richmond, London, Surrey, TW9 3AB. The Jodrell theatre is located next to Davies Alpine House opposite aquatic Garden. This can be reached through both the Elizabeth Gate (the main gate to the gardens) or Victoria Gate (see link below)



The Jodrell Laboratory

<http://www.kew.org/visit-kew-gardens/plan-your-visit/maps-and-gates>

## Travel guide

### When arriving in the UK

#### By air:

- From London Heathrow, take the Heathrow Express train to central London (takes 15 minutes and runs every 15 minutes). Alternatively, take the **Piccadilly Line** underground train (journey time 50 minutes).
  - From London Gatwick, take the mainline train north to London Victoria station (journey time 30 minutes).
  - Underground train information at [www.tfl.gov.uk](http://www.tfl.gov.uk). Train services at [www.nationalrail.co.uk](http://www.nationalrail.co.uk).
- #### By Eurostar:

- London St Pancras station is in central London. National trains and the Underground depart from this station.

### Travelling to Kew

- Kew Gardens Station is the closest London Underground station, and is in Zone 3 on the **District Line**. The journey time from Central London is about 30 minutes. Kew Gardens Station is 400 metres from Victoria Gate.
- Kew Bridge Station is the closest train station to Kew. Train services (South West Trains) from London Waterloo (journey time of 30 minutes) and Clapham Junction (journey time of 20 minutes) stop at this station. Kew Bridge Station is 800 metres from the Elizabeth Gate entrance to the Gardens. Just walk south over Kew Bridge to Kew Gardens.
- Bus Route 65 between Ealing Broadway and Kingston, via Richmond town centre, stops close to Victoria Gate. Route 391 between Fulham and Richmond stops near Kew Gardens Station. Routes 237 and 267 stop at Kew Bridge station.
- Further details on how to get to the Royal Botanic Gardens can be found at: <http://www.kew.org/visit-kew-gardens/plan-your-visit/getting-here>
- London underground (tube map) can be found at this link: <https://www.tfl.gov.uk/assets/downloads/standard-tube-map.pdf>

## Accommodation: Hotels and B & B's

### **West London**

Accommodation close to the **District Line** underground will be suitable for easy travel to Kew. The areas of Kensington, Earls Court and Gloucester Road are additionally easy to reach from Heathrow (**Piccadilly Line**) and from Gatwick Airport via London Victoria Station.

**Lord Kensington Hotel, Earls Court** – 38 Trebovir Road, London, SW5 9NJ. Email: [info@lordkensington.co.uk](mailto:info@lordkensington.co.uk); Website: <http://www.lordkensington.co.uk/>; Tel: +44 (0)20 7373 7331; Fax: +44 (0)20 7373 6060; **(from £95 per night)**

The Lord Kensington is a stylish, family-owned hotel situated in a quiet street just a **two-minute walk from Earls Court underground station**. This centrally located hotel has 23 spotless and tastefully decorated en-suite bedrooms equipped with a range of facilities. Our rooms cater for everyone from business guests to families, and there are many high-quality bars and restaurants to choose from on the doorstep. A generous and varied continental breakfast is included in the price of your room, and is served in our pretty restaurant. Earls Court is just a short tube journey from some of London's top attractions, including Buckingham Palace, the London Eye, Hyde Park and Harrods. If you want to soak up some of the capital's culture, the famous museum mile is within walking distance. For business guests, we are 100 metres from Earls Court Exhibition Centre and very close to Olympia.

**Millennium Gloucester Hotel, Kensington** – 4-18 Harrington Gardens, London, SW7 4LH. Tel. +44 (0) 20 7373 6030 OR +44 (0) 20 7331 6195 (Reservations); Fax: +44 (0) 20 7373; Website: <http://www.millenniumhotels.co.uk/millenniumgloucester/>; **(from £105 per night)**

Situated in the fashionable district of South Kensington, this is an impressive hotel and offers guests a convenient location, comfortable guest rooms, modern amenities and outstanding customer service. It is **close to Gloucester Road underground station**. Nearby places of interest include Hyde Park, the Royal Albert Hall, Kensington Palace, the Natural History Museum and the Victoria and Albert Museum. Earls Court and Olympia exhibition centres are also just a short distance away.

**Lord Jim Hotel, Earls Court** - 23-25 Penywern Road, Earls Court, London, SW5 9TT. Tel: +44 (0) 1480 394138; Fax: +44 (0) 1480 353145; Email: [reservations@lordjim-hotel.co.uk](mailto:reservations@lordjim-hotel.co.uk); website: <http://www.lordjim-hotel.co.uk/>.  
**(from £77 per night).**

Is an attractive hotel, recently refurbished to a high quality and modern standard. Situated on a quiet, tree lined street amongst the cosmopolitan atmosphere of the Earls Court area of London, guests are **especially close to Earls Court Station**, a major underground interchange just three minutes' walk away, along with Olympia, Earls Court Exhibition Halls and a selection of museums, restaurants and bars, all within easy reach. Our hotel can be reached by taking the train to Earls Court underground station then exit onto Earls Court road; turn right then take the first right which is Penywern Road. The Lord Jim Hotel is situated on the left hand side of the street. By road from the M25, take the M4 in to London, turn right onto Earls Court road; Penywern Road is a turning from this road on the right hand side.

***Within walking distance of the Gardens:***

**Premier Inn** – Kew, Richmond and Kensington hotels –

**London Kew** - 52 High Street, Brentford, TW8 0BB, UK. Tel: +44 (0)871 527 8670;  
Website: <http://www.premierinn.com/en/hotel/BREPTI/london-kew> ?

**Kensington (Earl's Court)** - 11 Knaresborough Place, London, SW5 0TJ; Tel: +44 (0)871 527 8666;

Website: <http://www.premierinn.com/en/hotel/LONKEN/london-kensington-earls-court>  
(from about £50 per night)

**Travelodge - Kew Bridge** (1.5 miles) – North Road, High Street, Brentford, London TW8 0BD. Tel +44 (0)871 984 6040; Fax: +44 (0)203 1955 583;

Website: <http://www.travelodge.co.uk/hotels/48/London-Kew-Bridge-hotel> (from £60 per night)

**The Inn at Kew Gardens** - 292 Sandycombe Road, Kew, Surrey, TW9 3NG. Tel: +44 (0)20 8940 2220; Email: [enquiries@kewgardenshotel.com](mailto:enquiries@kewgardenshotel.com); Website:

<http://www.kewgardenshotel.com/> (from £140 per night)

20 boutique bedrooms rooms, ground floor gastro pub and restaurant, and private dining/ function mezzanine. We are situated in the heart of Kew Village West London

**Local Bed & Breakfast accommodation:**

- Mr & Mrs Leach, Pensford Avenue, Kew. Telephone +44 (0)20 8876 3354,
- Mrs Linda Gray, 1 Chelwood Gardens, Kew. Telephone +44 (0)20 8876 8733, email [lindagray65@aol.co.uk](mailto:lindagray65@aol.co.uk)
- Mrs P.A. Thomas, 3 Taylor Avenue, Kew. Telephone +44 (0)20 8876 1231, email [pamthomas@02.co.uk](mailto:pamthomas@02.co.uk)
- Mrs Jennie Long, Forest Road, Kew. Telephone +44 (0)20 8940 3636

Programme (provisional)

# FREEZING BIOLOGICAL TIME

## Society for Low Temperature Biology

*50<sup>th</sup> Anniversary Celebration & Annual Scientific Conference 2014*

The Royal Botanic Gardens, Kew, Jodrell Laboratory

*Wednesday 8<sup>th</sup> October 2014 - A Day of Celebration*

**Morning Session 9:30 - 12:30**      **Jodrell Laboratory Lecture Theatre**

**Interdisciplinary Low Temperature Biology: History and Future Part I**

**Chairs Professor Colin Green and Professor Birgit Glasmacher**

09:30 - 10:00	Registration & Coffee	
10:00 - 10:10	Royal Botanic Gardens, Kew, Host Welcome	Prof. Hugh Pritchard
10:10 - 10:20	Welcome from the Chair of the Society	Dr Maurizio Lambardi
10:20 - 11:00	50 <sup>th</sup> Anniversary Plenary Lecture	Prof. David Pegg
11:00 - 11:30	Polar Ecology	Prof. Andy Clarke
11:30 - 12:00	Medical Low Temperature Biology	Prof. Barry Fuller
12:00 - 12:30	Perspectives of Plant Cryopreservation	Dr Keith Harding & Prof. Hugh Pritchard

12:30 - 14:00    **50<sup>th</sup> Anniversary Lunch**      **Venue to be confirmed**

Mounting of posters and setting up of exhibitions - **Jodrell Laboratory**

**Afternoon Session 14:00 - 16:30**    **Jodrell Building Lecture Theatre**

**Interdisciplinary Low Temperature Biology: History and Future Part II**

**Chairs Professor Brian Grout and Ms Raquel Amaral**

14:00 - 14:30	Human IVF and Reproductive Cryobiology	Dr Maureen Wood
14.30 - 15.00	Wildlife Cryo-conservation	Prof. Bill Holt
15:00 - 15:30	Aquaculture Cryopreservation	Prof. David Rawson & Prof. Tiantian Zhang
15:30 - 16:00	Protist Cryopreservation	Dr John Day & Dr Matt Ryan
16:00 - 16:30	Coffee and Poster session	

### **50<sup>th</sup> Anniversary Celebration**

16:30 - 17:30	Celebration events, cake, short film, ice physics	Prof. Colin Green & Prof. Paul Watson
17:30 - 18:45	Evening Reception	Jodrell, Lower Atrium
19:00 - 22:00	<b>50<sup>th</sup> Anniversary Dinner</b>	<b>Kew Garden Hotel</b>

## Thursday 9<sup>th</sup> October 2014

### Special Symposium

#### Global Food Security and Cryopreservation

#### 50<sup>th</sup> Year Free Communications & Annual General Meeting

**Morning Session 9:15 - 12.15**      **Jodrell Building Lecture Theatre**

**Special Symposium Global Food Security and Cryopreservation – Part I**

**Chairs Dr Lyndsey Withers and Dr Jayanthi Nadarajan**

09:15 - 09:20	Welcome Speech	Prof. Katherine Willis Director of Science, Royal Botanic Gardens Kew
09:20 - 09:50	Food Security and CGIAR Cryobanks	Dr Bart Panis
09:50 - 10:10	Crop cryopreservation at IITA - Nigeria	Ms Akinyemi Olubimpe
10:10 - 10:30	Crop cryopreservation NBPGR - India	Dr Reka Chaudhury & Dr S.K. Malik
10:30 - 10:50	Crop cryobanks - China	Prof. Qiaochun Wang
10:50 - 11:15	<b>Coffee and Poster Session</b>	

**Special Symposium Global Food Security and Cryopreservation – Part II**

**Chairs Professor Qiaochun Wang and Professor Hugh Pritchard**

11:15 - 11:30	Invited Talk 1	Speaker to be confirmed
11:30 - 11:45	Invited Talk 2	Speaker to be confirmed
11:45 - 12:00	Invited Talk 3	Speaker to be confirmed
12:00 - 12:15	Invited Talk 4	Speaker to be confirmed
12:15 - 13:30	<b>Lunch</b>	

**SLTB Committee Meeting-** Meeting room Jodrell

**Afternoon Session 13:30 - 18:00**      **Jodrell Building Lecture Theatre**

**50<sup>th</sup> Anniversary Year Low Temperature Futures - Free Communications Session I**

**Chairs Dr Maurizio Lambardi and Ms Jackie MacKenzie-Dodds**

13:30 - 13:45	Free communication 1	Speaker to be confirmed
13:45 - 14:00	Free communication 2	Speaker to be confirmed
14:00 - 14:15	Free communication 3	Speaker to be confirmed
14:15 - 14:30	Free communication 4	Speaker to be confirmed
14:30 - 15:00	<b>Coffee, Poster Session, Exhibitions</b>	

**50<sup>th</sup> Anniversary Year Low Temperature Futures - Free Communications Session I**

**Chairs Dr Bart Panis and Dr Roland Fleck**

15:00 - 15:15	Free communication 5	Speaker to be confirmed
15:15 - 15:30	Free communication 6	Speaker to be confirmed
15:30 - 15:45	Free communication 7	Speaker to be confirmed
15:45 - 16:00	Free communication 8	Speaker to be confirmed
16:00 - 16:45	Poster Session (Poster Prize and Audrey Smith Travel Award Announcements)	

16:45 - 18:00      **SLTB Annual General Meeting**



## Friday 10<sup>th</sup> October 2014

### Special Symposia

#### **Low Temperature Biobanking for Healthcare & Bio-management Innovations in Low Temperature Biopreservation**

##### **Morning Session 9:15 - 12.20 Jodrell Building Lecture Theatre**

##### **Low Temperature Biobanking for Healthcare Part I**

##### **Chairs Professor Barry Fuller and Dr Alasdair Kay**

09:15 - 09.45	Clinical Biobank Disaster Management	Dr Rita Lawlor
09:45 - 10.05	Cornea Biobanking	Prof. John Armitage
10:05 - 10:25	Stem Cell Cryopreservation	Dr Charles Hunt / Jennifer
10:25 - 10.55	<b>Coffee, Poster session and Exhibitions</b>	

##### **Low Temperature Biobanking for Healthcare Part II**

##### **Chairs Professor David Pegg and (to be confirmed)**

10:55 - 11:10	Symposium Contributed Oral Paper 1	Speaker to be confirmed
11:10 - 11:25	Symposium Contributed Oral Paper 2	Speaker to be confirmed
11:25 - 11:40	Symposium Contributed Oral Paper 3	Speaker to be confirmed
11:40 - 11:55	Symposium Contributed Oral Paper 4	Speaker to be confirmed
11:55 - 12:10	Symposium Contributed Oral Paper 5	Speaker to be confirmed
12:10 - 12:25	Symposium Contributed Oral Paper 6	Speaker to be confirmed
12:25 - 13:15	<b>Lunch, Poster Session and Exhibitions</b>	

##### **Afternoon Session 13:15 - 16.45 Jodrell Building Lecture Theatre**

##### **Innovations in Low Temperature Biopreservation Part I**

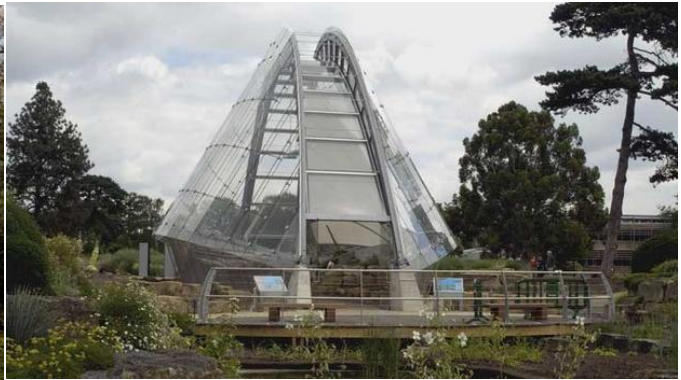
##### **Chairs (to be confirmed)**

13:15 - 13.45	Quality Management Innovations for Biopreservation	Dr Erica Benson
13:45 - 14:05	New Cryo imaging Technologies	Dr Roland Fleck & Dr Charlie Hunt
14:05 - 14:25	Innovative Technologies	Prof. Birgit Glasmacher
14:25 - 14:45	New Cryobanks for Scientific Collections	Ms Jackie McKenzie-Dodds
14:45 - 15.05	Innovative Plant Technologies	Prof. Praveen Saxeena
15:05 - 15:30	<b>Coffee, Poster Session and Exhibitions</b>	

##### **Innovations in Low Temperature Biopreservation Part II**

##### **Chairs (to be confirmed)**

15:30 - 15:50	Vacuum Infiltration Vitrification	Dr Jayanthi Nadarajan
15:50 - 16:10	Liquidus Tracking Vitrification	Eva Puschmann
16:10 - 16:30	Liquid Nitrogen Free Cooling	Dr John Morris
16:30 - 16:40	<i>Discussion – Future Innovations</i>	Dr David Pegg & Dr Maurizio Lambardi
16:40 - 16:45	<b>50<sup>th</sup> Anniversary Meeting Close</b>	Prof. Hugh Pritchard



### **The Princess of Wales Conservatory**

Is named after Princess Augusta, founder of Kew, and opened in 1987 by Diana, Princess of Wales. It is the most complex conservatory at Kew, containing ten computer-controlled climatic zones under one roof.

### **The Davies Alpine House**

Was designed to create the cool, dry and windy conditions that alpine plants favour, without using energy-intensive air-conditioning and wind pumps.

#### **Contacts:**

**Dr Jayanthi Nadarajan**, Royal Botanic Gardens, Kew, Wellcome Trust Millennium Building, Wakehurst Place, Ardingly, RH17 6TN West Sussex UK  
Email: [j.nadarajan@kew.org](mailto:j.nadarajan@kew.org).

**Dr Bart Panis**, Senior Researcher, Bioversity International c/o KU Leuven Willem de Croylaan 42 bus 2455, 3001 Leuven, Belgium  
E-mail: [b.panis@cgiar.org](mailto:b.panis@cgiar.org); [bart.panis@biw.kuleuven.be](mailto:bart.panis@biw.kuleuven.be).

**Prof. Barry Fuller**, UCL Medical School, Royal Free Hospital, NW3 2QG London UK Email: [b.fuller@ucl.ac.uk](mailto:b.fuller@ucl.ac.uk)

**Prof. Brian Grout**, University of Copenhagen, Højbackegård Alle 132630 Taastrup Denmark  
Email: [bwg@plen.ku.dk](mailto:bwg@plen.ku.dk)

**Drs Erica Benson & Keith Harding**, Damar, Drum Road, Cuparmuir, Cupar, Fife KY15 5RJ, Scotland UK  
Emails: [e.benson-damar@tiscali.co.uk](mailto:e.benson-damar@tiscali.co.uk), [k.harding-damar@tiscali.co.uk](mailto:k.harding-damar@tiscali.co.uk)

**Prof. Hugh Pritchard**, Royal Botanic Gardens, Kew, Wellcome Trust Millennium Building, Wakehurst Place, Ardingly, RH17 6TN, West Sussex UK  
Email: [h.pritchard@kew.org](mailto:h.pritchard@kew.org)