



Acumentia News

News from Acumentia Ltd
(a continuation of VCG News)

December 2008

Features		Page
Developments in Acumentia:	New faces and new services	1
Corporate Social Responsibility:	Is yours good enough?	2
The new REACH Legislation:	Help when you most need it	3
Acumentia goes green:	Early success for our own Environmental Policy	4
Lactic Fermentation:	From an idea to market reality in just over a year	4
Business management for clients:	Acumentia to the rescue	5
Getting ingredients to mix:	The wonderful world of colloids	6
Special Feature Article:	Savoury flavours	8
IFST Annual conference:	Acumentia contributes	11

Developments in Acumentia – new faces and new services

At the annual meeting in Cambridge in September, Graham Godfrey took over management of Acumentia Ltd from Paul Fray. In addition, with Catherine Side now busy with a number of clients, we have a new Development Officer – Wendy Jones. Wendy will become the contact point for new enquiries, and will develop contracts for larger consultancy contracts. The group is very grateful to Paul and Catherine for their work over the last several years.

We are launching some exciting initiatives over the next few weeks.

New Website – Under the Acumentia banner, the new site will provide better access to our wide range of services and will be easier to navigate. Roddy Kane is in charge.

Expert Groups – Ready-formed teams bringing together members with common areas of experience and expertise in packaged consultancy services



Roddy Kane

Flexible, Targeted Training – Building on members' expertise, we are developing a range of concise packages which will be highly effective at delivering training, with minimal time and cost for the delegates. We are particularly focused on broadening the skill base in small and medium sized enterprises.

Acumentia Answers – We recognise that on many occasions clients need a quick answer to a relatively straightforward question or perhaps the opportunity to discuss an issue with someone who has expert knowledge. Clients will be able to speak to one of our members participating in the scheme for up to an hour for £100 +VAT.

Like other businesses, Acumentia is adapting to the rapidly changing commercial climate. Through these difficult times we can provide cover for skills clients may need, and we will also help clients actively reduce costs. Surviving the recession is only one part – being ready to take advantage of the opportunities that arise is almost equally important.

For more information contact Graham.Godfrey@Acumentia.com



Graham Godfrey



Corporate Social Responsibility – Is yours good enough?

The importance of Corporate Social Responsibility

The increasing emphasis on Corporate Social Responsibility (CSR) is causing companies to take a long hard look at their environmental performance, employee motivation, community links, business ethics and involvement with stakeholders. Companies often find that they are already taking many initiatives that contribute to CSR, but coming up with a meaningful CSR policy can be challenging. Some companies have been criticised for 'greenwash' or making exaggerated claims about their green credentials. Many of the large corporations, such as Sainsbury's and M&S, have well developed CSR policies that are published on the web, but other smaller organisations have yet to formulate their approach to CSR.



Melanie Brown

Stakeholder consultation is key


Consultation of stakeholders can be difficult to achieve without external help. Independent consultants are in a good position to consult stakeholders along the supply chain and provide meaningful feedback to companies. They can also audit supply chains to ensure that ethical business practices are being enforced rigorously throughout the chain.

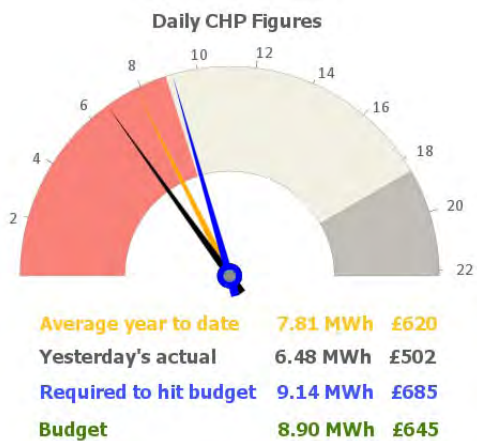
Energy and water use

Environmental performance depends on monitoring parameters, such as energy and water use and employing education together with investment in new technology to reduce consumption and waste. Consultants can help to provide up-to-date advice on water and energy saving measures and technologies. For example, the latest process management software can monitor and set targets for energy use and calculate carbon emissions. By measuring energy performance for different unit processes, the energy efficiency of the whole process can be optimised. Benchmarking energy

consumption at different sites highlights discrepancies and allows above average energy use to be addressed. In addition, the cost of buying energy from the supplier can be reduced by eliminating overpayment. Energy yields from, for example, combined heat and power (CHP) plants can also be monitored to ensure that plant performance is meeting targets. Energy performance data can be continuously displayed to employees and/or customers on dashboards using the latest software technology. This makes employees more aware of energy consumption and increases energy efficiency. Energy statistics can be continuously displayed on dashboards to customers or the general public in, for example, banks, supermarkets and sports centres.

A ready-made team to help you

Acumentia's CSR team includes specialists in environmental technology, business research and life cycle analysis. For more information please contact Melanie.Brown@Acumentia.com 





The new REACH Legislation – help when you most need it

REACH is the acronym for Registration, Evaluation, Authorisation and Restriction of Chemicals and it applies to specialty chemicals, cosmetics and toiletries, coatings and inks, adhesives and sealants. It has arrived in Europe and its here to stay. Pre-registrations had to be submitted by the beginning of December 2008. The REACH processes for pre-registered substances will continue until 2018, with further deadlines for registration in 2010 and 2013. For new market entries the registration dossiers have to be submitted before starting to sell. The amount of time and money required for the preparation of a REACH registration dossier is quite extensive and demanding.

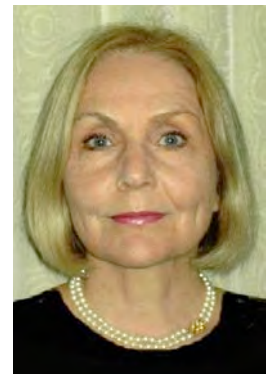
Who needs it?

No data, no market is the credo of the new EU regulatory framework for chemicals. Since June 2008, compliance with all facets of REACH is mandatory for manufacturers or importers of chemicals and consumer products wishing to do business within the European Economic Area (EEA); this is the 27 EU Member States plus Norway, Iceland and Liechtenstein. Managed by the European Chemical Agency (ECHA) in Helsinki, Finland, REACH processes are designed to provide additional information on chemicals in order to ensure safety in use towards humans and the environment.

The responsibilities for REACH

These are defined as follows:

- Manufacturers and Importers in the EU have to generate and provide data on the substances as such or in preparations they manufacture or import
- Producers or importers of articles shall submit a registration to the Agency for any substance contained in and released from those articles
- Downstream users and distributors are responsible for assessing the risks arising from their uses of substances if those are not covered by a safety data sheet of their suppliers



Dr Annelie Struessmann

Services offered

Acumentia members Steven Hanft and Dr Annelie Struessmann are advising companies throughout Europe in the regulatory area. Annelie's expertise comes from over 20 years industrial experience with companies such as IFF, Akzo-Nobel, Rewo (Evonik AG). She is a monthly contributing author on REACH legislation to Allured's Cosmetic and Toiletries Magazine (based in Carol Stream, IL, USA), and provides on-site, on-line seminars on REACH and regulatory compliance.



Steven Hanft

Typical services supplied to industry include:

- Representation on REACH
- Consultancy for compliance analysis and compliance strategy
- Substance assessment and dossier filing
- Training: on-line webinars, on-site seminars
- Facilitation of 'Substance Information Exchange Fora' (SIEF)
- Cosmetics Directive: Compliance analysis, strategy and dossier preparation
- Regulatory marketing and customer services

For more information and examples of projects contact Steven.Hanft@Acumentia.com 



Acumentia goes green – Early success for our own Environmental Policy

Melanie Brown writes that Acumentia's updated Environmental Policy and Objectives were introduced to delegates at the Annual Conference in September. A questionnaire on office and business practices was completed by members as a part of the first annual review of the impact of our business practices on the environment.

The questionnaire was completed by 15 members and the results indicated a high level of awareness of environmental issues. All the members present worked from offices in their houses, which allows substantial energy saving, ready access to neighbourhood recycling schemes and eliminates regular commuting to work. Energy efficient light bulbs are used by 73% of members, while 67% use recycled stationery. All of us recycle paper and card with more than 80% recycling printer cartridges and electronic equipment. More than 70% frequently send and read reports without printing a hard copy and 80% frequently replace client meetings with conference calls. The vast majority have well insulated offices, reducing the energy requirements for heating. The only area where results were not quite so positive was the percentage frequently using public transport for business (33%). A target for the coming year is to increase use of public transport where possible. Train journeys are more comfortable, less stressful and more importantly allow you to save time by working while you are on the move.



Melanie Brown

For more details contact Melanie.Brown@Acumentia.com 

Lactic Fermentation – from an idea to market reality in just over a year

Alan Robertshaw writes

Rediscovery of a historical product



Funny how an idea gets people excited, grows through the challenges, and finally emerges as a viable business. This, in the space of a year, is what happened when Acumentia became aware of a Canadian team preserving vegetables in a way that most people since the Middle Ages had forgotten about. Lactic acid fermentation was the key and the Canadians, unlike medieval technologists, had studied the complex, mixed-species microbiology involved and were able to produce a standard, freeze-dried starter culture for commercial use. But was the world ready for space age sauerkraut?

Vitality Foods took the plunge

Enter Vitality Foods of Leamington Spa and its MD Simon Gorman. Simon had so much confidence in the value of lactic fermented vegetables and the 'good' bacteria they contained that he secured the rights to sell Canadian starter culture in Europe, and subsequently world-wide. But who would want to buy the finished products, even if the range could include every vegetable known to agriculture, as well as cabbage? Cue Acumentia! Spearheaded by Catherine Side, the Acumentia team of Lindsey Bagley and Alan Robertshaw took a detailed look at the potential market and concluded that prospects were good if a suitable manufacturer could be found to buy the idea (and the starter culture). At this point, Alan was already engaged with SIA SunCrisp, a Norwegian company operating in the Baltic state of Latvia and concerned over what to do with the 50% of its carrots that were the wrong size for its existing market.





Into production

Fast forward 3 months for Norwegian investment in machinery, personnel, training, logistics and not a few anxious moments before the first production batch was complete and shipped for use in the UK fresh snack trade. Next time you tuck into a beef baguette at your local, notice the dramatic lift in the taste as a result of Acumentia's endeavours in bringing this essentially new product to market. For a neat summary of what's involved, go to www.vitalityfoods-eu.com. Note that SIA SunCrisp now has the whole of Northern Europe in which to sell these amazing products and is already experimenting with new variants.

Watch out for further developments since the products have only begun to tap consumers' desires for novelty, taste and advanced nutrition. Alan has linked with fellow member and marketing expert Roddy Kane to drive this forward so the Acumentia teamwork continues. Acumentia has been very pleased to bring a new food product to market – we have the skills and the connections to make it happen!

For more information contact Alan.Roberthshaw@Acumentia.com 



Alan (front) with the Latvians & Norwegians of SIA SunCrisp – October 2008

Business management for clients – Acumentia to the rescue

Assistance at all phases of the business cycle

Acumentia members are expert at all aspects of running a business, with a lifetime experience in companies, and now in running their own successful businesses. In response to market demand, we are now offering tailored services to meet client needs at all phases of the business cycle. During recession, business skills are even more critical, but sometimes clients cannot afford all the necessary skills in-house, or need working teams, as well as individuals, and particularly may need blue-skies thinking to prepare for the upturn.

Case study

Here's an example of Acumentia teamwork:

A manufacturer of wheat and rye-based products was facing fierce competition. His products were losing retailer listings and his business was facing liquidation. And this wasn't even in a recession! Initially he engaged an Acumentia partner to review the manufacturing process, with a view to reducing costs, but it quickly became clear that other components of the business were adversely affecting the process and he called upon the partner to lead a review of the entire company, starting with profit and loss accounting.



Alan Robertshaw

By attending to each separate component and integrating them more closely with one another in a new management structure, involving new recruitment and training, unit cost reduction (the initial objective) was achieved. The company team regained its feeling of purpose and direction. Within 2 years it had regained its market presence, re-established a comfortable return on capital invested and is now expanding into new markets.

For quick access to Acumentia's Business Management Group, contact

Alan.Roberthshaw@Acumentia.com 



Getting ingredients to mix – The wonderful world of colloids

Ian Smith uses his specialist knowledge and practical experience in colloid and interface science, physical chemistry and rheology to help businesses develop processes and products, solve problems and identify and introduce innovative ingredient and process technologies.

Colloids and nanoparticles

While chemists usually study matter at an atomic or molecular level, colloid scientists are interested in the behaviour of larger particles with at least one dimension within the colloidal, approximately nanometre-to-micrometre, size range. With the advent of modern disciplines such as nanoscience and nanotechnology, which focus on the lower end of the colloidal size range (1 to 100 nm), one could be forgiven for thinking that the science of small particles is something new when, in fact, colloid science has been actively researched for more than a century. Colloidal systems abound in nature and in a plethora of manufactured products from many industries. Next time you open a bottle of milk, eat a piece of chocolate, paint your house or use cosmetics, soaps and detergents, remember these are colloidal systems and colloid science provides a means of understanding how they behave and how to manipulate and optimise their properties for a particular function. In fact, it is almost harder to think of examples of materials that are not colloidal than those that are!

Types of colloids

Colloidal particles may be lyophilic or lyophobic. Lyophilic colloidal particles have an affinity for the dispersion medium and spontaneously disperse. Apart from soluble polymers that have a colloidal macromolecule, examples include association colloids such as surfactants or emulsifiers which associate or “self-assemble” in solution to form colloidal micelles and liquid crystals. They are physically stable and do not separate. Lyophobic colloidal particles have little affinity for the medium that surrounds them, they frequently require considerable energy input to disperse and, in most cases, they will ultimately separate from the dispersion medium. The particles may be solid, liquid or gas dispersed in a medium again of solid, liquid or gas; the only combination excluded is gas-in-gas, since all gases are miscible with one another. The most common are dispersions of solid particles in liquid media, emulsions of liquid droplets in another liquid, foams of gas bubbles in either liquid or solid media and aerosols of solid or liquid particles in a gaseous medium.

The science of keeping things together

Much of colloid science has concentrated on prolonging the stability of lyophobic colloids in liquid media particularly dispersions, emulsions and foams. Separation occurs when gravitational and buoyancy forces acting on particles do not balance one another (due to density differences) and the particles move either up or down in the dispersion medium. The bigger the particle, the faster it floats or settles, so small, colloidal particles usually separate quite slowly. This effect is compounded by attractive colloidal interaction forces between particles which tend to cause the formation of larger units by flocculation and coagulation of the particles and additionally by coalescence of liquid and gaseous particles. In some instances this may further hasten separation, if the aggregates are large and separate, but flocculation can also enhance stability if the flocs form a space-filling network. These interactions have a major impact on the flow behaviour and elasticity of these colloidal systems which can greatly affect their performance in processing and manufacturing and in the final product. Conversely, rheological techniques along with many others such as microscopy, can be used to probe and understand the magnitude of these interactions and the microstructure of the system.

And making lyophobic colloids stable

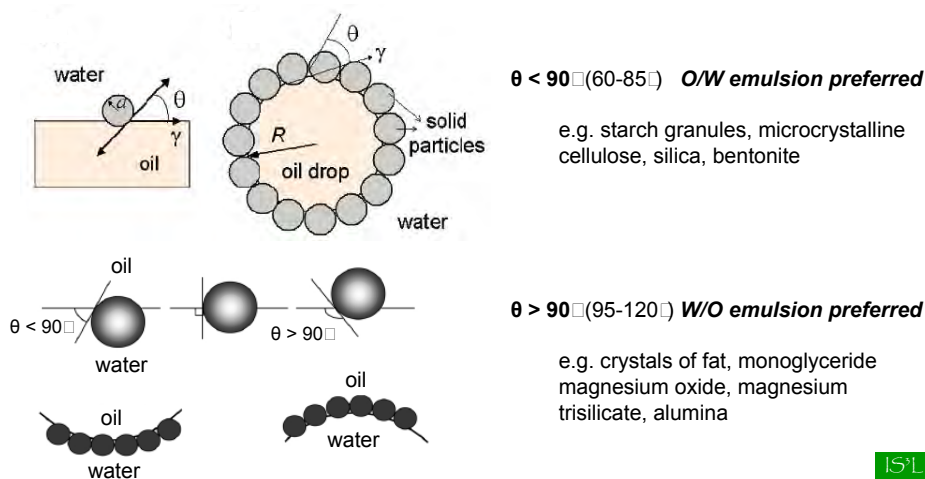
Colloid scientists try to improve stability by ensuring that there are counteractive repulsive forces between particles that prevent them from reaching small separation distances where the net attraction would be strong. Generally, this is done by conferring an electrical charge on the particle surfaces (electrostatic repulsion) or by adsorbing part of a large molecule such as a polymer on the surface whilst the rest of the molecule extends out into the dispersion medium and acts as a steric barrier (steric repulsion). For example, in the chocolate industry, the viscosity of molten chocolate can be substantially reduced by the adsorption of small amounts of emulsifiers such as lecithin onto the dispersed particles which reduces the degree of



flocculation via steric repulsion. In the food and cosmetics industries, the use of emulsifiers is often discouraged and this is promoting more effort into developing so-called Pickering emulsions which are stabilised by the adsorption of even smaller solid particles at the interface between the two liquids.

Pickering emulsions

Small, solid particles can be used to stabilise emulsions by adsorption at the interface between the liquids. Whether oil-in-water (O/W) or water-in-oil (W/O) is preferred depends on the contact angle θ (measured in the aqueous phase). This describes the wettability of the particles by each liquid at the interface.



What else, and what's new?

There is still a wealth of lyophilic colloidal systems including polymer solutions, emulsifier systems and gels which I could also tell you about. In particular, there are some very interesting new gelling agents for organic media such as oil that are emerging. As I hope you will realise from reading this article, colloid science is extremely powerful and is highly relevant and applicable to industry both in product and process development and in solving manufacturing problems. Unlike many other areas of science where pure, simple systems are the norm, there is no fear of dealing with complex, real systems in colloid science!

A tribute to a founding father

Finally, the colloid science community sadly lost a major, internationally recognised proponent and contributor this year. Ronald Ottewill, FRS, former Leverhulme Professor of Physical Chemistry at the University of Bristol, died on 6th June 2008, aged 81 years. He played a major role in setting up an MSc course in Colloid and Surface chemistry, establishing the University of Bristol as a world-class centre for colloid science research and collaborating extensively with industry. Over 100 former students, fellow academics and industrial collaborators paid tribute to his life and work at his memorial symposium on 19th November 2008. Personally I will always be indebted to him for introducing me to colloid science as an undergraduate and for being my PhD supervisor.

Contact lan.smith@acumentia.com for more details.



Ian Smith



Special Feature Article

Savoury flavours – the challenges in formulation

Savoury flavourings is a growth market which is predicted to increase significantly over the next 5 years in-line with the rapid growth of the consumption of meat products. The Food and Agriculture Organization (FAO) report^{1,2} that global consumption of meat is estimated to rise from 250 million tonnes per annum to 300 million tonnes by 2020 and over 450 million tonnes by 2050. The graph shows that most of this growth is in developing countries with meat consumption in developed countries levelling off. The supply of ingredients to support this market will grow in tandem with meat consumption and will have a major impact on savoury flavours.

A second factor which will influence the supply of savoury flavours is the soaring price of food products and the efficient use of meat will drive the market for ingredients that can extend its application and make better use of off-cuts and parts of the animal that are currently out of vogue.

A third area of increasing importance is the growth of aquaculture and the farming of fish. This technology is going through a revolutionary phase with annual growth at 6% and in 2006 over one third of all fish consumed, representing around 46 million tonnes, was farmed. More species, both fresh and salt water, are being successfully added to the portfolio of fish being farmed and the FAO³ see this as crucial in the fight against hunger and estimate that production will need to double by 2030 to keep pace with a growing world population. By comparison around 90 million tonnes of caught fish is consumed globally and this has been stable since 1980 and, due to pressure on marine ecosystems, this is predicted to remain at this level for the foreseeable future. By 2030 meat and fish consumption will be around 500 million tonnes per annum.

The growing demand for savoury flavourings

The rapid growth in the consumption of meat in developing countries, especially China where pork and chicken are in great demand, will have a very positive knock-on effect on savoury flavourings and seasonings. Many of the world's flavour houses are building manufacturing capability at both ends of this great continent, in Singapore and Shanghai, to supply this market. The Indian sub-continent is another important developing region going through colossal economic growth. They now have a new middle class of around 350 million people who work long hours and at the end of a working day are looking for convenience foods. The 'modern trade' as they call it, i.e. supermarkets, are establishing themselves in India but at the moment only around 2% of food is supplied through these outlets but this is predicted to grow to 50% within 10 years. In addition, all the relatively smaller countries in South East Asia offer significant growth markets for savoury flavourings.

The challenges facing the supply and formulation of savoury food ingredients to these regions is immense and will place great demands on the creativity and skills of flavourists in both the flavours and the seasonings industries worldwide. Flavourists will have to understand and respond to the regional variations in taste, and develop products that meet market needs. To achieve this the ingredients in greatest demand will be process reaction flavours, natural extracts, yeast extracts, hydrolysed vegetable proteins, topnote flavourings, enzyme digests, fermented products, and spice and herb extracts and oleoresins.

Rising food prices

The sustainability of the global food supply and the food security of millions of people are under threat as the demand for food products outstrips supply. The rising costs of food and food ingredients are putting food manufacturing margins under pressure and excessive value engineering could end up damaging products and brands. This is a major challenge confronting flavourists whose role is to provide taste and character within new and tighter cost constraints. The demand for natural flavourings driving the market will be balanced against the high cost of these ingredients compared to more cost effective savoury ingredients, such as nature identical topnotes and process reaction flavours. The technologies and food additives exist to help manufacturers to produce quality products at a lower price and pressure will be on them to reformulate existing products or develop new products with a lower cost base and possibly to compromise their natural claims.



Natural savoury flavourings

In the developed west the drive by the food industry (led by the large retail groups for what are known as 'clean label' products) will continue, and the demand for natural flavourings will increase, especially in developed countries and as retail groups spread globally. However, faced with an increasing demand for waste reduction, improved carbon footprint and rising prices, food manufacturers and retailers will be faced with a requirement to reduce losses in the food chain and improve the shelf life and stability of consumer products. This may herald a return to cheaper food additives and preservatives for certain brands, especially those which can claim a natural status. The formulation of natural savoury flavourings is a real challenge to flavourists, especially in Europe where process flavourings, for example, cannot be called 'natural', and new legislation will exclude the term 'nature identical'. A very interesting phenomenon has developed in the world concerning the term 'nature identical'. It has recently been incorporated into new legislation in Australasia and South America but when the new European legislation is adopted we will find that south of the equator the term 'nature identical' will be in common use but north of the equator it will not be used at all.

Enzyme technology is being increasingly used to produce natural ingredients which can be flavours in their own right, or raw materials for further use in process flavours or blending into compound flavourings. The growing sophistication of enzyme systems is providing new opportunities for creating natural flavours, and this is where unique ingredients are also of great benefit. These may be local foods and ingredients which will add a regional influence into flavourings. It will be difficult for competitors to copy local flavours, and this is one way that smaller flavour companies can protect their local markets against the power of the big global players.

Matching savoury flavours

The savoury flavour market is highly competitive with the large global giants dominating and with smaller regional companies competing within their territories. The matching of flavours is now very much standard practice in the flavour industry and is leading to the erosion of flavour margins and profitability. The cost of the technology – mainly mass spectrometry, is well within the grasp of the smallest of flavour companies and to protect against this, complex flavours such as process flavours are being increasingly used to safeguard formulations. It is very difficult to copy a process flavour because the raw materials employed have largely been used up and the analytical profile is very complex, containing hundreds of compounds formed in the reaction. Topnote flavours can be incorporated into process flavours protecting their identity and making them difficult to detect by analysis against the multitude of other compounds present. The flavourist's job then is not merely to achieve the flavour target and meet the customer's requirements it is also about protecting the identity of the formulation making it difficult to copy.



Working with regional flavour companies

Legislation

Flavourists have no choice but to operate within the legislative framework operating within their target markets. Therefore it is imperative that they are fully informed and have a working understanding of the limitations that such legislation imposes upon their work. We cover these aspects in our training courses, including the global context.

In the USA process flavours have not been legally defined and are considered as GRAS (Generally Regarded as Safe), and manufacturers comply with the IOFI Code of Practice which provides detailed advice on the ingredients, processing conditions and labelling of process flavours. Under these guidelines, process flavours are either natural or artificial, depending on whether natural materials or artificial raw materials are used in their manufacture. In Europe the situation is very different and process flavours cannot be natural. They are defined in a special category as simply 'process flavourings' and the definition requires that they are manufactured using a source of amino nitrogen and a reducing sugar. New regulations expected to come into force by around 2012 will change the situation and 'thermal process flavourings', as they will then be called, will



be either derived from 'food' and/or 'source material other than food'. If they contain any of the latter, they will have to be approved. It is not yet known what this will entail but it is most likely to include toxicological studies on animals and hence be very costly. The same conditions will also apply to new legislation concerning precursor flavours and the definition of food is therefore key to determining which ingredients will be classified as 'source materials other than food'. It is not yet clear which ingredients will fall into this category. Consequently, in advance of the new regulations, manufacturers of process flavourings are converting them to flavouring preparations which by definition are natural. This will necessitate that natural materials are used in their manufacture and that the flavour is produced using a traditional food process such as cooking, roasting, grilling, baking or frying. There is also a very curious new definition of the conditions required to produce thermal process flavourings which could be interpreted to mean that they cannot be manufactured below 125°C. Clearly the proposed new legislation has not been thought through, and this represents a real challenge facing the creativity and ingenuity of flavour chemists and flavourists in Europe and those supplying products into Europe.

One of the few other places in the world where process flavourings are regulated is in the Mercosur countries of South America; Argentina, Brazil, Paraguay and Uruguay with a new law in December 2006. Their definition of process flavours is an amalgam of the European legislation and the IOFI Code of Practice and they can be either natural or synthetic depending on the raw materials used. The legislation being applied here takes the best from both worlds and is far in advance of the impending new European legislation.

Training savoury flavourists

The training of a savoury flavourist takes many years and is never really complete. To be successful the flavourist must rely on experience, judgement, flair and intuition plus an extra 'spark' of creativity. Unlocking the creative potential of a flavourist is crucial to all flavour companies and few training courses are available that provide some of the elements of the basic training such as process reaction flavours, topnote blending and applications. A completely new course launched this year in the UK will address this gap and span savoury flavours from the chemistry and technology through formulation to application, covering all the essential ingredients used on the way. The course will give flavourists a chance to step outside their normal daily activities and really focus on the components and construction of a savoury flavour. They will have the opportunity to go back to basics to examine the interaction between the components and study synergies and clashes, understand how a flavour functions in the final food product and trace that performance back to the individual components within the formula. An essential element to this course is a session on creativity. There is much talk about the creativity required to become a successful flavourist – this course will offer techniques that the flavourists can take back to their company and enhance their development programmes with a fresh impetus.



Dave and team on a training course

For more information contact Dave.Baines@Acumentia.com 

- 1 Stenfeld, H. et al. (2006) Livestock's Long Shadow – Environmental Issues and Options. UN Food and Agriculture Organization, Rome.
- 2 Delgado, C. et al. (1999) Livestock to 2020: The Next Food Revolution. 2020 Brief No. 61. International Food Policy Research Institute, Washington, DC. See www.ifpri.org/2020/BRIEFS/number61.htm
- 3 FAO (2006) State of World Aquaculture 2006. FAO Fisheries Technical Paper No. 500. UN Food and Agriculture Organization, Rome. See www.fao.org/docrep/009/a0874e/a0874e00.htm



Dr Dave Baines



IFST Annual conference – Acumentia contributes

Acumentia member Dr Dave Baines is driving the organising committee on this important meeting next April on Sustainability – A Challenge to the Food Industry. Catherine Side is contributing a talk on Sustainability in the Sea.

For any further information please contact Catherine.Side@Acumentia.com 

See page 12 for full details

Acumentia Ltd is the commercial arm of The Virtual Consulting Group, a collaborative, multidisciplinary association of nearly 40 senior bioscience consultants who share common business strategies and ethics, working to a stated Code of Practice. The members' business skills cover a very wide range of activities which are detailed on the website www.acumentia.com. Teams are formed for collaborative projects, which are delivered through Acumentia Ltd, a straightforward and efficient business interface. Building on 14 years' experience of operating as a consultants' network, Acumentia Ltd can call on a large number of experienced people with a great breadth of in-depth knowledge. All members have their own industrial and academic networks, which together make up a network of networks. Acumentia Ltd was created in September 2006, and the Virtual Consulting Group in 1994.

This is the fifth in a series of newsletters keeping you up to date with developments at Acumentia Ltd.

Your feedback would be greatly appreciated!

Please contact Catherine.Side@Acumentia.com

Catherine Side, MA MSc FIFST





IFST Annual Conference and AGM – 2009

Thursday 23 April 2009 - Conference Dinner – A Welsh Banquet at Cardiff Castle Dungeon

Speaker : Elin Jones AM, Minister of Rural Affairs, Welsh Assembly
Subject : The Role of Government in Sustainability

Friday 24 April 2009 - Conference - Sustainability - A Challenge to the Food Industry

UWIC Food industry Centre, Llandaff Campus, Cardiff CF5 2YB

- 8.15 Registration with Coffee and Trade Exhibition
 - 8.50 Welcome and Introduction
John Prosser - Conference and Session Chairman - Abergavenny Consultancy
 - 9.00 Farming and Food – has it a sustainable future?
Sir Donald Curry –Past Chairman of the Sustainable Farming and Food Policy Group of Defra
 - 9.30 Opportunities for Industrial Uses of Renewable Materials
Professor Peter Lillford - Director, The National Non-food Crops Centre, York
 - 10.00 Sustainability – ‘There’s no Plan B’
Sue Bell – Head of Technology for Fresh Foods, Marks & Spencer
 - 10.30 Coffee Break, Trade Exhibition and Students' Research Posters
 - 11.00 Sustainable Animal Health - Evolution or Revolution
Derek Armstrong – Senior Veterinary Scientist, Agriculture & Horticulture Development Board
 - 11.30 Cider – Leading the Way in Sustainability
Richard Heathcote – Head of Sustainable Development – Bulmers/S&N/NACM
 - 12.00 - 13.30 Lunch Break, Student Posters and Trade Exhibition
 - 12.00 - 13.15 Buffet Lunch
 - 12.30 - 13.15 IFST AGM (Members only)
 - 13.30 Presentation to Winner of Students' Competition
 - 13.35 Organic Production and Processing - Role in Sustainability and Security
Patrick Holden - Director, The Soil Association
 - 14.00 Neptune's Larder - Sustainable Marine Resources
Catherine Side - Inside Consulting
 - 14.30 The Role of Genetic Engineering in Food Sustainability
Dr Ray Elliott - Syngenta
 - 15.00 Tea Break, Trade Exhibition and Student Posters
 - 15.15 Purple Goes Green
Ian Walsh - Head of Global Environment, Cadburys
 - 15.45 Harnessing Energy for Production from Food Waste Stream Output – Polygeneration Systems
Doug Marriott - Doug Marriott Associates
 - 16.15 Panel Session
 - 16.45 End of Conference
- Tours of UWIC Food Industry Centre will be available during the day

I would like to attend the following (please tick box to indicate attendance or number of tickets required)

IFST AGM on 24 April 2009 at 12.30

All Fellows and Members are eligible to attend the Institute’s AGM and there is no charge or registration fee for IFST members attending only this part of the day.

Conference Dinner on Thursday 23 April 2009 (A Welsh Banquet) at 19.30 £30.00

I would like a pre-dinner tour of Cardiff Castle £ 3.50

Conference Day Delegate Rates on Friday 24 April 2009 (includes refreshments and buffet lunch)

IFST Conference attendance: Non-members £75.00

IFST Conference attendance: IFST Members £55.00

IFST Conference attendance: Students £25.00

Total amount payable £ _____

I would like a list of hotels in Cardiff I would like minibus transport from the Castle to UWIC on Friday am and pm

Title _____ First Name _____ Surname _____

Position _____ Organisation _____

Address _____

Post Code _____ Telephone _____ E-mail _____

Please state any special dietary/disability requirements _____

Please send your cheque (payable to IFST Western Branch) and completed registration form to –

Peter Sampson, 1 Britway Road, Dinas Powys, Vale of Glamorgan CF64 4AF

If you need further information please contact peter@albafsc.co.uk