

Food Group Newsletter

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- Meeting Reports
- International News
- Funding Opportunities
- Future Meetings

In this issue:

European Funding for Research	1
The Vital Ingredient: Chemical Science and Engineering for Sustainable Food	2
The Total Food Conferences	3
Your Committee	4
Meeting Report: Postgraduate Research Conference	4
Food Group History	4

www.rsc.org/food

Chairman's Introduction

Welcome to the Food Group Newsletter.

My name is Arthur Tatham and I took over the Chairman's role from Annette Fillery-Travis in 2007 at her invitation.

As you may have been aware there was much discussion as to the future role of the Group and these discussions have been continuing. Please accept my apologies for the delay in producing a newsletter and advising members as to the content and range of those discussions.

Part of that role has been defined in the recent publication of the joint RSC and IChemE report *The vital ingredient: Chemical science and engineering for sustainable food*. Two members of the Committee, myself and Keith Waldron were involved at steering committee level and in drafting the final form of the report (see page 2 for details of the launch and content of the report). This gave the committee an insight into the wider ranging issues affecting food and contact with

other groups with interests in food and food-related issues. Among a number of areas of concern was the provision of training in the Food Sciences UK and the decrease in food research in the UK. These are among issues with which the Group will be involved, through engagement with other organisations, notably the IFST, with whom we are discussing collaborative ventures and through lobbying funders of food science research.

The importance of food has been recognised by the RSC and the RSC has adopted Food as a main theme for 2009, more details will become available on the RSC website in the near future. The food theme will also form part of the RSC's National Chemistry Week in November 2009, in which the Food Group will be involved.

In 2008 food scarcity, increasing fuel prices and an increasing world population led to increases in food prices, affecting both the developed and devel-

oping world. This along with the current world wide economic recession has focussed attention not only on agricultural production and sustainability but on waste reduction and sustainability within the food chain from 'farm to fork'. These are among the challenges facing the food industry in 2009 (along with economic survival) and will become the key drivers for change in the future and may direct future research areas for both industrial and government funded research.

As a Group we would welcome comments and suggestions for inclusion into both the Newsletter and the Group's website. We hope to engage more with the membership over the coming year.

I would like to thank the members of the Committee for their continued support and hard work for the Group.

Arthur Tatham
Chairman of the Food Group

European Funding for Research

The European Commission provides funding for collaborative research through what it calls its Framework programme. The current programme, Framework 7, runs from 2007 to 2013. Helpful introductions to the scheme are available on line at: http://cordis.europa.eu/fp7/unders tand_en.html

In the UK, Beta technology,

www.betatechnology.co.uk, is contracted by the UK Technology Strategy Board to provide advice and support on how to access Framework 7. They are also funded by Defra and the Food Standards Agency to be the National contact point for Framework 7 funding for Food, Agriculture and Fisheries, Biotechnology and the Environment. A good place to start

then if you wish to create or join a network.

The other source of European funding is COST. COST is an acronym for European Cooperation in the field of Scientific and Technical research and COST actions are funded by the European Science Foundation. They are designed to exploit research carried out across the EU by organising

These sources of European funding require networks of researchers

European Funding continued . . .

meetings and technical exchanges between project members and by disseminating their results through the scientific and public media.

The difference between the two schemes is that while Framework projects are wholly funded, COST projects merely have their meetings funded.

However, both require there to be collaboration and that, in turn, means that researchers have to identify groups working in related areas.

The March edition of *Chemis-*

try World published the latest call for projects under COST which has a deadline of 27th March. There are usually two calls for COST each year, the next deadline being 25th September.

<http://www.cost.esf.org> provides a great deal of information on the scheme and a list of all actions funded to date. Defra is the National Contact Point for COST Actions.

Both these sources of European funding require networks of researchers. There are a number of International con-

ferences this year which may be a step in this direction:

- **Total Food**, in Norwich in April, the third in the series of Total Food conferences considering the optimisation of value from crops;
- **EuroFoodChem XIII** in Copenhagen in June, the conference of the Food Division of the EuChemS; and
- **Polyphenols and Health**, the fourth in the series, in Harrogate in December.

Mike Saltmarsh

A guidance document for funding bodies policy makers academics and industry to address key issues needed to achieve a sustainable food supply

The Vital Ingredient: Chemical science and engineering for sustainable food

This report was the result of a joint undertaking by the RSC and IChemE (Institute of Chemical Engineers) to produce a guidance document for funding bodies, policy makers, academics and industry to address the key issues needed to achieve a sustainable food supply. The report was written addressing the role that the chemical sciences and chemical engineering would have in achieving such a goal.

Prof Peter Lillford was the Chair of the Food Steering Group, which comprised members from industry, IFST, academia, IChemE and the RSC (Keith Waldron and myself). Acumentia Ltd was commissioned to write the report and the report was then reviewed by the Steering Committee and taken in-house by the RSC. There was considerable discussion as to the contents of the report given its broad scope; it presents a global view, but is focussed on the UK and EU. During re-

viewing and writing the report I became more aware of sustainability issues, and in parts it makes for sober reading. The report was reduced down in size; it was always appreciated that the scope of the project was large and the in-

and manufacture, distribution and retail, the consumer, supply chain waste and recommendations for resourcing and support.

The launch at the House of Commons on 21st January was very well attended. I arrived a

little late, as I had not appreciated how tight the security would be, and there was only standing room left! The talks were excellent and the Rt Hon. Hilary Benn MP (Secretary of State for the Environment, Food and Rural Affairs) gave a good overview of the major issues facing a sustainable future. The purpose of the report was to identify the major roles and support needed for the chemical and engineering sciences in sustainable

development, and promoting the development of closer links between food sector industries and academia so that we produce graduates with the necessary skills to deliver the goals of the report.

The vital ingredient

Chemical science and engineering for sustainable food
January 2009



RSC Advancing the Chemical Sciences

IChemE

house team at the RSC did an excellent job in preparing a readable and attractive report.

The report is far reaching in its scope covering primary agriculture, food processing

The Vital Ingredient continued . . .

We would hope that the effects of the report would engender an interest at undergraduate level in the food sciences as a career, given their pivotal role in the future of sustainable development in a more complex and interde-

pendent world.

I would recommend that you look at the report, not necessarily in its entirety, but the sections are readable and a good source of information and will provide a basis for further discussion. The sec-

tions are well referenced and give an excellent overview of the current situation.

The report can be viewed at: www.rsc.org/ScienceAndTechnology/Policy/Documents/thevitalingredient.asp

Arthur Tatham

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The Total Food Conferences

The **Total Food** series of biennial, international conferences was initiated in 2004 by the Royal Society of Chemistry Food Group and the Institute of Food Research, Norwich. The aim of Total Food is to debate global research and development relevant to exploiting the whole food crop rather than the small proportion that is consumed at present. For example, many vegetables are subjected to a high degree of trimming during post-harvest processing, and many parts including the outer leaves and stems are often disposed of by landfill. Much of the 'wasted' material is potentially food grade and may also contain important ingredients for further exploitation. The volumes involved are considerable. In the EC, over 500,000 tonnes of onion waste are disposed of per year. In some cases, up to 65% of food-grade material may be discarded during processing. The EC-funded "AWARENET" report (2004) indicated that up to 222 million tonnes of food chain waste from all food processing sectors are produced annually across the EU.

Total Food 2004 presentations, abstracts and the complete Proceedings Volume may be downloaded from the website:

<http://www.totalfood2004.com/>

Total Food 2006

The most recent Conference, Total Food 2006, was held in The Hague in conjunction with EFFoST. Building on the success of Total Food 2004, the conference attracted over

200 delegates, many industrial, and from around the world (see picture opposite). The Conference acknowledged the fact that the persistent and increasing production of wastes and co-products, and the impact of storage, transport and energy use, continues to compromise sustainability of the food chain.

Total Food 2006 was opened by Brian McKenna, EFFoST President, University College Dublin, and by Mike Saltmarsh, Inglehurst Foods, UK, representing the Royal Society of Chemistry.

The Conference covered the following themes:

- Drivers for sustainability;
- Industrial success in sustainable agri-food chains;
- Technology development relevant to food: whole material exploitation and high value products;
- Technology development relevant to feed;
- Raw material quality: stabilisation and microbiology;
- Technology development relevant to non food and fuel;
- Tools for sustainability;
- Sustainability for the future.

Each theme was developed through invited plenary lectures, short papers and associated posters. The conference highlighted the ways in which underutilised co-products might be exploited as new and natural sources of high value nutraceuticals and functional ingredients.

Total Food 2006 presentations and poster abstracts may

be downloaded from the website: <http://www.effost-conference.elsevier.com/>



Total Food 2009

The forthcoming conference, Total Food 2009, "Sustainability of the Agri-Food Chain" returns to Norwich this spring (22-24th April, 2009). This 3 day conference will discuss developments from Total Food 2006 and proposed solutions to improve sustainability of the food chain in keeping with the emerging drivers of energy and land use. Themes to be explored will range from the economic and environmental value of developing novel foods and ingredients from co-products (plant-, meat-, dairy- and fish-derived), through to the deconstruction of waste substrates for bio-alcohol production and recovery of energy. The conference will include 15 world class plenary lectures with expert speakers from the UK, Europe & the USA. A wide range of highly relevant short presentations and posters have also been selected to stimulate discussion amongst the delegates. *Continued . . .*

**The Conference
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ROYAL SOCIETY OF CHEMISTRY

Staff contact: Sean McWhinnie
Burlington House
Piccadilly
London
W1J 0BA
Phone: +44 (0) 20 7440 3309
Fax: +44 (0) 20 7437 8883
Email: mcwhinnies@rsc.org

Group contact: Rachel Burch
Leatherhead Food International
Randalls Road
Leatherhead
Surrey
KT22 7RY
Phone: +44 (0) 1372 822 289
Fax: +44 (0) 1372 822 229
rburch@leatherheadfood.com

www.rsc.org/food

The Food Group

Your Committee:

Prof. Arthur Tatham, *UWIC* (Chairman)
Prof. Tony Andrews, *Retired* (Hon Treasurer)
Dr Rachel Burch, *Leatherhead Food International* (Hon Secretary)
Prof. Jenny Ames, *Northumbria University*
Dr Jonathan Brown, *Surrey University*
Dr Jianshe Chen, *Leeds University*

Dr Andrew Cox, *Unilever*
Dr Peter Frazier, *Retired*
Prof. Bob Rastall, *Reading University*
Mr Mike Saltmarsh, *Inglehurst Foods*
Prof. Michael Spiro, *Imperial College*
Prof. Keith Waldron, *IFR Norwich*
Dr Richard Weightman, *ADAS*

Total Food Conferences continued . . .

Confirmed plenary speakers:

Mark Barthel (Waste & Resources Action Programme, UK)
Bart Gremmen (Wageningen University, The Netherlands)
F.A. Tomas-Barberan (CBAS CSIC, Spain)
Paulus Kusters (Provalor BV, The Netherlands)
Jean-Pascal Berge (IFREMER, France)
Ulf Sonesson (SIK, Sweden)
David Napper (Euroteknik Ltd)

Peter Calliafas (London Waste and Recycling Board, UK)
Conly Hansen (Utah State University, USA)
Liisa Viikari (University of Helsinki, Finland)
Jiri Klemes (University of Pannonia, Hungary)
Stephane Guilbert (INRA Montpellier, France)
Thomas Bechtold (University of Innsbruck, Austria)
Andrew Fearne (Kent Business

School, UK)
Roland Clift (Centre of Environmental Strategy, University of Surrey, UK)

Further details, including registration, science and social programmes, sponsorship opportunities and directions may be found on the conference website:

<http://www.ifr.ac.uk/totalfood2009/>

Keith Waldron

Meeting Report

Postgraduate Research Conference

Queen's University, Belfast, July 2008

The Food Group's Postgraduate Meeting is held every two years, with the most recent hosted by Queen's University, Belfast (QUB) in July 2008. The meeting provides an opportunity to all postgraduate students working in food-related fields to present their research, either as a poster or short oral presentation. Stu-



dents at the host university are also encouraged to take part in the organisation of the meeting, gaining valuable experience. Delegates at the 2008 meeting came from Nottingham, Reading, Leeds and

Bristol Universities, as well as QUB. Topics were wide ranging, from the perception of food stickiness to the investigation of cleaning agents for processing equipment, and were divided into four themes: Food Safety, Food Acceptability, Food Processing and Nutrition. There were two keynote speeches: Aileen Mallon and Matt McCann from Moy Park gave a presentation on 'Opportunities within the Food Industry' and Dr Clare Passmore of Matrix, the Northern Ireland Science Industry Panel spoke about implementation of the vision for NI food.

Generous sponsorship was obtained from Invest Northern Ireland, DARDNI, Kerry, Safefood, Ulster Anaesthetics Ltd, Moy Park and Tesco. This funded a welcome reception on the first evening and a conference dinner on the

second, which was held in the impressive Great Hall. Sponsorship also covered prizes awarded for poster and oral presentations. Prizes were



Poster prize winner Victoria Wheelan with Prof. Jenny Ames (left) and Dr Rachel Burch.

awarded to Victoria Wheelan from Nottingham and Shima Assar from Queen's for their poster presentations, and Yadira Gonzalez (Leeds) and Judith Kouassi (Queen's) for their oral presentations.

Thanks go to the staff and students at QUB for organising such a successful meeting.

Rachel Burch

Food Group History (1973 - 2008)

A document giving details of meetings organised by the Group over 35 years from 1973 to 2008, together with publications arising and winners of Food Group medals can be downloaded from the RSC Food Group Website at: <http://www.rsc.org/food>