

UK Mass Spectrometry Vision

Prof. Peter O'Connor, Dr. Jackie Mosely, Dr. Tony Bristow,
Dr. Anneke Lubben, Dr. Gavin O'Connor, Dr Ashley Sage

Background

- A changing landscape of MS innovation/application and funding in academia and industry.
- The reduction in community support for a single centralised MS Facility, resulting in the cessation of funding of the EPSRC National Mass Spectrometry Facility in Swansea.
- Regular UKRI investments in local/regional MS capability and large initiatives e.g. Royce and RFI.

EPSRC Request

EPSRC approached BMSS to review and project the needs and utility of mass spectrometry in science, academia, industry and society over the next 5 or even 20 years.

Goal

Produce a community backed, evidence based, vision for the future of mass spectrometry in the UK, to support UKRI/UK government in future business planning, prioritisation and resource allocation.

Key Drivers that include

- The Industrial Strategy themes: ideas, infrastructure, business environment, people, place.
- Accompanying Life Sciences Industrial Strategy priorities.
- MS expertise as an incentive for businesses to invest in R&D in the UK.
- MS strengths in knowledge transfer and innovation in the UK resulting in real economic benefit.
- Need for trained technical staff, with sustainable career pathways to develop MS expertise.

Progress

BMSS executive committee appointed a subcommittee (listed above) to develop a 'Vision Document' for mass spectrometry in the UK.

Sub-committee activities:

- i. Developed and shared an iterative questionnaire and consultation (Delphi Study) with a diverse panel of experts (academics, non-mass spectrometry academics and industrialists) to understand the UK MS landscape and its requirements.
- ii. First round of questions focused on the best way to deliver mass spectrometry, subsequent rounds of questions focussed on funding models.

Output to date *(Delphi Method Reference: Information & Management Volume 42, December 2004, Pages 15-29)*

- Delphi round 1 complete and reviewed - 5 operation classes or tiers identified.
- SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis performed on the 5 tiers of access and funding models that are under consideration for the UKRI vision document:
 - Tier 0: Portable, robust, automated devices for non-experts.
 - Tier 1: Single group equipment.
 - Tier 2: Local/Regional facilities.
 - Tier 3: National Centres of Excellence.
 - Tier 4: A single national mass spectrometry facility.
- Delphi round 2 probed how these tiers could be financed, supported institutionally and staffed - complete and under review.

Developing the Message for EPSRC

Mass spectrometry is a major analytical measurement technology which is (i) critical to a well-founded lab, (ii) strategic to all aspects of molecular science in chemistry, physics, engineering, biochemistry, biology, medicine, clinical and pharmaceutical, forensics and security/safety, (iii) pivotal across academia, government/institutions and UK industry.

What do we want from the delegates at BMSS40?

Your input and feedback on this activity during and following BMSS40.