



Daiwa Adrian Prizes

Prizes for UK-Japan Scientific Collaboration

Daiwa Adrian Prizes are awarded by The Daiwa Anglo-Japanese Foundation on a triennial basis in recognition of significant scientific collaboration between British and Japanese research teams.

They were established in 1992 and subsequently renamed to commemorate Lord Adrian, a founding Trustee of the Foundation, at whose initiative the Prizes were established.

Since their launch, 42 Prizes totalling £485,000 have been awarded to 84 teams representing 77 different institutions, including 36 from the UK and 39 from Japan – indicating the breadth and diversity of scientific achievement by scientists in the two countries.

The 2016 Daiwa Adrian Prizes will be awarded at a ceremony at the Royal Society on 15 November 2016.

The Foundation wishes to express its gratitude to the Fellows of The Royal Society for their assistance in the selection process.

For further information and the application form please visit <http://www.dajf.org.uk/grants-awards-prizes/daiwa-adrian-prizes>.

The Daiwa Anglo-Japanese Foundation is a UK charity, established in 1988 with a generous benefaction from Daiwa Securities Co Ltd. The Foundation's purpose is to support closer links between Britain and Japan.

It does this by:

- making grants available to individuals, institutions and organisations to promote links between the UK and Japan across all fields of activity
- awarding scholarships to young British graduates to study Japan and its language
- organising a year-round programme of events to increase understanding of Japan in the UK

Daiwa Foundation Japan House, the London-based headquarters, acts as a centre for UK-Japan relations in Britain by offering a wide programme of seminars, exhibitions and book launches as well as meeting rooms for Japan-related activities and facilities for visiting academics.

The Foundation is represented in Japan by its Tokyo Office, which provides local assistance to Daiwa Scholars and administers grant applications from Japan. It also handles general enquiries, and forms part of the network of organisations supporting links between the UK

Past Recipients

DAIWA ADRIAN PRIZES 2016

Ceramic Oxide Surfaces: Gas-Solid Interactions for High Temperature Electrochemical Devices £10,000

Imperial College London
Professor John Kilner (Team Leader)
Professor Stephen Skinner
Mr Matthew Niania
Dr Sam Cooper

Kyushu University
Professor Tatsumi Ishihara (Team Leader)
Professor John Druce
Professor Helena Tellez
Professor Aleksandar Staykov
Dr Taner Akbay

Materials Discovery using Extreme Conditions £10,000

University of Edinburgh
Professor J. Paul Attfield (Team Leader)
Dr Angel Arevalo-Lopez
Dr Elise Pachoud
Dr James Cumby
Dr Calum Lithgow

Kyoto University
Professor Yuichi Shimakawa (Team Leader)
Professor Mikio Takano
Professor Takashi Saito

Understanding magnetic energy release at all scales in the solar atmosphere: from small-scale jets and flares that are seen anywhere on the sun, to large scale explosions that are hard to predict and can have a significant impact on the Earth. £10,000

University College London
University of Cambridge
Professor Louise Harra (Team Leader)
Professor John Leonard Culthane
Dr Helen Mason
Dr Deborah Baker
Dr Sarah Matthews

National Astronomical Observatory of Japan
Nagoya University
Institute of Space and Astronautical Science
Professor Hirohisa Hara (Team Leader)
Professor Tetsuya Watanabe
Dr Shin Imada
Dr Shin Toriumi
Dr Toshi Shimizu

Using Synthetic Human Chromosomes to understand Epigenetic Regulation of Chromosome Segregation £10,000

University of Edinburgh
Professor William C. Earnshaw (Team Leader)
Mr Jan Bergmann
Mr Nuno Martins
Dr Oscar Molina
Mr Jan Ruppert

Kazusa DNA Research Institute
Dr Hiroshi Masumoto (Team Leader)
Dr Jun-ichirou Ohzaki
Dr Megumi Nakano
Mr Nobuaki Shono
Mr Koichiro Otake
Dr Koei Okazaki

DAIWA ADRIAN PRIZES 2013

Chemonostics: Using chemical receptors in the development of simple diagnostic devices for age related diseases £10,000

University of Bath
University of Birmingham
Professor Tony James (Team Leader)
Dr Steven Bull
Dr John Fossey

Kyushu University
Tokyo Metropolitan University
University of Kitakyushu
Professor Seiji Shinkai (Team Leader)
Professor Dr Yuji Kubo
Professor Kazuo Sakurai

Circadian regulation of photosynthesis £10,000

University of Bristol
University of Edinburgh
Dr Antony Dodd (Team Leader)
Dr Jelena Kusakina
Miss Kelly Atkins
Dr Zeenat Noordally

Chiba University
Tokyo Institute of Technology
Dr Mitsumasa Hanaoka (Team Leader)
Miss Misato Anma
Mr Kenyu Ishii
Professor Kan Tanaka

Mr Gaku Fujii
Miss Rumi Suzuki

Exploration of Active Functionality in Abundant Oxide Materials Utilizing Unique Nanostructure: Discovering novel properties of traditional materials through curiosity-driven research £10,000

University College London
Professor Alexander Shluger (Team Leader)
Dr Peter Sushko

Tokyo Institute of Technology
Professor Hideo Hosono (Team Leader)
Professor Katsuro Hayashi
Dr Yoshitake Toda

Extension of terrestrial radiocarbon dating calibration curve using annually laminated sediment core from Lake Suigetsu, Japan £10,000

University of Newcastle
University of Oxford
NERC Radiocarbon Facility
Aberystwyth University
Professor Takeshi Nakagawa (Team Leader)
Professor Christopher Bronk Ramsey
Dr Charlotte Bryant
Dr Henry Lamb

Nagoya University
Chiba University of Commerce
Naruto University of Education
Osaka City University
University of Tokyo
Professor Hiroyuki Kitagawa (Team Leader)
Dr Katsuya Gotanda
Dr Hitoshi Yonenobu
Dr Tsuyoshi Haraguchi
Professor Ryuji Tada
Dr Yusuke Yokoyama

DAIWA ADRIAN PRIZES 2010

The evolutionary and spatial dynamics of human viral pathogens. Investigation of the spread of human viruses, particularly HIV and Hepatitis C, why outbreaks begin at certain times and in certain locations, and why virus strains follow particular routes when they disseminate internationally. £10,000

University of Oxford
Dr Oliver Pybus (Team Leader)
Mr Samir Bhatt
Mr Peter Markov
Mr Joe Parker
Dr Aris Katzourakis

National Institute of Infectious Diseases
Dr Yutaka Takebe (Team Leader)
Ms Yue Li
Dr Shigeru Kusagawa
Dr Kok Keng Tee
Ms Takayo Tsuchiura

Photonic quantum information science and technology. Development of new technologies based on harnessing quantum mechanics – the fundamental physics theory governing behaviour at the microscopic scale. £10,000

University of Bristol
Professor Jeremy O'Brien (Team Leader)

Hokkaido University
Osaka University
Professor Shigeki Takeuchi (Team Leader)

Non-linear cosmological perturbations. Providing theoretical predictions from the very early universe physics for the statistical properties of primordial curvature perturbations. £10,000

University of Portsmouth
Professor David Wands (Team Leader)
Dr Marco Bruni
Dr Robert Crittenden
Dr Kazuya Koyama
Professor Roy Maartens
Dr Cyril Pitrou

Kyoto University
Professor Misao Sasaki (Team Leader)
Professor Tetsuya Shiromizu
Professor Jiro Soda
Professor Takahiro Tanaka

Nonlinear dynamics of cortical neurons and gamma oscillations - from cell to network models. Advancement of knowledge of the basic operation of brain networks, contributing to understanding of disorders such as schizophrenia, Alzheimer's disease and epilepsy. £10,000

University of Cambridge
Harvard University
Karolinska Institutet
Dr Hugh Robinson (Team Leader)
Mr Nathan Gouwens

University of Tokyo
Osaka University
Professor Kazuyuki Aihara (Team Leader)
Dr Kenji Morita
Dr Kunichika Tsumoto

Mr Hugo Zeberg
Ms Rita Kalra

Dr Takashi Tateno
Dr Kantaro Fujiwara

Use of genomics to understand plant-pathogen interactions. Understanding plant pathogen interactions to enhance knowledge on plant disease control. £10,000

The Sainsbury Laboratory

Professor Sophien Kamoun (Team Leader)

Dr Joe Win

Ms Liliana M. Cano

Ms Angela Chaparro-García

Dr Tolga O. Bozkurt

Dr Sebastian Schornack

Inate Biotechnology Research Center

Dr Ryohei Terauchi (Team Leader)

Dr Kentaro Yoshida

Dr Hiromasa Saitoh

Dr Koki Fujisaki

Dr Ayako Miya

Dr Muluneh Tamiru

Phase space analysis of partial differential equations. Analysis of a range of properties exhibited by solutions to evolution partial differential equations which are of major importance in many different sciences. £10,000

Imperial College London

Professor Michael Ruzhansky (Team Leader)

Dr Jens Wirth

Dr Claudia Garetto

Dr Ilia Kamotski

Nagoya University

Tokai University

Yamaguchi University

Osaka University

Professor Mitsuru Sugimoto (Team Leader)

Professor Tokio Matsuyama

Dr Fumihiko Hirose

Dr Naohito Tomita

DAIWA ADRIAN PRIZES 2007

High energy density science: new frontiers in plasma physics £15,000

STFC Rutherford Appleton Laboratory

Imperial College London

University of Oxford

University of York

Queen's University Belfast

Professor Peter Norreys (Team Leader)

Professor Mike Dunne

Dr Kathryn Lancaster

Professor Steven Rose

Professor Justin Wark

Dr Gianluca Gregori

Dr Nigel Woolsey

Dr Matthäus Zepf

Osaka University

Professor Ryosuke Kodama (Team Leader)

Professor Kunioki Mima

Professor Kazuo Tanaka

Professor Hiroshi Azechi

Associate Professor Keisuke Shigemori

Associate Professor Youichi Sakawa

Associate Professor Norimasa Ozaki

Assistant Professor Hideaki Habara

Understanding predatory *Bdellovibrio* bacteria as living antibiotics and the roles of surface ultra structures on the bacterial surface in prey penetration and killing and in motility £15,000

University of Nottingham

Professor Liz Sockett (Team Leader)

Dr Richard Woods

Dr Laura Hobley

Dr Carey Lambert

Dr Chien-Yi Chang

Prefectural University of Hiroshima

CREST Soft-Nanomachine Project

Professor Shin-Ichi Aizawa (Team Leader)

Dr Noriko Takahashi

Dr Machi Kanna

Analysis of the Mechanism and Structural Dynamics of the Bacterial Flagellar Motor £15,000

University of Oxford

Dr Richard Berry (Team Leader)

Dr Yoshiyuki Sowa

Dr Chien-Jung Lo

Dr Teuta Pilizota

Dr Mark Leake

Mr Richard Branch

Nagoya University

Toboku University

Professor Michio Homma (Team Leader)

Dr Seiji Kojima

Professor Akihiko Ishijima

Dr Yuichi Inoue

Dr Hajime Fukuoka

Understanding the function of intestinal intraepithelial T lymphocytes during challenge with the coccidial pathogen *Eimeria* spp £10,000

Institute for Animal Health

Dr Adrian Smith (Team Leader)

Members of the Enteric Immunology Group

University of Miyazaki

University of the Ryukyus

Dr Kyoko Inagaki-Ohara (Team Leader)

Professor Goro Matsuzaki

The Importance of Epigenetics in Cartilage Development and Disease	£10,000
<i>University of Southampton</i> Dr Helmtrud I Roach (Team Leader) Professor Richard O C Oreffo	<i>Tohoku University</i> Professor Shoichi Kokubun (Team Leader) Professor Eiji Itoi Assistant Professor Toshimi Aizawa Assistant Professor Norikazu Yamada Assistant Professor Koshi Kishimoto Mr Ko Hashimoto

DAIWA ADRIAN PRIZES 2004

Novel quantum order in ruthenate and cuprate metals	£15,000
<i>University of St Andrews</i> <i>University of Cambridge</i> Professor Andrew Mackenzie (Team Leader) Dr Santiago Grigera Dr Robin Perry Dr Rodolfo Borzi Dr Naoki Kikugawa Professor Stephen Julian Dr Christoph Bergemann	<i>Kyoto University</i> <i>Hiroshima University</i> <i>Nanoelectronics Research Institute, AIST</i> Professor Yoshiteru Maeno (Team Leader) Professor Kenji Ishida Dr Satoru Nakatsuji Dr Fumihiko Nakamura Dr Shinichi Ikeda

Corneal cell and matrix biology, and new approaches to the restoration of corneal transparency and vision after injury or disease	£10,000
<i>Cardiff University</i> <i>Lancaster University</i> Dr Andrew Quantock (Team Leader) Dr Nigel Fullwood	<i>Kyoto Prefectural University of Medicine</i> <i>Doshisha University</i> Professor Shigeru Kinoshita (Team Leader) Dr Noriko Koizumi

The ASTRO-F all-sky far-infrared survey	£10,000
<i>Imperial College London</i> <i>University of Kent</i> <i>University of Sussex</i> Professor Michael Rowan-Robinson (Team Leader) Professor Glenn White Dr Stephen Serjeant Dr Toshinobu Takagi Dr Seb Oliver Dr Richard Savage	<i>Japan Aerospace Exploration Agency</i> <i>Nagoya University</i> Professor Toshio Matsumoto (Team Leader) Professor Takao Nakagawa Dr Issei Yamamura Dr Chris Pearson Professor Hiroshi Shibai

Nanocarbon materials science	£10,000
<i>University of Sussex</i> <i>University of Cambridge</i> Professor Kosmas Prassides (Team Leader) Dr Ioannis Arvanitidis Dr Serena Margadonna	<i>Tohoku University</i> Professor Yoshihiro Iwasa (Team Leader) Dr Taishi Takenobu

Application of new spectroscopic methods to studies of atmospherically relevant chemical reactions	£10,000
<i>University of Bristol</i> <i>University of Oxford</i> <i>University of Birmingham</i> Professor Michael Ashfold (Team Leader) Professor Andrew Orr-Ewing Dr Dudley Shallcross Dr Jeremy Harvey Dr Jonathan Reid Professor Gus Hancock	<i>Kyoto University</i> <i>Nagoya University</i> <i>Hokkaido University</i> <i>Hiroshima City University</i> <i>Tokyo Science University</i> Professor Masahiro Kawasaki (Team Leader) Professor Yutaka Matsumi Dr Kenshi Takahashi Dr Hiroto Tachikawa Professor Takashi Ishiwata Professor Koichi Tsukiyama

Knowledge mining from biology texts	£10,000
<i>University of Salford</i> <i>University of Manchester</i> Dr Sophia Ananiadou (Team Leader) Dr Goran Nenadic Dr Benjamin Stapley Dr Irena Spasic	<i>University of Tokyo</i> Professor Jun-ichi Tsujii (Team Leader) Professor Toshihisa Takagi Dr Hideki Mima Mr Yusuke Miyao

DAIWA ADRIAN PRIZES 2001

<p>The Formation & Evolution of Galaxies <i>University of Durham</i> Professor R L Davies (Team Leader) Dr Richard G Bower Dr Ian Smail Mr David G Gilbank</p>	<p><i>University of Tokyo</i> Professor Sadanori Okamura (Team Leader) Professor Nobuo Arimoto Dr Tadayuki Kodama Dr Takashi Okamoto</p>	<p>£15,000</p>
<p>Roles and Functions of the three Mannan-Binding Lectin-Associated Serine Proteases within the Innate Immune Response <i>University of Leicester</i> Dr Wilhelm Schwaeble (Team Leader) Dr Cordula Stover Dr Nicholas Lynch</p>	<p><i>Fukushima Medical University</i> Dr Teizo Fujita (Team Leader) Dr Yuichi Endo Dr Misao Matsushita Dr Minoru Takahashi</p>	<p>£15,000</p>
<p>Identification of the Genes Responsible for Asthma in the British and Japanese Populations <i>University of Wales</i> Professor Julian M Hopkin</p>	<p><i>University of Tokyo</i> Professor Taro Shirakawa</p>	<p>£15,000</p>
<p>Development of Satellite-Based Thermal Methods for Monitoring Active Volcanic Lava Domes <i>King's College London</i> <i>Open University</i> Dr Martin Wooster (Team Leader) Dr David Rothery</p>	<p><i>University of Tokyo</i> Dr Takayuki Kaneko (Team Leader) Professor Setsuya Nakada</p>	<p>£10,000</p>
<p>Elucidation of the Mechanisms how Carotenoids Pursue the Light-Harvesting & Photo-Protective Functions <i>University of Glasgow</i> Dr Richard J Cogdell</p>	<p><i>Kansai Gakuin University</i> Dr Yasushi Koyama</p>	<p>£10,000</p>

DAIWA ADRIAN PRIZES 1998

<p>Integrable Quantum Field Research <i>University of Durham</i> <i>University of Edinburgh</i> Professor E Corrigan (Team Leader) Professor David B Fairlie Dr Patrick E Dorey Dr Harry W Braden</p>	<p><i>Kyoto University</i> <i>Chuo University</i> <i>Hiroshima Institute of Technology</i> Dr Ryu Sasaki (Team Leader) Professor Takeo Inami Dr Takashi Suzuki Dr Kanehisa Takasaki Dr Tatsuya Ueno</p>	<p>£12,500</p>
<p>Organic Magnets, Metals and Superconductors <i>Royal Institution of Great Britain</i> <i>University of Oxford</i> Professor Peter Day (Team Leader) Dr S J Blundell Dr W Hayes Dr J Singleton</p>	<p><i>Meiji Gakuin University</i> Professor T Sugano</p>	<p>£12,500</p>
<p>Structural, functional and biochemical effect of Alzheimer's Disease and its treatment using magnetic resonance imaging <i>King's College London</i> Professor S H D Jackson (Team Leader) Dr J Suckling Dr S C R Williams Dr C A Bryant Professor C G Swift</p>	<p><i>Nagoya University</i> Professor A Iguchi (Team Leader) Dr Y Suzuki Dr K Ito Dr T Kato Dr H Endo</p>	<p>£12,500</p>
<p>Star and Planetary Formation <i>University of Hertfordshire</i> Professor James Hough (Team Leader) Dr A Chrysostomou Dr T Gledhill Dr A McCall Dr J Yates</p>	<p><i>Nagoya University</i> <i>National Astronomical Observatory</i> <i>University of Tokyo</i> Dr M Tamura (Team Leader) Dr T Hirao Dr T Hasegawa Dr M Hayashi</p>	<p>£12,500</p>

Professor N Kaifu
Dr H Kataza
Dr K Sunuda
Dr T Nagata
Professor S Sato
Dr K Tatematsu

DAIWA AWARDS 1996

Structure of Zeolites

UMIST (Now University of Manchester)
Dr M W Anderson (Team Leader)
Dr Viveka Alfredsson
Ms Noreen Pervaiz

Toboku University
Dr Osamu Terasaki (Team Leader)
Dr Tetsu Osuna

£12,500

Modelling on Multinuclear Metallobiosites

University of Sheffield
Professor D E Fenton (Team Leader)
Dr Qing-yu He
Miss Sara Ryan

Kyushu University
Professor Hisashi Okawa (Team Leader)
Dr Naohide Matsumoto
Dr Hiroshi Sakiyama

£12,500

The physical processes at the ocean/atmosphere boundary

University of Leicester
Professor D Llewellyn-Jones (Team Leader)
Dr Craig Donlon
Dr Tim Nightingale
Dr Isabelle Parkes

Inate University
Professor Ryuzo Yokoyama (Team Leader)
Dr Sumio Tanba
Mr Takashi Souma
Dr Yoshikazu Ikura

£12,500

The effect of habitat disturbance on the macaqui (Japanese monkey) on Yakushima island

University of Edinburgh
Dr M Rogers (Team Leader)
Dr D A Hill
Ms A J Biggs
Mr S Vadher

Kyoto University
Professor H Osawa (Team Leader)
Dr J Yamagiwa
Dr N Agestsuma
Mr S Suzuki

£12,500

DAIWA AWARDS 1994

Polymer Non-Linear Optics

University of Sheffield
Dr Donal Bradley (Team Leader)
Dr Olaf Gelsen
Mr Neil Greenham
Mr Simon Martin

Kyushu University
Professor Tetsuo Tsutsui (Team Leader)
Dr Masanao Era
Mr Noriyuki Takada
Mr Eiichiro Aminaka

£15,000

Pico-Second Laser Spectroscopy

Southampton University
Dr Jeremy G Frey (Team Leader)
Dr Stephen R Meech
Dr Andrew J Bell

Institute for Molecular Science
Professor Keitaro Yoshihara (Team Leader)
Mr Keisuke Tominaga
Mr Shigeichi Kumazaki

£15,000

Epithelial Cell Physiology

University of Manchester
Professor Maynard Case (Team Leader)
Dr Martin C Steward
Dr Peter Brown
Dr Jacky McDouall

Osaka University
Professor Hiroshi Watari (Team Leader)
Professor Masataka Murakami
Mr Yoshiteru Seo
Mr Toru Ishikawa

£10,000

Dr Jeong Taeg Seo
Dr Stephen Wimperis

Mr Takashi Makahari

X-ray Lasers

Rutherford Appleton Laboratory
Professor M H Key (Team Leader)
Professor R Burge
Professor C L S Lewis
Professor G J Pert
Professor S A Ramsden
Dr Domhnail O'Neill
Dr David Neely
Mr Andrew G MacPhee
Dr Greg Tallents
Dr Gary Slark
Dr Philip Holden
Dr Peter Norreys

Osaka University
Professor Yoshiaki Kato (Team Leader)
Professor Sadao Nakai
Professor Masanobu Yamanaka
Dr Hiroyuki Daido
Dr Ryosuke Kodama
Dr Kensuke Murai
Mr Gang Yuan
Dr Hirozumi Azuma
Dr Hiroyuki Shiraga
Dr Takahisa Jitsuno
Dr Tadashi Kanabe
Dr Masaru Takagi

£10,000