



New member-funded research is addressing industry's need to anticipate and respond to regulatory and technical changes, such as approval of new ingredients or approval for existing ingredients to be used in new categories.

For the food and drink industry to remain innovative and competitive it is essential that it remains aware of emerging ingredients to allow market differentiation. There is also a need to identify new solutions for delivering nutritious products that meet dietary needs and to reformulate to remove allergens (e.g. dairy- or gluten-free). However, as new ingredients emerge into the market, or enter from other regions such as Asia and the US or from different product applications, there is a need for clear information on if and how they can be used in specific products. In short, what new ingredients are available, what products are they allowed in, and will they work?

This project is already providing members with information on a wide range of ingredients emerging worldwide and their potential use, as seen with the recent publication of two research reports\*. A mixture of desk-based work, analytical testing and practical trials (bench-scale development and small scale feasibility trials) will continue to evaluate how ingredients perform within a range of systems.

\*R&D 408 and R&D 409 - see  
[www.campdenbri.co.uk/research/reports.php](http://www.campdenbri.co.uk/research/reports.php)

## Emerging ingredients - considerations for use in products

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# With industry, for industry

Using our close links to the food and drink supply chain, we work hard to ensure the industrial relevance of everything we do. We now have over 2,400 member companies in more than 75 countries, so you are in very good company. This month many of you are being asked to vote for research. But are you aware of the full range of exclusive benefits available to you through your Campden BRI membership? Are you using your Member Service Account (MSA)? Each year we credit your MSA with 20% of your membership fee, which you can use to pay for other Campden BRI services.

Do you know that you can contact our experts for free unlimited short enquiries when you need advice and support? You also receive generous discounts on project work, services, database subscriptions, training and publications.

All full members of Campden BRI are eligible to participate in our free member interest groups (MIGs), which provide opportunities to network with other members and discuss key industry issues. Members of our MIGs also steer our research programme and are the first to hear results of these projects.

These are just a few of the benefits available through your Campden BRI membership. For more details or to find out about the other exclusive benefits available to you, please visit the members area of our website or contact [membership@campdenbri.co.uk](mailto:membership@campdenbri.co.uk).

Steven Walker, Director General

2



## New Directors at Campden BRI

We are delighted to welcome two new Directors to Campden BRI. Richard Akkermans (*left*) has recently taken over as the new Director of Technology, while Chris Allen (*right*) is the new Finance Director. Richard was previously at McCormick UK Ltd, while Chris comes to us from EDF.

## Switch channel



**LinkedIn** - company news  
[www.linkedin.com/company/campden-bri](http://www.linkedin.com/company/campden-bri)



**YouTube** - videos on the science and technology of food and drink production  
[www.youtube.com/campdenbri](http://www.youtube.com/campdenbri)



**Twitter** - keep up to date with our latest news and activities  
<https://twitter.com/campdenbri>



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[www.facebook.com/campdenbripage](http://www.facebook.com/campdenbripage)



## Campden BRI at Lab Innovations

Once again we will be heavily involved in events at the Lab Innovations exhibition, which takes place on 2-3 November, at The Pavilion, NEC, Birmingham.

As well as three hands-on presentations:

- The Bug Tucker Challenge - featuring the creation and manufacture of "microbial" foods
- From the lab to the label: salt, sodium and other elements - looking at analysis of sodium and other metals
- Tastes great - prove it! - investigating the world of analytical sensory science

we are also running two seminars:

[Current Challenges in Food Microbiology](#) on 2 November will cover advances in analysis and testing of food and drink, geared towards providing manufacturers and regulators with quicker ways of producing precise results

[Food Microbiology Method Testing: validation versus verification](#) on 3 November will look at the role of MicroVal (the independent microbiological test method certification scheme), the benefits of method testing and certification, and the detail of the standard that is used to validate and verify test methods.

Book on these at [www.campdenbri.co.uk/training.php](http://www.campdenbri.co.uk/training.php) to get access to the Lab Innovations Expo.

## Recent blogs on the web

[www.campdenbri.co.uk/blogs/campdenbri-blogs.php](http://www.campdenbri.co.uk/blogs/campdenbri-blogs.php)

[Analytical methods - using GC-MS to assess wine quality](#) by Geoff Taylor

[Pasteurisation of novel alcoholic beverages - striking the right balance](#) by Chris Rice

[Calling time: dynamic sensory methods](#) by Peter Burgess



## Proficiency in the microbiology laboratory

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In the food industry, major decisions are made on the basis of analytical results. But how do you know if results are valid? The well-established Campden Microbiology Proficiency Scheme is designed to allow laboratories to measure their performance in terms of how accurately they can recover and record known levels of microorganisms.

But now, it not only offers you a way of testing the performance of your laboratory, it can also help you when things are causing you problems, and results are not as good as you would like them to be. In our one-day laboratory consultancy service, we can visit your microbiology laboratory to assist with trouble-shooting issues or training. Proficiency scheme manager Fiona Cawkell explains:

*"Our on-site customised training/trouble-shooting is provided by skilled microbiologists with the full backing of our breadth and depth of expertise. We can help in sample handling, aseptic technique and general laboratory procedures, as well as quality control issues. This will allow you to have several members of staff trained at once, and at a time to suit your busy laboratory itinerary. You can be confident that you are getting assistance in microbiology proficiency issues from experts with problem-solving expertise and practical experience."*

[www.campdenbri.co.uk/microbiology-courses.php](http://www.campdenbri.co.uk/microbiology-courses.php)

## Wine profiling with GC/MS

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The world wine industry is currently going through a very innovative phase at virtually all stages, from the grape to the consumer, using different fermentation techniques, different yeast strains, ageing, and wood treatment, amongst others. There are also options regarding final treatments prior to bottling, filtration package closure, storage in cellar, transport and storage at point of sale. All impact on the flavour and quality of the wine, and Gas Chromatography Mass Spectrometry (GC/MS) is being increasingly used to profile products.

### Identifying problems

We frequently help our clients in the wine industry to identify why a problem has arisen, such as a taint, a flavour or aroma defect, a sediment or haze or simply capping of aroma or flavour. Sensory assessments are a valuable tool, but we are frequently involved in disputes between companies, and sensory analysis may have restricted use in these situations. Answering questions such as who is responsible for an issue and identifying whether the problem lies with the producer, transporter/shipper or importer requires state-of-the-art science.

GC/MS is a powerful technique which separates and identifies key components within the wine down to nanogram per litre levels. Both aroma and flavour

compounds are separated and identified. Then, by overlaying chromatographic profiles, changes within a wine can be monitored. There is also the option of a second mass spectrometer, which splits the individual molecules in order to achieve even greater sensitivity and specificity. We also use the very latest technique, time of flight (ToF/GC/MS), which enables us to detect and identify unknown or unexpected compounds within wine without the need to know in advance what we are looking for.

As an example, some pleasant primary aroma compounds can be shown to increase; others, possibly unpleasant, increase while some compounds denature and others





may appear. Utilising the overlaying technique by graphical representation, differences can relatively easily be visually demonstrated.

### Examples: variety, vintage, heat damage

- In a Sauvignon Blanc blended with a cheaper variety, one batch was much less aromatic and shown to have less Sauvignon Blanc in the blend.
- An imported wine was tasted on receipt and found to taste tired/old. GC/MS profiles were compared (buying sample versus imported stock) and different compounds, which were markers of heat damage, were detected in the suspect stock. This highlights how important it is to store wines correctly and care should be taken when exporting. Excessive heat can dramatically reduce wine quality and shelf life.
- A major branded variety was compared against its competitors in order to try and identify points of difference. Variables were minimised by using freshly bottled wines from the same vintage at the same time point. Differences were noted.

The potential of profiling wines using GC/MS is significant and used correctly it should be a considerable asset to the developing UK industry.

## Geoff Taylor heads up new viticulture group

A new viticulture consortium has been established to provide underpinning research to the rapidly growing UK quality wine sector. Headed up by Campden BRI's Geoff Taylor, it comprises NIAB EMR and the leading UK vineyards Chapel Down, Nyetimber and Gusbourne.

The [East Malling Viticulture Research Consortium](#) will build on the industry's existing achievements through focused research and development aimed at improving quality, reducing costs and creating a globally recognised UK science-based viticulture sector.

Geoff, who has been involved with the UK wine industry since 1988, commented: *"Campden BRI is the approved laboratory for the UK's PDO and PGI wine schemes. This privileged role has given us an almost unique insight into how UK wines have evolved, both technically and analytically, showing that these two disciplines are intrinsically linked."*

*As the research projects proceed, both grapes and wine will be produced that will require technical and sensory assessment; our experience will be essential to ensure that this work is performed to the highest standards."*



## Training Academies

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In addition to our comprehensive range of training courses and conferences, we help companies to develop bespoke Training Academies. Bertrand Emond explains:

*"We work closely with client organisations, to help them to plan technical training and provide learning opportunities for their Continuing Professional Development programmes.*

*There are many aspects to technical training, which includes not only food safety, innovation and quality management, but everything from food hygiene and food manufacturing technologies, through food legislation and labelling, to consumer and sensory science, and nutrition and health issues. With our breadth of understanding of the practical application of food science and technology, we are ideally equipped to help you to build your technical training plan through a Training Academy."*

Contact us to set up an initial meeting with your key technical training personnel to establish the scope of training requirements and learning outcomes being sought.

## Training courses

A full list of scheduled courses is available on our website [www.campdenbri.co.uk/training.php](http://www.campdenbri.co.uk/training.php) or request a booklet from [training@campdenbri.co.uk](mailto:training@campdenbri.co.uk) +44(0)1 386 842104

### Early November events

- 1-3 Cake science and technology
- 1-2 Internal auditing - principles and practices
- 1 Sugar reduction in foods
- 1-2 Understanding microbiology
- 2-3 An introduction to food law
- 8 Biscuit - practical skills
- 8 Sensory evaluation - an introduction
- 8-10 Thermal processing validation
- 9 Food law - food improvement agents package
- 9-10 HACCP - intermediate (level 3)
- 11 Thermal processing - quality optimisation
- 14-18 FSSC 22000 Auditor/Lead Auditor course
- 15-16 Food and drink labelling
- 15 Pastry - practical skills
- 15-18 Safe production of heat preserved foods - the essentials (including principles of canning)
- 16-18 Cereal science and technology

## Microbiology training at Campden BRI

[www.campdenbri.co.uk/microbiology-courses.php](http://www.campdenbri.co.uk/microbiology-courses.php)

**Practical microbiology - advanced**, 18-20 October. For senior microbiologists and senior laboratory personnel wishing to under-pin and further their knowledge of management system issues.

**Understanding microbiology**, 1-2 November. For those making decisions about any aspect of food manufacture, distribution and sale, who have no microbiological training.

**Practical microbiology - intermediate**, 7-9 December. Will give an in-depth knowledge of food microbiology and the factory environment.

[www.campdenbri.co.uk/training.php](http://www.campdenbri.co.uk/training.php)

## Member zone

[www.campdenbri.co.uk/memberzone.php](http://www.campdenbri.co.uk/memberzone.php)

to access privileged member information and services

## Surrogate microorganisms for heat process validation

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Recent member-funded research has enabled us to further expand the range of suitable surrogates available for our services in validation of antimicrobial processes and to extend the range of food types and applications for which these may be used. In the research, comparative inactivation data was determined for the target organisms *Salmonella*, *Listeria monocytogenes*, *Bacillus cereus* and preservative-resistant fungi and for a matrix of candidate surrogate microorganisms. This data provides supporting evidence of the applicability of appropriate surrogates in different food processing scenarios.

[Selection of surrogate microorganisms for heat process validation](http://www.campdenbri.co.uk/research/heat-process-validation.php) (RD410) is available on the project website [www.campdenbri.co.uk/research/heat-process-validation.php](http://www.campdenbri.co.uk/research/heat-process-validation.php)



7

## Still time to vote!

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Your subscriptions fund our Research Programme, and each year we put forward a range of projects for you to vote on. Electronic voting forms have been sent out to all member voting contacts. If you haven't yet voted, there is time - **voting closes on 14 October**.

## 2017 MIG dates

Agri-Food	19 January	27 April <sup>3</sup>	5 October
Brewing and Fermented Alcoholic Beverages	25 January <sup>2</sup>	31 May	18 September
Cereals, Milling and Baking	2 February	25 April	10 October
Chilled and Frozen Foods	17 January	3 May	20 September
Food and Drink Science	10 January	18 May	12 September
Food Service	26 January <sup>2</sup>	9 May	28 September
Heat Preserved Foods	31 January	10 May	27 September
Manufacturing Technologies	9 February	23 May	26 September
Meat and Poultry	18 January	4 May	21 September
Nutrition and Health	8 February	17 May	4 October
Microbiology	11 January	11 May	13 September
Packaging	1 February	24 May	12 October
Quality and Food Safety Management	12 January	25 May	14 September
Sensory and Consumer	7 February	16 May	3 October

All meetings will be held at Chipping Campden, except London<sup>2</sup> and Leamington Spa<sup>3</sup>.

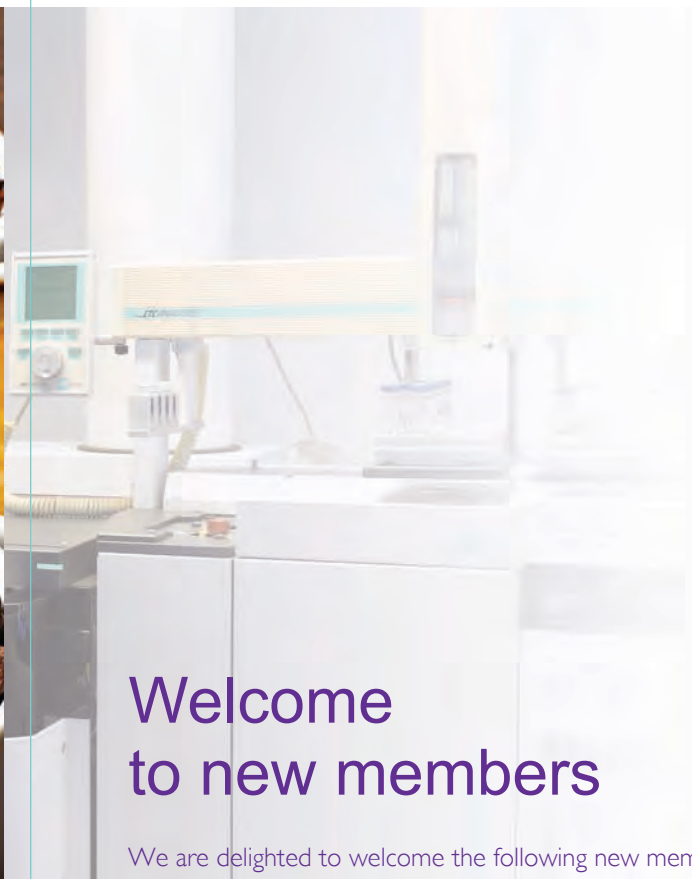


## Benchmarking through chemical analysis

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Food and drink companies frequently want to answer questions such as: What makes our product different from those of our competitors? or What has changed in our product that has altered its sensory characteristics and/or its acceptability to consumers?

Allying our state-of-the-art analytical equipment (Time-of-Flight Gas Chromatography/Mass spectrometry - GC-QToF-MS) with sophisticated statistical analysis software is allowing us to do just that. We can compare key components in a product such as orange juice, wine or coffee, and see how they differ from those in a similar product - be it a competitor's version or another batch from the same company. Product and flavour expertise can then be used to determine which of the differences are of significance. As such, it is an ideal tool for a variety of benchmarking and quality control exercises.



## Welcome to new members

We are delighted to welcome the following new members:

- Blue Sky Botanicals Ltd - manufacturer of botanical extracts
- Dr Pepper Snapple Group - bottler and distributor of soft drinks
- Extons Foods - slicing and grating of MAP and vacuum packed cheese
- Hellofresh - provider of fresh food and recipes for home delivery
- Label Express Ltd - manufacturer of self adhesive labels
- Peter's Yard Wholesale Ltd - producer of Swedish crispbreads
- Rummo S.p.A - manufacturer of semolina pasta
- Valeo Eat - start-up business manufacturing energy balls
- Veg & City Drinks Ltd t/a Savse Smoothies - producer of cold pressed smoothies and juices.

**Clare Brett** +44(0)1386 842125 [membership@campdenbri.co.uk](mailto:membership@campdenbri.co.uk)

*Please notify the Membership Department of any name or address changes to allow us to keep our records up to date.*

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For other sites, see  
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