

CV: PROFESSOR JOYCE TAIT, CBE, FRSE, FSRA, D.UNIV(OPEN), PHD., BSc (HONS)

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Career Overview

With an interdisciplinary background, covering both natural and social sciences, I have specialised in innovation-governance-stakeholder interactions in life science and related areas, including cell therapies and regenerative medicine, synthetic biology, pesticides and GM technologies, drug development, stratified and translational medicine, and biofuels, for example:

- strategic and management decision making in companies and public bodies
- policy analysis, risk assessment and regulation
- stakeholder attitudes, science and risk communication
- evaluation and application of interdisciplinary research
- sustainable development.

Education and Qualifications

BSc (first class honours) in Pharmaceutical Chemistry, Glasgow University (T. and H. Smith Prize for Pharmaceutical Chemistry).

PhD, Department of Land Economy, University of Cambridge, *Factors Affecting the Production and Usage of Pesticides in the UK.*

Honours

2009 Honorary Doctorate, Open University

2006 Fellow of the Royal Society of Edinburgh

2005 CBE for services to social science

2005 Fellow of the Society for Risk Analysis

Employment

2014	The University of Edinburgh, Professor and Director, Innogen Institute
2007 – 2014	The University of Edinburgh, Professor and Scientific Adviser, Innogen Centre/Institute
2002 – 2007	The University of Edinburgh, Professor and Director, Innogen Centre
1998 – 2002	The University of Edinburgh, Visiting Professor, then Professorial Fellow and Director, Scottish Universities Policy Research and Advice (SUPRA) Network
1992 – present	Visiting Professor, Centre for Technology Strategy, Open University.

- 1992-96 Deputy Director, Research and Advisory Services, Scottish Natural Heritage (Civil Service Grade 6).
- 1991-92 Professor of Business Administration: Environmental and Technology Management, Strathclyde Graduate Business School, University of Strathclyde.
- 1979-91: Lecturer, then Senior Lecturer, Systems Department, Technology Faculty, Open University.

External Appointments

- 2015 – 2016 Member, US National Academy of Sciences/National Research Council Committee on Re-programming Non-human Populations using “Gene Drives”: Recommendations for Responsible Conduct of Research
- 2014 – 2015 Member, ESRC/Research Councils UK Working Group on “Antimicrobial Resistance – Setting the Social Science Agenda” and “Scoping Workshop on Antimicrobial Resistance”.
- 2014 – ongoing Member, John Innes Centre Science and Impact Advisory Board.
- 2014 – ongoing AcademiaNet, portal for excellent women scientists.
- 2014 – 2015 Member, Regenerative Medicine Expert Group, Regulation and Licensing Subgroup.
- 2013 – 2014 Member, Scottish Science Advisory Council Working Group on Synthetic Biology
- 2012 – ongoing Member, Governance Committee, Scottish Funding Council project *Industrially generated red blood cells for transfusion*.
- 2012 – 2014 Member, TSB *Stratified Medicine Public Engagement Oversight Group*
- 2012 – ongoing Member and Chair of Governance Subgroup, *Synthetic Biology Leadership Council*, UK Government Department for Business Innovation and Skills (BIS).
- 2012 – 2014 Member, Department of Health *Emerging Science and Bioethics Advisory Committee*, and Chair of its Regulation Subgroup.
- 2012 – 2015 Adviser to Technology Strategy Board in development of its synthetic biology Responsible Innovation Framework
- 2012 Participant by invitation in Road-mapping consultations organised by UK Research Councils and Technology Strategy Board on stratified medicine, synthetic biology and regenerative medicine.
- 2012 Membership of an expert group to develop a ‘strategy refresh’ for regenerative medicine in Scotland, *Regenerative Medicine Scotland – Collaborate, Innovate, Translate*.
- 2010 Member, *Discipline Hopping: Engineering and Physical Sciences and Social Sciences prioritisation panel*, EPSRC. Nov. and Dec. 2010.
- 2009 – 2012 Member, Advisory Board, BEST Stem Cells Project (Biochemically Equivalent Substitutive Technology), EU FP7 Project, Theme Health.
- 2009 – 2010 Member, UK Food Standards Agency Steering Group on UK GM Dialogue, 2010.
- 2009 – 2011 Chair, Nuffield Council on Bioethics Working Party on *Biofuels – Ethical Issues*

2009 – 2011	Member ALLEA (All European Academies) Working Group on 'Evaluating for Science'.
2008 – 2010	Trustee, Scotland Foundation, Royal Society of Edinburgh
2008 – ongoing	Board Member, Roslin Foundation Board
2007 – ongoing	Austrian Academy of Sciences, member of the Scientific Advisory Board of the Institute of Technology Assessment, Vienna.
2006 – 2008	Member of the Governing Council of the Roslin Institute
2004 – 2012	Member of the Scientific and Technical Council of the International Risk Governance Council (IRGC), Geneva
2004 – 2009	Member, Scottish Science Advisory Council
2003 – 2012	Board Member, Scottish Stem Cell Network
2003 - 2004	Member of the Sustainable Food and Farming Research Priorities Group, DEFRA
2002 – 2004	Member of the ESRC Genomics Survey Advisory Board
2002 – 2003	Member, Industry and Science Expert Group, UK Government Cabinet Office Strategy Unit Study on Costs and Benefits of GM Crops
2001 – ongoing	Member, Editorial Advisory Board, Journal of Technology Management and Sustainable Development
2001	Independent Expert, OECD Environmental Performance Review of the UK, recruited by DEFRA.
2001 – 2002	Member, European Union Expert Panel on Regional Technological Development
2001 – 2002	Member, Academic Council, University of the Highlands and Islands Millennium Institute
1999 – 2002	Member, UK Forestry Commission Advisory Panel and Chair of its Environment Sub-committee; also member of the Steering Group for the Forest Research Quinquennial Review.
1999 – 2001	President, Society for Risk Analysis - Europe
1998 – 2002	Member, European Commission Fifth Framework Programme External Advisory Group for Key Action 5, Sustainable Agriculture, Fisheries and Forestry, including integrated development of Rural Areas
1993 – 2001	Member, Commissioning panel for ESRC Risk and Human Behaviour Research Programme, then member of the Steering Committee
1993 – 2000	Member of the Advisory Board of the Graduate School of Environmental Studies, Strathclyde University
1992 – 1996	Member of NERC Terrestrial and Freshwater Science and Technology Board; also member of the Board's Strategy Group

Recent Research and Consultancy Grants (since 1998)

Tait, J. (2015) *Responsible Research and Innovation in the Engineering of Mammalian Systems*, (Co-PI with Jane Calvert) on the Synthetic Biology Research Centre programme, PI Prof. Susan Rosser, CHSS, funded by BBSRC/EPSRC/MRC, Innogen award £530,393.

Tait, J. (2014) *Production of chitosans for use in food and personal care products: Responsible Research and Innovation Component*. Consultancy, funded by Genabler, £3,600.

Tait, J. (2014) *Independent Review on Antimicrobial Resistance: Potential to change the regulatory system*. Funded by ESRC on behalf of the O'Neill Review. £39,769.

Tait, J. (2014-17) (with James Mittra). *Regenerative medicine and its development and implementation: an analysis of emergent value systems and health service readiness*, funded by ESRC. PI Andrew Webster, York University. Total award, £1.5M, award to Edinburgh, £315,430.

Tait, J. (with Castle, D) (2013-14) *Regenerative Medicine Business Models, Venture Capital and the Funding Gap* Funded by ESRC, £64,480.

Tait, J. (2013-18) (Co-I; PI Alan Murray, University of Edinburgh School of Engineering). *Implantable Microsystems for Personalised Anti-Cancer Therapy (IMPACT)*, funded by EPSRC, £4.2M. Total to Innogen Institute, £267,154.

Tait, J. (1/4/13 – 30/12/13) (Co-I; PI David Wield) *Science and Industrial Dynamics of the Scottish Independence Debate*. ESRC, £36,737

Tait, J. (2012-13) (with J. Mittra and M. Mastroeni). *Engaging with Uncertainty and Risk in Agricultural Biotechnology Regulation: Delivering Safety and Innovation*, jointly funded by ESRC and Syngenta, £40,000.

Tait, J. (2011-12) (with D. Castle and A. Bruce) Partners in DEFRA-funded project, *Integrated Advice Pilot Project*, along with ADAS, AHDB and RAND Europe; Edinburgh University Innogen Centre component, £108.5K

Tait, J. (2011) (with D. Castle, A. Rosiello and C. Lyall) *Facilitating Innovation in Scotland*. Funded by Scottish Science Advisory Council, £9,300.

Tait, J. (2010-11) With RAND Europe: *The development of a methodology and application of knowledge exchange and translational research in agriculture and food to a specific product supply chain*. (£11,875), awarded by RCUK/BBSRC.

Tait, J. (2010-11) Technology Strategy Board and Economic and Social Research Council. *A Therapy Realization Pathway Tool (TRPT) applied to three representative regenerative medicine therapeutic products (REALISE)*, £154,000

Tait, J. (2009) Forestry Commission, *Protocol for GM Trials on FC Estate*. £1800.

Tait, J. (2009) International Risk Governance Council. *Risk Governance of Synthetic Biology*. SFR 40,000.

Tait, J. (2007-2008) Economic and Social Research Council, with the UK Department of Health and governments of Wales and Northern Ireland), *Behavioural Responses to Pandemic Influenza in the UK*. £337,000 (with Professor Tony Barnett, LSE.)

Tait, J. (June-Dec. 2007) Organisation for Economic Co-operation and Development (OECD), *BioEconomy to 2030 Project – Health Biotechnologies*, 13,626 Euros

Tait, J. (Oct. 2007-Mar 2014) Innogen Centre Core Grant, (ESRC), £5.2 million (with Robin Williams and David Wield).

Tait, J. (July 2006-March 2009) EC Framework 6 grant, *Riskbridge (Building Robust Integrative Interdisciplinary Governance Models for Emerging and Existing Risks)*. (£57,112)

Tait, J (April-Dec. 2006) European Techno-Economic Policy Support Network (ETEPS) *Lead, Work Package 2, Consequences, Opportunities and Challenges of Modern Biotechnology for Europe – Primary Production, Agro-food.* 80,000 Euros.

Tait, J. (March-Nov. 2005) European Science and Technology Observatory (ESTO) *Animal Cloning and Genetic Modification – A Prospective Study*, £15,867

Tait, J. (Jan-Sept. 2005) UK Office of Science and Technology Foresight Project on Detection and Identification of Infectious Diseases. *Project Lead for Work Package A, The Evaluation of Future Risks*, £159,000

Tait, J. (Nov.-Dec. 2004) UK Office of Science and Technology Foresight Project on Detection and Identification of Infectious Diseases. *Project Lead for Work Package A, The Evaluation of Future Risks*, £11,050

Tait, J. (June-Sept. 2004) *Genetically Modified Crop Production*. Consultancy Report to South West Regional Assembly, £4,994

Tait, J. (Sept. 2004-Mar. 06) Co-operative Management of Intellectual Property Rights. *EC PRIME Network of Excellence Project*. 16,000 Euros

Tait, J. (Sept. 2004-Dec. 2007) The Role of Venture Capital in Promoting High Tech and Science-Based Growth: a New Rationale for European Policy Making. *EC PRIME Network of Excellence Project*. 16,400 Euros.

Tait, J. (Oct. 2003-Sept. 2006) 21st Century Genetic Health (21CGH) *SHEFC Research Development Grant* (Principal Investigator Professor David Porteous), £121940 (Innogen Centre component) (with Sarah Cunningham Burley).

Innogen Annual Conference, 2003. Scottish Executive support, £5000

Innogen Annual Conference, 2003. Support from Agriculture and Environment Biotechnology Commission, £3000

Tait, J. (Jan.-Mar. 2004) Generation Scotland. *Professionalisation of Commercialisation Fund, University of Edinburgh* (Principal Applicant Professor David Porteous). £5180 (Innogen Centre Contribution).

Tait, J. (April 2003-March 2005) Biotechnology Clusters in Scotland. *Scottish Enterprise Research Fellowship*, £60,000.

Tait, J. (Oct. 2002-Sept. 2007) *Innogen: Centre for Social and Economic Research on Innovation in Genomics*, Economic and Social Research Council, £2,061,228 (with Robin Williams and David Wield)

Tait, J. *Guidance Notes on Interdisciplinary Research*, Economic and Social Research Council, £1500 (with Catherine Lyall).

Tait, J. (Jan.-Sept. 2002) *Scottish Agricultural and Biological Research Institutes and Research Organisations Assessment Exercise: Assessment of End Use Relevance*. Scottish Executive Environment and Rural Affairs Department, £86,000 (with John Firm, Catherine Lyall and Ann Bruce)

Seminars on Policy Implementation, Scottish Executive Directorate of Corporate Development, £9400 (with Catherine Lyall)

The Precautionary Principle: its Relevance and Application to the Work of SEPA. Scottish Environmental Protection Agency, £5000.

Risk Management Policy Seminars, Scottish Executive Directorate of Corporate Development, £8,000 (with Catherine Lyall).

Peoples' Values in Relation to Chemicals and Risk Assessment and Regulation, Royal Commission on Environmental Pollution, £11,892

Tait, J. (Sept. 2001-Nov. 02) *Integrating Technological and Social Aspects of Foresight in Europe (ITSAFE)*, EC 5th Framework Programme, STRATA, 225,000 Euros (with Robin Williams)

Development of EC 5th Framework proposal on Multifunctional Forestry, Forestry Commission, £2000.

Tait, J. (Oct. 2000-Sept. 2002) *Interdisciplinary Integration in the Fifth Framework Programme*, Accompanying Measure, Funded by EC 5th Framework Programme, 200,000 Euros (with Robin Williams)

Investigation into ESRC Funded Interdisciplinary Research, Economic and Social Research Council, £12,302 (with Catherine Lyall)

Roadmapping Foresight: Monitoring and Evaluation of Complex Programmes, UK Office of Science and Technology, £8,000

The SUPRA Seminars: Best Practice in Evidence Based Policy in a Devolved Context. Funded by ESRC, £12,470.

Precautionary Expertise for GM Crops (PEG), EC 5th Framework Programme, subcontractor to Open University,

European Fifth Framework Programme, Support for UK Social Science Participation in the Key Actions, funded by ESRC, £37,900 (with Robin Williams).

Evaluation of the Centre for Science, Technology, Energy and Environment Policy (CSTEPP), funded by ESRC, £9800.

Scottish Universities Policy Research and Advice Network (SUPRA) Scottish Higher Education Funding Council (SHEFC), 1998-2002, £270,000.

Policy Influences on Technology for Agriculture (PITA), EC 4th Framework Programme, Targeted Socio-Economic Research (TSER), 838,000 Euros; joint co-ordinator with D. Wield, Open University. (Jan. 1998-Dec. 2001)

PhD Research Supervision.

- *Scotland's Science Strategy*, Catherine Lyall, Research Centre for Social Sciences (University of Edinburgh, PhD awarded, 2005)
- *Policy Networks for Democratic and Sustainable Land Management*, Sian McGrath, Social Policy (University of Edinburgh, PhD awarded, 2006)
- *The contribution of Forestry to Rural Development*, Institute for Studies of Science, Technology and Innovation (ISSTI); CASE Studentship with Forestry Commission, Phoebe Cochrane (University of Edinburgh, PhD awarded 2008)
- *Interests and Values and their Importance as Motivators in Conflict-Based Stakeholder Interactions in Genomics*, Ann Bruce (Open University, PhD awarded, 2011)

Research Proposal Reviews

Reviews of individual proposals conducted for: Technology Strategy Board; Economic and Social Research Council; Engineering and Physical Sciences Research Council; Biotechnology and Biological Sciences Research Council; Natural Environment Research Council; Medical Research Council; EU Framework Programmes; European Science Foundation; US Sloan Foundation.

Membership of Review and Selection Panels

2015 – Canada First Research Excellence Fund (Environment and Agriculture) international review panel;

2013 and 2014 – Technology Strategy Board Responsible Innovation Framework Assessment Panel.

2011 – Technology Strategy Board: Detection and Identification of Infectious Agents – Assessing the Impact of Near-Patient Testing.

2011 – Netherlands Genomics Initiative Mid-term Review.

2010 – Evaluation Panel for EPSRC *Discipline Hopping* proposals.

2009 – Mentor, US NSF and UK EPSRC Synthetic Biology Sandpit.

2008 – Evaluation Panel, *ESRC Professorial Fellowships*

2007 – Input from the Innogen Centre to the House of Lords Committee Stage of the Revised Human Fertilisation and Embryology Bill.

2007 – Evaluation Panel, Canadian International Development Research Centre project: Public Knowledge, Attitudes and Perceptions towards GMOs in India.

2006 – Member, Assessment Panel, BBSRC Crop Science Initiative

2002-2004 – Member of the ESRC Science in Society Research Programme Commissioning Panel.

Academic Journal Article Reviews

Member, Editorial Board, *Synthetic and Systems Biology*

Reviews conducted for: Research Policy; Science and Public Policy; Technology Analysis and Strategic Management; BioScience; Philosophical Transactions of the Royal Society B; International Journal of Biotechnology; New Biotechnology; International Journal of Technology Management.

Teaching

2014-15 Contributor to Innogen Institute MSc in Management of the Bioeconomy, Innovation and Governance. Also organizer of a related 10 credit module on *Introduction to Industrial Biotechnology and its Governance*, contributing to the Scottish Universities' Collaborative Masters Programme in Industrial Biotechnology, funded by the Scottish Funding Council and led by Strathclyde University; also a 1-day workshop on *Introduction to Industrial Biotechnology and its Governance* for PhD students at Strathclyde University.

PUBLICATIONS

Books

Lyall, C., Bruce, A., Tait, J. and Meagher L. (2011) *Interdisciplinary Research Journeys: Practical strategies for capturing creativity*. London: Bloomsbury Press.

<http://www.bloomsburyacademic.com/view/Interdisciplinary-Research-Journeys/book-ba-9781849661782.xml> (Paperback edition being produced in 2015)

Lyall, C. and Tait, J. (eds.) (2005) *New Modes of Governance: Developing an Integrated Policy Approach to Science, Technology, Risk and the Environment*. Aldershot, Hampshire: Ashgate Publishing Ltd.

Cottam, M.P., Harvey, D.W., Pape, R.P. and Tait, J. (2000) *Foresight and Precaution*. Proceedings of ESREL 2000, SARS and SRA-Europe Annual Conference, Edinburgh, Scotland, 15-17 May, 2000; Volumes 1 and 2. Rotterdam: Balkema, pp 1660.

Lane A.B. and Tait, J. (1990). *Practical Conservation: Woodland Management*. Hodder and Stoughton.

Tait, J., Lane, A.B. and Carr, S. (1988). *Practical Conservation: Site Assessment and Management Planning*. Hodder and Stoughton, pp.183. (Foreword by HRH The Prince of Wales).

Tait, J. and Napompeth, B. (eds.) (1987). *Management of Pests and Pesticides: Farmers' Perceptions and Practices*. Boulder, Colorado: Westview Press, pp.244.

Journal Articles

Wield, D., Tait, J., Chataway, C., Mitra, J., and Mastroeni, M. (2015, submitted) Conceptualising and practising multiple knowledge interactions in the life sciences. *Technological Forecasting and Social Change*.

Mastroeni, M., Omidvar, O., Rosiello, A., Tait, J., and Wield, D. (2015, submitted) Science and Innovation Policy in Scotland: the impact of enhanced autonomy *Regional Studies*.

Lyll, C. and Tait, J. (2015, under review) Beyond the Limits to Governance: new rules of engagement for the tentative governance of the life sciences. *Research Policy*.

Mitra, J., Tait, J., Mastroeni, M., Turner, M., Mountford, J., Bruce, K., (2014) Identifying Viable Regulatory and Innovation Pathways for Regenerative Medicine: A Case Study of Cultured Red Blood Cells, *New Biotechnology*,
<http://www.sciencedirect.com/science/article/pii/S1871678414021293#>

Devos, Y., Sanvido, O., Tait, J. and Raybould, A. (2013) Towards a more open debate about values in decision making on agricultural biotechnology. *Transgenic Research*. Published online, 7 Sept., 2013.
http://download.springer.com/static/pdf/684/art%253A10.1007%252Fs11248-013-9754-z.pdf?auth66=1380549875_2d83b0187f186e496d767cb44bba24a5&ext=.pdf

Bruce, A., Castle, D., Gibbs, C., Tait, J. and Whitelaw, C.B.A. (2013) Novel GM animal technologies and their governance. *Transgenic Research*, Published online, 19 June, 2013, pp 1-15; <http://link.springer.com/content/pdf/10.1007%2Fs11248-013-9724-5.pdf>

Mastroeni, M., Tait, J. and Rosiello, A. (2013) Regional Innovation Policies in a Globally Connected Environment. *Science and Public Policy* (2013) pp. 1–9

Reproduced as: M. Mastroeni *et al.*, (2013) Regional Innovation: How to be Smart, Sustainable and Robust. *World Financial Review*, May-June, 2013, pp 28-32 (www.worldfinancialreview.com).

Mitra, J. and Tait, J. (2012) Analysing Stratified Medicine Business Models and Value Systems: Innovation-Regulation Interactions. *New Biotechnology*, 29(6), 709-719.

Tait, J. (2011) The ethics of biofuels. *GCB Bioenergy*, 3, 271-275

Tait, J. (2011) Shaping an ethical future for biofuels. *Bioscience*, 61(9), 653-4.

Buyx, A.M. and Tait, J. (2011) Biofuels: ethics and policy making. *Biofuels, Bioproducts and Biorefining*, 5(4) 350-351.

Buyx, A.M. and Tait, J. (2011) Ethical framework for biofuels. *Science*, 29th April 2011, 540-541.

Tait, J. and Barker, G., (2011) Global food security and the governance of modern biotechnologies: opportunities and challenges for Europe *EMBO Reports*, 12, pp763-768.
<http://www.nature.com/embor/journal/v12/n8/pdf/embor2011135a.pdf>

Mittra, J., Tait, J., and Wield, D. (2011) From maturity to value-added innovation: lessons from the pharmaceutical and agro-biotechnology industries, *Trends in Biotechnology*, 29(3), pp105-109.

Courtney, A., de Sousa, P., George, C., Laurie, G., and Tait, J. (2011) Balancing Open Source Stem Cell Science with Commercialisation, *Nature Biotechnology*, 29(2), Feb. 2011, 115-116.

Smith R., Keogh-Brown, M, Barnett, T. and Tait, J. (2009). The Economy-Wide Impact of Pandemic Influenza on the UK: a computable general equilibrium modelling experiment. *BMJ*; 339: b4571.

Milne, C.P. and Tait, J. (2009) Evolution along the Government-Governance Continuum: FDA's Orphan Products and Fast Track Programs as Exemplars of "What Works" for Innovation and Regulation. *Food and Drug Law Journal*, 64(4), 733-753.

Tait, J. (2009) Upstream Engagement and the Governance of Science: the shadow of the GM crops experience in Europe. *EMBO Reports*. Vol 10, Special Issue, pp 18-22. (<http://www.nature.com/embor/journal/v10/n1s/pdf/embor2009138.pdf>)

Orsenigo, L. and Tait, J. (2008) Introduction. *Int J. Biotechnology*, 10(5),389-403.

Bower, D.J., Murad, A.N., Sulej, J.C. and Tait, J. (2008) Blazing the trail from stem cell research to regenerative medicine. *Int. J. Biotechnology*, 10(5), 461-475.

Suk, J.E., Lyall, C. and Tait, J. (2008) Mapping the future dynamics of disease transmission: risk analysis in the United Kingdom Foresight Programme on the Detection and Identification of Infectious Diseases. *Eurosurveillance*, 13(44), Article 7; Euro Surveill. 2008; 13(44): pii=19021. www.eurosurveillance.org/viewarticle.aspx?ArticleId=19021

Chataway, J., Tait, J. and Wield, D. (2008) Off the rails or on the mark? *Nature Biotechnology*, 26, 500-501.

Tait, J. (2007) Systemic Interactions in Life Science Innovation. *Technology Analysis and Strategic Management*, 19(3), 257-277, May 2007.

Tait, J. and Chataway, J. (2007) The governance of corporations, technological change and risk: examining industrial perspectives on the development of genetically modified crops. *Environment and Planning C: Government and Policy*, 25, 21-37.

Chataway, J., Tait, J. and Wield, D. (2006) The governance of agro- and pharmaceutical biotechnology innovation: public policy and industrial strategy. *Technology Analysis and Strategic Management*, 18(2), 1-17.

Chataway, J., Tait, J. and Wield, D. (2004) Understanding company R&D strategies in agro-biotechnology: Trajectories and Blindspots. *Research Policy*, 33/6-7, 1041-1057.

Reprinted in eds. Maureen McKelvie and Luigi Orsenigo (2006) *The Economics of Biotechnology*. Cheltenham, Glos. Edward Elgar Publishing Ltd., as part of the series International Library of Critical Writings in Economics, editor Mark Blaug.

Lyall, C., Bruce, A., Firn, J., Firn, M., and Tait, J. (2004) Assessing End Use Relevance of Public Sector Research Organisations. *Research Policy*, 33(1), January 2004, 73-87.

Lyall, C. and Tait, J. (2004) Foresight in a Multi-level Governance Structure: policy integration and communication. *Science and Public Policy*, 31(1), 27-37.

Bruce, A., Lyall, C., Tait, J. and Williams, R. (2004) Interdisciplinary Integration in Europe: the case of the Fifth Framework Programme. *Futures*, 36(4), 457-470.

- Tait, J., Chataway, J. and Wield, D. (2002) The Life Science Industry Sector: Evolution of Agro-Biotechnology in Europe. *Science and Public Policy*, 29(4), 253-258.
- Bijman, J. and Tait, J. (2002) Public Policies Influencing Innovation in the Agrochemical, Biotechnology and Seed Industries. *Science and Public Policy*, 29(4), 245-251.
- Tait, J. (2001) Pesticide Regulation, Product Innovation and Public Attitudes. *Journal of Environmental Monitoring*, 3, 64-69.
- Tait, J. (2001) Zeneca Agrochemicals. *AgBioForum*, 4(1), 63-67; www.agbioforum.org
- Tait, J. (2001) Science, Governance and Multifunctionality of European Agriculture. *Outlook on Agriculture*, 30(2), pp 91-95.
- Tait, J. and Bruce, A (2001) Globalisation and Transboundary Risk Regulation: Pesticides and Genetically Modified Crops. *Health, Risk and Society*. 3(1), 99-112.
- Tait, J. (2001) More Faust than Frankenstein: the European Debate about Risk Regulation for Genetically Modified Crops. *Journal of Risk Research*, 4(2), 175-189.
- Reprinted in abbreviated form as Joyce Tait, 'The Precautionary Principle for GM Crops' *Agrolinks*, June 2001, Asia Pacific Crop Protection Association, pp 4-6.
- Arundel, A., Hocke, M. and Tait, J. (2000) How Important is Genetic Engineering to European Seed Firms? *Nature Biotechnology*, 18, 578.
- Tait, J. and Morris, D (2000) Sustainable Development of Agricultural Systems: Competing Objectives and Critical Limits. *Futures*, 32, 247-260.
- Tait, J., Chataway, J. and Wield, D. (2000) The Life Science Industry Sector: Evolution of Agro-biotechnology in Europe. *Science and Public Policy*, 29(4), 253-258.
- Tait, J. and Williams, R. (1999) Policy Approaches to Research and Development: Foresight, Framework and Competitiveness. *Science and Public Policy*, 26(2), 101-112.
- Levidow, L. and Tait, J. (1993) Advice on Biotechnology Regulation: the Remit and Composition of Britain's ACRE *Science and Public Policy*, 20(3), 193-209.
- Chataway, J. and Tait, J. (1993) Is Risk Regulation a Strategic Influence on Decision Making in the Biotechnology Industry? *Agriculture and Human Values*. Vol X, No. 2, pp 60-67.
- Chataway, J. and Tait, J. (1993) Management of Agriculture-Related Biotechnology: Constraints on Innovation. *Technology Analysis and Strategic Management*, 5(4), 345-367.
- Tait, J. and Levidow, L. (1992) Proactive and Reactive Approaches to Risk Regulation: the Case of Biotechnology, *Futures*, April, 1992, pp 219-231.
- Chataway, J. and Tait, J. (1992) ?Influye estrategicamente la normativa sobre riesgos en la toma de decisiones del sector biotecnologico? *Agricultura y Sociedad*, 64, 169-191.
- Chataway, J. and Tait, J. (1992) La Reglementation du Risque: un frein a l'innovation? *Cahiers d'Economie et Sociologie Rurales*, 24-25, 162-176.
- Levidow, L. and Tait, J. (1992) Release of Genetically Modified Organisms: Precautionary Legislation. *Project Appraisal*, 7(2), 93-106.
- Levidow, L. and Tait, J. (1992) Which Public Understanding of Biotechnology? *Biotechnology Education*, 3(3), 102-106.
- Levidow, L. and Tait, J. (1991) The Greening of Biotechnology: GMOs as Environment-Friendly Products. *Science and Public Policy*, 18(5), 271-280. (Reprinted in *Biopolitics: a*

Feminist and Ecological Reader on Biotechnology, eds. V. Shiva and I. Moser, Zen Books Ltd., London)

Carr, S. and Tait, J. (1991) Differences in the Attitudes of Farmers and Conservationists and their Implications. *Journal of Environmental Management*, 32, 281-294.

Collins, G., Gardiner, P., Heaton, A., Macrosson, K. and Tait, J. (1991) The Management of Technology. *International Journal of Technology Management*, 6(5/6), 3-28.

Tait, J. (1990) Editorial. *Technology Analysis and Strategic Management*, 2(3), 219-220.

Tait, J., Chataway, J., & Jones, S. (1990) The Status of Biotechnology - Based Innovations. *Technology Analysis and Strategic Management*, 2(3), 293-305.

Carr, S. and Tait, J. (1990) Farmers' Attitudes to Conservation. *Built Environment*, 16(3), 218-231.

Tait, J. (1988) NIMBY and NIABY: Public Perception of Biotechnology. *International Industrial Biotechnology* 8(6), 5-9. (Re-printed in *The Bio-Revolution: Cornucopia or Pandora's Box*, Eds. P. Wheale and R. McNally. Pluto Press).

Tait, J. (1988) Public Perception of Biotechnology Hazards. *Journal of Chemical Technology and Biotechnology*, 43, 363-372. (Reprinted in *Hazards of Biotechnology: Real or Imaginary*. Eds. A.D. Dayan, P.N. Campbell and T.H. Jukes, 1988. London: Elsevier, pp119-128).

Tait, E.J. (1988) The Role of Values in Quantitative Decision Making. *Journal of the Operational Research Society*, 39(7), 669-674.

Tait, E.J. (1987) Environmental Issues and the Social Sciences. *Environment and Planning A*, 19,437-445.

Tait, E.J. (1984). Foreword: Perception and Management of Pests and Pesticides. *Insect Science and its Application: Special Issue*, 5(3), 139.

Tait, E.J. (1978). Factors Affecting the Usage of Insecticides and Fungicides on Fruit and Vegetable Crops in Great Britain: I. Crop-Specific Factors. *Journal of Environmental Management*, 6, 127-142.

Tait, E.J. (1978). Factors Affecting the Usage of Insecticides and Fungicides on Fruit and Vegetable Crops in Great Britain: II. Farmer-Specific Factors. *Journal of Environmental Management*, 6, 143-151.

Tait, E.J. (1977). A Method for Comparing Pesticide Usage Patterns between Farmers. *Annals of Applied Biology*, 86, pp 229-240

Contributions to Books and Conference Proceedings

Tait, J. (2012) "Innovation, Policy, and Public Interactions in the Management of Infectious Diseases". Institute on Science for Global Policy Conference Report – *Emerging and Persistent Infectious Diseases: Focus on Mitigation*. Edinburgh, Oct. 23-26, 2011. Tucson Arizona, USA, www.scienceforglobalpolicy.org

Milne, C-P and Tait, J. (2009) Evolution along the Government-Governance Continuum: impacts on medicines innovation in the United States. In eds. C. Lyall, T. Papaioannou and J. Smith, *Limits to Governance: challenges of policy making for the new life sciences*. Aldershot: Ashgate Publishing Limited, pp 107-132.

Tait, J. (2009) Governing Synthetic Biology: Processes and Outcomes. In eds. Markus Schmidt, Alexander Kelle, Agomoni Ganguli-Mitra and Huib de Vriend, *Synthetic Biology: the Technoscience and its Consequences*. Dordrecht NL: Springer, pp 141-154.

- Tait, J. (2008). Risk Governance of Genetically Modified Crops: European and American Perspectives. In eds. O. Renn and K. Walker, *Global Risk Governance: Concept and Practice Using the IRGC Framework*. Dordrecht, NL: Springer Science and Business Media; pp 133-153.
- Tait, J., Chataway, J. and Wield, D. (2006) Governance, Policy and Industry Strategies: Agro-biotechnology and Pharmaceuticals. In eds. M.Mazzucato and G. Dosi, *Knowledge Accumulation and Industry Evolution*. Cambridge University Press, pp 378-401.
- Lyall, C. and Tait, J. (2005) Shifting Policy Debates and the Implications for Governance. In eds. C. Lyall and J. Tait, *New Modes of Governance*. Aldershot: Ashgate Publishing Ltd., pp 1-17.
- Tait, J. and Lyall, C. (2005) A New Mode of Governance for Science, Technology, Risk and the Environment. . In eds. C. Lyall and J. Tait, *New Modes of Governance*. Aldershot: Ashgate Publishing Ltd., pp 177-188.
- Reiss, T. and Tait, J. (2005) Life Science Innovation: Policy and Foresight. . In eds. C. Lyall and J. Tait, *New Modes of Governance*. Aldershot: Ashgate Publishing Ltd., pp 69-87.
- Bruce, A. and Tait, J. (2004) Interests, values and genetic databases. In eds. Arnason, G., Nordal, S. and Arnason, V. *Blood and Data. Ethical, legal and social aspects of human genetic databases*, Published for the International ELSAGEN Conference, University of Iceland, Reykjavik, 25-28 August, 2004, pp 211-217
- Tait, J. and Bruce, A. (2004) Global Change and Transboundary Risks. In eds. T. McDaniels and M. Small, *Risk Analysis and Society: an interdisciplinary characterisation of the field*. Cambridge University Press, pp 367-419. (Commissioned by Society for Risk Analysis for the International Symposium on *Risk and Governance*, Warrenton, VA, USA, June 2000.)
- Bruce, A. and Tait, J. (2003) Interests, Values and Biotechnological Risk. *Proceedings, VALDOR, 2003, Values in Decisions on Risk*, Stockholm, Sweden, June 19-13, 2003.
- Tait, J. (2002) The US, Europe, Precaution and Risk Management: Foods Derived from Biotechnology. In eds. Koen Verlaeckt and Virginia Vitorino, *Unity and Diversity: the contribution of the social sciences and the humanities to the European Research Area*. Office for Official Publications of the European Communities, L-2985, Luxembourg, EUR 20484, pp 198-201.
- Tait, J. (2002) Report from the Foresight and Multi-Level Governance Session. *Conference Proceedings. The Role of Foresight in the Selection of Research Policy Priorities*, 13-14 May, 2002, Seville. European Commission Report, EUR 20406, pp 165-167.
- Tait, J. (2001) Beyond Nimby-ism: the Evolution of Social Attitudes to Biotechnology. In ed. T.C. Smout, *Nature, Landscape and People since the Second World War*. Tuckwell Press, pp135-149.
- Tait, J. (2000) Technology transfer in crop protection: the policy context. BCPC Conference, Pests and Diseases 2000; 13th November 2000, Brighton. Farnham, Surrey: British Crop Protection Council, pp1177-1184.
- Tait, J. (2000) Risk assessment, perception and communication for GMOs. In eds. N. Atreya and R. Billington, *Human Exposure to Pesticide Residues, Natural Toxins and GMOs: Real and Perceived Risks*. Proceedings of an international symposium, Brighton, UK, 13 Nov., 2000. British Crop Protection Council, Symposium Proceedings No 75., pp 69-76.
- Tait, J. and Chataway, J. (2000) Technological Foresight and Environmental Precaution: Genetically Modified Crops. In eds. M.P. Cottam, D.W. Harvey, R.P.Pape and J. Tait *Foresight and Precaution*, Proceedings of ESREL 2000, SARS and SRA-Europe Annual

Conference, Edinburgh, Scotland, 15-17 May, 2000, Vol 2. Rotterdam: Balkema, pp 829-838.

Tait, J. (2000) Technology transfer in crop protection: the policy context. *BCPC Conference, Pests and Diseases 2000*; 13th November 2000, Brighton. Farnham, Surrey: British Crop Protection Council, pp1177-1184.

Tait, J. (1998) Mitigating the Environmental Effects of Intensive Agriculture. In eds. Enid M. Barron and Ilga Nielsen, *Agriculture and Sustainable Land Use in Europe*, Papers from conferences of European Environmental Advisory Councils. The Hague: Kluwer Law International, pp 169-174.

Tait, J. (1998) The Sting in the Cabbage: Genetically Modified Insect Viruses as Pesticides. In eds. D. Bruce and A. Bruce, *Engineering Genesis: the Ethics of Genetic Engineering*. London: Earthscan. (Also a member of the Working Group of the Church of Scotland Society, Religion and Technology Project which produced the book.)

Tait, J., Morris, D. and Ison, R. (1997). Orchestrating Discipline-Based Research and Learning. In eds. F. Stowell, S. McRobb, R. Lander, R. Ison, J. Holloway and R. Armson, *Systems for Sustainability: People, Organisations and Environments*. New York: Plenum, pp 307-312.

Pitkin, P.H., Tait, E.J., Dawson, K.P., Cook, K.A., Fish, N. (1996) Targeted Inputs for a Better Rural Environment: Farmers' Views of New Technology. In *Proceedings Crop Protection in Northern Britain, 1996*.

Tait, J. and Pitkin, P. (1995) New Technology for Environmental Benefits: Opportunities for Industry. In *Proceedings, Brighton Crop Protection Conference, Weeds. Vol 2*. pp 593-602

Tait, J. and Pitkin, P. (1995) The Role of New Technology in Promoting Sustainable Agricultural Development. In eds. R.G. McKinlay and D. Atkinson. *Integrated Crop Protection: Towards Sustainability*, British Crop Protection Council Symposium Proceedings No 63, pp 339-346.

Pitkin, P.H. and Tait, E.J. (1995) An Approach to Sustainability in Agriculture: Applying Technology for the Benefit of Soils and the Natural Heritage. In eds. A. Taylor, J.E. Gordon and M.B. Usher, *Soils, Sustainability and the Natural Heritage*, Edinburgh: HMSO, .pp 210-224.

Martin, S. and Tait, J. (1992) Attitudes of Selected Public Groups in the UK to Biotechnology. In ed. J. Durrant, *Biotechnology in Public: a Review of Recent Research*, Science Museum for the European Federation of Biotechnology, 28-41.

Tait, J., Brown, S. and Carr, S. (1991) Pesticide Innovation and Public Acceptability: the Role of Regulation. In. ed. L. Roberts and A. Weale, *Innovation and Environmental Risk*, London: Belhaven Press, pp47-56.

Tait, J.(1990) Environmental Risks and the Regulation of Biotechnology. In eds. P. Lowe, T. Marsden and S. Whatmore, *Technological Change and the Rural Environment*, London: David Fulton Publishers, pp168-202.

Tait, J. (1990) NIMBY and NIABY: Public Perceptions of Biotechnology. In eds. P. Wheale and R. McNally, *The BioRevolution: Cornucopia or Pandora's Box*, London: Pluto Press, pp 224-236.

Tait, J. and Peters, G. (1989). Modelling Social Behaviour. In eds. M.C. Jackson, P. Keys and S.A. Cropper, *Operational Research and the Social Sciences*. Plenum Press, p505.

Greene, O. and Tait, J. (1988). The Risks of Nuclear Winter: Scientific Research and Policy Debate. In eds. M. Blunden and O. Greene, *Science and Mythology in the Making of Defence Policy*, London: Brassey's, pp.13-59.

Tait, E.J. and Napompeth, B. (1987). Introduction: the Management of Pests and Pesticides. In eds. E.J. Tait and B. Napompeth, *Management of Pests and Pesticides: Farmers' Perceptions and Practices*, Boulder, Colorado: Westview Press, pp.1-7.

Lane, A.B. and Tait, E.J. (1987) Educating and Training Pest Managers: the Role of Distance Teaching. *ibid.*, pp.22-27.

Tait, E.J. and Lane, A.B. (1987) Insecticide Production, Distribution and Use: Analysing National and International Statistics. *ibid.* pp.38-48.

Tait, E.J. (1987). Conclusions and Further Recommendations for Research and Development. *ibid.* pp. 219-226.

Stone, S., and Tait, J., (1987). A Distance Learning Modelling Project. In eds. J.S. Berry et al. *Mathematical Modelling Courses*. Chichester: Ellis Horwood, pp 122-132

Tait, E.J. (1987). Planning an Integrated Pest Management System. In eds. A.J. Burn, T.H. Coaker, and P.C. Jepson, *Integrated Pest Management*. London: Academic Press, pp.198-207.

Tait, J. (1987) Rationality in Pesticide Use and the Role of Forecasting. In eds. K.J. Brent and R.K. Atkin, *Rational Pesticide Use*. Cambridge University Press, pp. 225-238.

Tait, E.J. (1983). Pest Control Decision Making on Brassica Crops In ed. T.H. Coaker, *Advances in Applied Biology*, Vol.8. London: Academic Press, pp 122-188.

Tait, E.J. (1982) Farmers' Attitudes and Crop Protection Decision Making. In ed. R.B. Austin, *Decision Making in the Practice of Crop Protection*, British Crop Protection Council Monograph No.25, pp 43-52.

Tait, E.J. (1981). The Flow of Pesticides: Industrial and Farming Perspectives. In ed. T. O'Riordan and R.K. Turner, *Progress in Resource Management and Environmental Planning*, Vol.3, John Wiley and Sons Limited, Chichester, pp 219-250.

Tait, E.J. (1977). The Use of Forecasting as a Method of Rationalising Pesticide Applications. *Proceedings 1977 British Crop Protection Conference - Pests and Diseases*, pp.235-240.

Major Project and Programme Reports

Tait, J. (2015) *An Adaptive Approach to Delivering Responsible Innovation*. Report to Genabler for the project "Production of Chitosans for Use in Food and Personal Care Products", funded by InnovateUK.

Tait, J., (2014) Bringing it all Together. In *Annual Report of the Government Chief Scientific Adviser, 2014. Innovation: Managing Risk not Avoiding It*. Evidence and Case Studies, pp 129-136 (<https://www.gov.uk/government/publications/innovation-managing-risk-not-avoiding-it>)

Tait, J., Bruce, A., Mitra, J., Purves J. and Scannell, J. (2014) *Independent review on anti-microbial resistance regulation/innovation interactions and the development of antimicrobial drugs and diagnostics for human and animal diseases: Main Report*. 14th Dec., 2014. Report to ESRC for the O'Neill Commission on Antimicrobial Resistance
<http://www.innogen.ac.uk/reports/946>.

Omidvar, O., de Grijs, M., Castle, D., Mitra, J., Rosiello, A. and Tait, J. (2014) *Regenerative Medicine: Business Models, Venture Capital and the Funding Gap*. Report to ESRC and

InnovateUK, 30th Oct, 2014. <http://www.innogen.ac.uk/downloads/RegenerativeMedicine-BusinessModels-VentureCapital-and-theFundingGap-Oct14.pdf>

Mittra, J., Mastroeni, M. and Tait, J. (2014) *Engaging with Uncertainty and Risk in Agricultural Biotechnology Regulation: Delivering Safety and Innovation*. Report from ESRC Knowledge Exchange Project with Syngenta, Jan. 2014. <http://innogen.ac.uk/reports/883>

Mastroeni, M., Mittra, J. and Tait, J. (2012) *Methodology for the Analysis of Life Science Innovation Systems (ALSIS) and its Application to Three Case Studies*. TSB Regenerative Medicine Programme: Value Systems and Business Models. REALISE Project. Innogen Centre Report to Technology Strategy Board. 29th May, 2012. <http://www.innogen.ac.uk/reports/490>

Lowrie, H., Mastroeni, M., Mittra, J. and Tait, J. (2011) *Interdisciplinary Methodology for the Analysis of Life Science Innovation Systems*, Innogen Working Paper no 92, Sept., 2011. <http://www.genomicsnetwork.ac.uk/media/Innogen%20Working%20Paper%2092.pdf>

Wamae, W., Goyal-Rutsaert, P., Morgan Jones, M., Ni Chonail, S., Tait, J. and Chataway, J. (2011) *Translational Research in Agriculture and Food Production*. RAND Technical Report to BBSRC and DEFRA. Cambridge, UK: RAND Europe. http://www.rand.org/content/dam/rand/pubs/technical_reports/2011/RAND_TR986.pdf

Lowrie, H and Tait, J. (2011) *Guidelines for Appropriate Risk Governance of Synthetic Biology*. International Risk Governance Council Policy Brief <http://www.genomicsnetwork.ac.uk/innogen/publications/innogenpolicybriefs/title.25986.en.html>

Nuffield Council on Bioethics (2011) *Biofuels: Ethical Issues*. (Working Party Chaired by J. Tait) http://www.nuffieldbioethics.org/sites/default/files/Biofuels_ethical_issues_FULL%20REPORT_0.pdf

Mittra, J. and Tait, J. (2009) Stem Cells. In *Coordination Action on Building Robust, Integrative inter-Disciplinary Governance Models for Emerging and Existing Risks (Risk Bridge); Final Report*. EC Project No SAS6-CT-2006-036661-RISKBRIDGE; pp 224-268.

Tait, J. (2009) Risk Governance of Genetically Modified Crops in Europe. In International Risk Governance Council (IRGC) Report, *Risk Governance Deficits: an analysis and illustration of the most common deficits in risk governance*. Geneva: IRGC www.irgc.org.

Tait, J. with Wield, D., Chataway, J. and Bruce, A. (2007) *Health Biotechnology to 2030*. Report to OECD International Futures Project, "The Bio-Economy to 2030: Designing a Policy Agenda", OECD, Paris, pp 51; <http://www.oecd.org/dataoecd/12/10/40922867.pdf>.

Tait, J. (2008) *Risk Regulation and the Shaping of Biotechnology for Agriculture*. Report: International Assessment of Agricultural Science and Technology for Development (IAASTD)

Tait, J., Bruce, A., Shelly-Egan, C., Rosiello, A., Nicholls, N., Butterfield, G., Yogendra, S., Lyall, C., Suk, J., Plastow, G. and Huzair, F. (2007) *Modern Biotechnology in Primary Production and Agro-food*. In E. Zike, I. Papartyfon, O. Wolf, M. Gomez-Barbero, A.J. Stein and A-K. Bock, *Consequences, Opportunities and Challenges of Modern Biotechnology for Europe (Bio4EU)*, Seville, Spain: Institute for Prospective Technology Studies (IPTS), Report EU 22728 EN, pp49-80. <http://bio4eu.jrc.ec.europa.eu/documents/eur22728en.pdf>

Tait, J. (project leader) *et al.* (2007) Case Studies Report: The Impact of Primary Production Applications. Annex to Report 3, Deliverable 20, Framework Service Contract 20. *Consequences, Opportunities and Challenges of Modern Biotechnology for Europe (Bio4EU-Task 2)* <http://bio4eu.jrc.ec.europa.eu/documents/eur22728en.pdf>

Brownlie, J., Peckham, C., Waage, J., Woolhouse, M., Lyall, C., Meagher, L., Tait, J., Baylis, M., Nicoll, A. (2006) *Foresight. Infectious Diseases: Preparing for the Future. Future Threats*. Office of Science and Innovation, London.

<http://www.foresight.gov.uk/Infectious%20Diseases/t1.pdf> (accessed 081120)

Tait, J., Meagher, L., Lyall, C. and Suk, J. (2006) *Foresight. Infectious Diseases: Preparing for the Future. Risk Analysis*. Office of Science and Innovation, London, pp 47.

<http://www.foresight.gov.uk/Infectious%20Diseases/t2.pdf> (accessed 081120)

Lyall, C., Suk, J., and Tait, J. (2006) *Foresight. Infectious Diseases: Preparing for the Future. Risk Evaluation Work Package: Results from Expert Survey*. Office of Science and Innovation, London, pp 283. <http://www.foresight.gov.uk/Infectious%20Diseases/T3.pdf> (accessed 081120)

Ann Bruce, Renate Gertz, Cecilia Oram, Jonathan Suk, Joyce Tait, Chris Warkup, Bruce Whitelaw, September 2005. *Animal Cloning and Genetic Modification: a Prospective Study: Report 2: Cloned Animals, Socio-Economic Issues*. Report to Institute of Prospective Technology Studies, Seville, pp 67.

Annette Braun, Ann Bruce, Renate Gertz, Cecilia Oram, Jonathan Suk, Joyce Tait, Chris Warkup, Bruce Whitelaw, October 2005. *Animal Cloning and Genetic Modification: a Prospective Study: Report 3: GM Animals, Socio-Economic Issues*. Report to Institute of Prospective Technology Studies, Seville, pp 117.

Catherine Lyall, Jonathan Suk, Joyce Tait, July 2005. *Detection and Identification of Infectious Diseases: Results from Expert Survey*. Report to UK Office of Science and Innovation, Foresight Team, pp 284.

Joyce Tait, Laura Meagher, Catherine Lyall and Jonathan Suk, December 2005. *Detection and Identification of Infectious Diseases: Risk Analysis Report*. Report to Office of Science and Technology Foresight Project, Detection and Identification of Infectious Diseases, Risk Evaluation Work Package, pp 54.

Tait, J. and Yogendra, S. (2004) *Genetically Modified Crop Production*. Consultancy Report to South West Regional Assembly.

Tait, J. and Williams, R. (2003) *Final Report*, ITSAFE Project (Integrating Technological and Social Aspects of Foresight in Europe. EC Project No STPA-2001-00010.

Tait, J. and Lyall, C. (2003) *ESRC Funded Interdisciplinary Research: Advice for Applicants*. Report to Economic and Social Research Council

Tait, J. (2003) *End Use Relevance Assessment: The Macaulay Land Use Research Institute*. SEERAD Contract, Scottish Executive, confidential report.

Tait, J. (2003) *End Use Relevance Assessment: Hannah Research Institute*. SEERAD Contract, Scottish Executive, confidential report.

Tait, J. and Lyall, C. (2002) *Foresight in a Multi-Level Governance Structure: Policy Integration and Communication*. Paper Prepared for EC STRATA-ETAN Expert Group on 'Mobilising Regional Foresight for an Enlarged European Union, pp 27.

Tait, J., Williams, R., Bruce, A and Lyall, C (2002) *Interdisciplinary Integration in the Fifth Framework Programme (II-FP5): Final Report*. EC Accompanying Measure SEAC 1999-00034. Report to European Commission, pp 62.

Tait, J., Williams, R., Bruce, A and Lyall, C (2002) *Interdisciplinary Integration in the Fifth Framework Programme (II-FP5): Annexes to Final Report*. EC Accompanying Measure SEAC 1999-00034. Report to European Commission, pp 201.

Tait, J., Williams, R., Bruce, A and Lyall, C (2002) *Interdisciplinary Integration in the Fifth Framework Programme (II-FP5): Guidelines for Interdisciplinary Researchers and Research*

Managers. EC Accompanying Measure SEAC 1999-00034. Report to European Commission, pp 12.

Tait, J., Allan, A., Wouters, P. and Ross Robertson, A. (2002) *The Precautionary Principle: its Relevance to the Work of SEPA*. Report to the Scottish Environmental Protection Agency.

Tait, J. and Lyall, C. (2001) *Investigation into ESRC-funded Interdisciplinary Research*. Report to ESRC.

Tait, J. (2001) How are governments influencing innovation and uptake of technologies for sustainable farming systems: pesticides and biotechnology. *Adoption of Technologies for Sustainable Farming Systems*, The Wageningen Workshop, OECD, Paris.

Tait, J., Bruce, A., and Lyall, C. (2001) *Literature Review: Studies on People's Values in Relation to Chemicals and their Effects on Humans and the Natural Environment*. Report to the Royal Commission on Environmental Pollution.

Tait, J. (2001) *Risk Assessment and Regulation: Interactions among Industry, Public and Policy Makers*. Report to the Royal Commission on Environmental Pollution.

Tait, J., Chataway, J. and Wield, D. (2001). *Policy Influences on Technology for Agriculture: Chemicals, Biotechnology and Seeds - Final Report*. Policy Influences on Technology for Agriculture (PITA): Report to the European Commission Targeted Socio-Economic Research Programme (TSER), Project no. SOE1/CT97/1068. Available at: <http://www.technology.open.ac.uk/cts/pita/> and <http://www.supra.ed.ac.uk/NewWeb/Reports.htm>

Tait, J. and Chataway, J. (2000) *Policy Influences on Technology for Agriculture: Chemicals, Biotechnology and Seeds - Novartis Agribusiness Monograph*. Policy Influences on Technology for Agriculture (PITA): Report to the European Commission Targeted Socio-Economic Research Programme (TSER), Project no. SOE1/CT97/1068. Available at: <http://www.technology.open.ac.uk/cts/pita/> and <http://www.supra.ed.ac.uk/NewWeb/Reports.htm>

Tait, J. and Chataway, J. (2000) *Policy Influences on Technology for Agriculture: Chemicals, Biotechnology and Seeds - Zeneca Agrochemicals Monograph*. Policy Influences on Technology for Agriculture (PITA): Report to the European Commission Targeted Socio-Economic Research Programme (TSER), Project no. SOE1/CT97/1068. Available at: <http://www.technology.open.ac.uk/cts/pita/> and <http://www.supra.ed.ac.uk/NewWeb/Reports.htm>

Tait, J., Williams, R. and Lyall, C. (2000) *Roadmapping Foresight: Monitoring and Evaluation of Complex Programmes*. SUPRA Report to the Office of Science and Technology, May 2000.

Lyall, C. and Tait, J. (1999) *Evaluation of the ESRC's Centre for Science, Technology, Energy and Environment Policy (CSTEPP)*. Final Report to ESRC.

Williams, R. and Tait, J. (1998) *Socio-economic Research in the Fifth Framework Programme: Programme 3 Competitive and Sustainable Growth*. Report to Economic and Social Research Council and European Commission DGXII of Workshop, Brussels, 24-25 September 1998.

Scottish Natural Heritage (1993) *Sustainable Development and the Natural Heritage: the SNH Approach*. SNH Publications Section, Battleby, Redgorton, Perth PH1 3EW. (Authored by Joyce Tait and Nicholas Gubbins.)

Martin, S. and Tait, J. (1993) *Release of Genetically Modified Organisms: Public Attitudes and Understanding*, Summary Report, pp 12. (Report to the Department of Trade and

Industry, Laboratory of the Government Chemist, June 1992). Published by Centre for Technology Strategy, Open University, Walton Hall, Milton Keynes MK7 6AA.

Martin, S. and Tait, J. (1993) *Biotechnology: Cognitive Structures of Public Groups*, pp 55. (Report to the Department of Trade and Industry, Laboratory of the Government Chemist, June 1992). Published by Centre for Technology Strategy, Open University, Walton Hall, Milton Keynes MK7 6AA..

Martin, S. and Tait, J. (1993) *Release of Genetically Modified Organisms: Public Attitudes and Understanding*, pp 135. (Report to the Department of Trade and Industry, Laboratory of the Government Chemist, June 1992). Published by Centre for Technology Strategy, Open University, Walton Hall, Milton Keynes MK7 6AA..

Tait, J. (1993) Written evidence on behalf of ESRC to Report of House of Lords Select Committee on Science and Technology on *Regulation of the United Kingdom Biotechnology Industry and Global Competitiveness*, 7th Report, Session 1992/93. London: HMSO HL Paper 80-I, pp187-196.

Tait, J. (1990) *Biotechnology: Interactions between Technology, Environment and Society* EC/MONITOR/FAST Programme 1989-90 Synthesis Report No.1 Project: Biosphere and the Economy, DGXII/H/3, March 1990.

Working Papers

Tait, J. (2015) *The role of the social sciences in innovation and risk regulation*. (<http://www.innogen.ac.uk/downloads/Tait-Role-of-Social-Sciences.pdf>)

Lowrie, H. and Tait, J. (2009) *Risk Governance of Synthetic Biology*. International Risk Governance Council, Concept Note 2. (http://www.irgc.org/IMG/pdf/IRGC_Concept_Note_Synthetic_Biology_191009_FINAL.pdf)

Calvert, J. and Tait, J. (2008) *Synthetic Biology: Risks and Opportunities of an Emerging Field*. International Risk Governance Council, Concept Note 1. (http://www.irgc.org/IMG/pdf/IRGC_ConceptNote_SyntheticBiology_Final_30April.pdf)

Tait, J and Chataway, C. (2003) *Risk and Uncertainty in Genetically Modified Crop Development: the Industry Perspective*. Innogen Working Paper No.1, www.innogen.ac.uk

Briefings to Government Ministers, Politicians and Industry

2014 Briefing, including oral evidence, to the House of Commons Science and Technology Select Committee Inquiry on *Advanced genetic techniques for crop improvement: regulation, risk and precaution*. Fifth Report of Session 2014-15, Feb. 2015. HC 328. (<http://www.publications.parliament.uk/pa/cm201415/cmselect/cmsctech/328/328.pdf>)

2013 Briefing to Rt. Hon. David Willetts MP, Minister for Universities and Science on Innogen contribution to Eight Great Technologies (Dec. 2013)

2013 Briefing to Rt. Hon. David Willetts MP, Minister for Universities and Science on the UN Convention on Biological Diversity. (Oct. 2013)

2013 Briefing to Ian Murray MP on GM technologies

2012 Briefing to Chi Onwurah MP following participation in *Science and Democracy Roundtable, Westminster Parliament, 2012*

2011 Following publication of the Nuffield Council on Bioethics Report, *Biofuels: Ethical Issues*, briefings were held with (i) Caroline Spelman, Secretary of State for the Environment and officials from, Defra, DECC, DfT and DfID and (ii) Philip Lowe, EC Commissioner for Energy.

2011 Innogen Centre presentation to Main Board members, Bayer, Leverkusen, Germany.

2008 Briefing on GM crop development to Scottish Government Minister for Agriculture and Environment.

Consultation Responses

Consultation Responses on UN Convention on Biological Diversity (CBD) for Synthetic Biology Leadership Council:

DEFRA request for comments on CBD Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) paper (UNEP/CBD/SBSTTA/18/10) (May 2014)

DEFRA Consultation on Implementing the Nagoya Protocol in the UK, April, 2014.

Department of Health public consultation on GMO Contained Use Regulations, Dec. 2013.

DEFRA response to consultation on UN Convention on Biological Diversity and Cartagena Protocol draft papers, Synthetic Biology Gaps and Overlaps-20130626-en.doc; and Synthetic Biology Impacts-20130626-en.doc, Oct., 2013

Contribution to Royal Society of Edinburgh response to House of Commons Science and Technology Select Committee Inquiry into *The Commercialisation of Research*, 2012.

Contribution to Innogen Centre response to BIS consultation *Shaping a UK Strategy for Agri-Tech*. 2012

Contribution to Royal Society of Edinburgh Response: *Influenza Pandemic Preparedness Strategy: a response to the UK Government*, 2011.

H. Lowrie and J. Tait, *Response to the Presidential Commission for the Study of Bioethical Issues - Request for Comments on Synthetic Biology*. 24 Sept. 2010.

Contribution to Innogen Centre response to the UK Parliament *Inquiry into Food Security for the All Party Parliamentary Group on Agriculture and Food for Development*, 2010.

J. Tait, lead for Innogen Centre *Response to the Royal Society Consultation, Biological Approaches to Enhance Food Crop Production*, 7 October, 2008.

J. Tait, lead for *Evidence on behalf of Innogen Centre to the House of Lords Science and Technology Committee Subcommittee on Genomic Medicine*, 2008

Wield, D. lead, *Response to Department of Innovation, Universities and Skills, A Vision for Science and Society – a consultation on developing a new strategy for the UK*, 2008.

OECD Secretariat Consultation on *Environmental Biotechnology*, 2008

Policy Briefs

Tait, J. (2007) *Multinational Company Innovation Strategies*. Adaptive Governance of Life Sciences Series, No 1. <http://www.innogen.ac.uk/downloads/AGLS-01-Multinational-Company-Innovation-Strategies.pdf>

Tait, J., Chataway, J., and Wield, D. (2007) *The Case for Smart Regulation*. Adaptive Governance of Life Sciences Series, No 2. <http://www.innogen.ac.uk/downloads/AGLS-02-The-Case-for-Smart-Regulation.pdf>

Tait, J., Bruce, A., Chataway, J., and Wield, D. (2007) *Regulating GM Crops: lessons for next generation technologies*. Adaptive Governance of Life Sciences Series, No 3. <http://www.innogen.ac.uk/downloads/AGLS-03-Regulating-GM-Crops.pdf>

Tait, J., Chataway, J., and Wield, D. (2008) *Pharmaceutical futures: Health Biotechnology to 2030*. Adaptive Governance of Life Sciences Series, No 4. <http://www.innogen.ac.uk/downloads/AGLS-04-Pharmaceutical-Futures.pdf>

Tait, J. and Milne, C.P. (2009) *Smarter Regulation of Drug Development: FDA Orphan Products and Fast Track programme*. Adaptive Governance of Life Sciences Series, No 8. <http://www.innogen.ac.uk/downloads/AGLS-08-Smarter-Regulation-of-Drug-Development.pdf>

Tait, J. and Chataway, J. (2010) *Pros and Cons of the Precautionary Principle (PP): European Experience with the regulation of GM crops*. Adaptive Governance of Life Sciences Series, No 9. <http://www.innogen.ac.uk/downloads/AGLS-09-Pros-and-cons-of-Precautionary-Principle.pdf>

Tait, J. (2012) *Governing Synthetic Biology*. Innogen Policy Brief. Adaptive Governance of Life Sciences Series, No 11. <http://www.innogen.ac.uk/downloads/AGLS-11-Governing-Synthetic-Biology.pdf>

Tait, J. *Science and Bias*, Paper presented at the BA Festival of Science, Exeter, 6th Sept., 2004. <http://www.innogen.ac.uk/downloads/Science-and-Bias.pdf>

General Interest, Trade Publications and Media Presentations

Tait, J., Sprevak, M and Sharman, I. Edinburgh University *Big Idea Podcast*. Building on 2014 Edinburgh International Science Festival Presentations. <http://www.ed.ac.uk/news/2014/bigideascience-230414>

Platform speaker and participant in associated film: ESRC Festival of Social Science, *Innovation (Re)Generation: Exploring Regenerative Medicine*. 4th Nov, 2014.

Platform participant as part of Innogen Institute event: Edinburgh Fringe Festival *Cabaret of Dangerous Ideas: Is Scottish independence bad for your health?*, 5th August, 2014.

Invited presentation, *When science and the media collide*. Edinburgh International Science Festival, 16th April, 2014.

Invited presentation, *Life DIY*, Edinburgh International Science Festival, 3rd April, 2013.

Invited speaker, UK Parliament event, *Science and Democracy*, Labour Party 'One Nation Innovation Framework', London, 3rd Dec 2012.

Invited panel discussant, *What's Next for Scottish Science?*, Edinburgh International Science Festival, 5th April, 2012. Sponsor, Scottish Oil Club.

Invited panel discussant, Press Launch for *Public Attitude Survey on GM Food*, British Science Association, London, 8th March, 2012.

Tait, J. (2012) Radio interview with Geoff Watts, BBC File on 4 programme, *Does Science Need the People*, Episode 1, 11.00, 17th July <http://www.bbc.co.uk/radio/player/b01ks52y>; and Episode 2, 11.00 24th July <http://www.bbc.co.uk/radio/player/b01106z0>. Repeated on 17 & 24 July 2013.

Tait, J. (2012) Adaptive Governance of Synthetic Biology. (Opinion item) *EMBO Reports*, 13(7), 579.

Tait, J. and Castle D. (2012) Balanced Regulation of Synthetic Biology (Correspondence) *Nature*, 484, 37.

Tait, J. (2012) Radio Interview with Geoff Watts, BBC File on 4 programme, *The End of Drug Discovery*, May 22nd, repeat on 27th, 2012.

Tait, J. (2012) Interview with Phil Gauron for Open University course on *Living without oil: chemistry for a sustainable future*.

Tait, J. (2011) TV Interview on Biofuels with John Craven. BBC Country File Programme, June 2011.

Tait, J. (2010) Radio interview on Synthetic Biology, BBC Radio 4, Material World, 15th April, 2010, 16.30.

Tait, J. (2009) The Pharmaceutical Industry: Bio-engineering a “Black Swan” *Britain in 2009*. ESRC Publication, p 84.

Tait, J. (2008) ‘More Conflict in Life Sciences: the effects of upstream engagement’. *Science and Public Affairs*. Sept. 2008, p10

Tait, J. (2008) *In the Balance – Where should we be drawing the limits in human embryological research?* BBC Radio Scotland, Guest Speaker, 19.30, 7th Jan, 2008.

2/11/05 05.45 hrs *Farming Today* BBC Radio 4, interview on RCEP Report on Crop Spraying and the Health of By-Standers and Residents.

Tait, J. (2005) Opinion Item – GM Crops, Resistance and Superweeds. *The Scotsman*, Tuesday 26 July, 2005

Tait, J. and Mittra, J. (2004) Industry Challenges. *Chemistry and Industry*, 6 December 2004, Issue 23, pp 24-25.

Tait, J. (2001) Pesticide regulation, product innovation and public attitudes. *Journal of Environmental Monitoring*, 3/4, 64N-69N

Tait, J. (2001) The Precautionary Principle for GM crops. *Agrolinks*, June 2001, pp 4-6.

Tait, J. (1999) Help for the Academic Nomads in Search of their own Sympathetic Tribe. *Times Higher* 5/3/99

11/7/99 09.30 hrs *Benchmark* BBC Radio Scotland, Producer, Janet Alexander

Tait, J. (1996) Devil’s Advocate Interview. *Farming and Conservation*, Jan 1996, pp10-11.

1/10/96 and 8/10/96, 18.15hrs *Requiem for Skylarks* BBC Radio Scotland, Producer Chris Lowell

14/10/95, 06.00hrs *Farming Today* BBC Radio 4, presentation on SNH TIBRE project, along with Scottish farmers Doug Niven and James Wyllie.

14/9/95; 06.00hrs *Farming Today* BBC Radio 4; presentation on SNH TIBRE project.

13/8/95; 21.30hrs *Costing the Earth* BBC Radio 4; presentation on SNH TIBRE project.

Tait, J. (1994) Biotechnology’s Growing Pains. *Social Sciences: News from ESRC*, Issue 22, Jan. 1994, p.5.

Tait, J. (1992) Who’s Afraid of Biotechnology? *New Scientist*, 27 June, 1992, 49.

Tait, J. (1980) Treadmills and Catastrophes in Pest control. *New Scientist*, 12th June, 1980, 254-256.

Conferences and Meetings Organised

The Convention on Biological Diversity, and the Cartagena and Nagoya Protocols: Do these international agreements support societally and environmentally sustainable innovation? Innogen Institute international workshop, 24-25 July 2014, Edinburgh.

Financial Times Global Pharmaceutical and Biotechnology Conference: Transformation of the Pharma and Biotech Industries for a Post-Crisis World, Millennium Mayfair Hotel, London, 17-18 November 2009. Session on: **Smart Regulation - The Key to Radical Transformation**. Participants: Thomas Lönngren, Executive Director, European Medicines Agency (EMA); Murray M. Lumpkin M.D, Deputy Commissioner for International Programs, US Food and Drug Administration; Julian Thompson, Vice President Global Regulatory and Head Primary Care Business Unit, Pfizer Limited; Anjali Nayyar,

Country Programme Director, PATH, India; Joyce Tait, Scientific Adviser, ESRC Innogen Centre

Edinburgh International Science Festival, 4th April, 2007, jointly with ITI Life Sciences, chaired by Joyce Tait. Presenter, Dr. Allen Roses, Senior Vice President, Pharmacogenetics, GlaxoSmithKline, 'Personalised Medicine: the Future of Biopharmaceuticals.

Innogen International Conference, *Evolution of the Life Science Industry Sectors*, Edinburgh International Conference Centre, 23rd-25th February, 2005. The conference brought together keynote and session speakers (four parallel sessions) with international reputations, including industry executives, scientists, policy makers and academics.

Edinburgh International Science Festival, 8th April 2004, jointly with the Scottish Stem Cells Network, chaired by Joyce Tait. The first part of the session explored how the science is developed, followed by a presentation from Dame Helena Kennedy of the Human Genetics Commission on how science can and should engage with the public and how a range of factors can intervene between scientific discovery and practical application.

Innogen Annual Conference, Edinburgh, 13th November 2003 on '**Precaution and Progress: Lessons from the GM dialogue**', sponsored by the Scottish Executive and the Agriculture and Environment Biotechnology Commission. The conference considered the implications of the components of the recent UK debate on GM crops and how these might be integrated in the policy decision making process. 134 delegates attended the conference: 130 from the UK, 3 from Europe and 1 from Beijing. See www.innogen.ac.uk for full details.

World Risk Congress, Brussels, 22nd-25th June 2003. As part of ESRC Social Science Week, organised one day of the three-day World Congress on Risk. The topic for this day was 'Trans-boundary Risk Regulation' with a strong emphasis on biotechnology-related issues. A chapter of the congress publication on Transboundary Risk Regulation, by Joyce Tait and Ann Bruce, has been published by Cambridge University Press.

Invited Participation and Presentations for Conferences and Workshops

2015

Invited platform presentation at the Wellcome Trust/UK Pharmacogenomics and Stratified Medicine Network meeting on *Pharmacogenomics and Stratified Medicine*, 14th Jan, 2015, Hinxton Hall, Cambridge.

Invited speaker on *Regulation-Innovation-Stakeholder Interactions in the Development of Innovative Technologies* at the invitation of the DEFRA Chief Economist, to a group of DEFRA personnel (economists, social scientists and policy representatives), Nobel House, London, 2nd Feb., 2015

Invited keynote speaker, EU Centre for Regulatory Affairs (EUCRAF) Fifth Annual Biopharmaceuticals Meeting: *What currently matters for biopharmaceuticals?* 5th – 6th Feb., 2015, Munich, Germany.

Invited participant, GE Innovation Salon Dinner – *The future of regenerative medicine*, 3rd March, 2015, London

Participant (competitively selected) at Cancer Research UK *Edinburgh Big Think* event, 20th March 2015.

Invited presentation, *Antimicrobials, Regenerative Medicine and Medical Devices: Innovation and Regulatory Challenges*, School of Medicine, University of Dundee, 9th April, 2015

2014

Invited speaker, Workshop on *Breaking through the EU Precautionary Impasse: the Politics of Scientific Decision Making*. 20th Jan., 2014, Brussels School of International Studies, Brussels, Belgium.

Invited participant, *BSI Business Workshop on Responsible Innovation*, Technology Strategy Board, 28th Jan., 2014.

Invited participant, *Workshop on Environmental Risk Assessment of Products Derived from Novel Plant Breeding Techniques*, OECD Working Group on Harmonisation of Regulatory Oversight in Biotechnology, Paris, 10th Feb., 2014.

Invited participant, *Integrated EST Framework and its Application to Synthetic Biology*. Fraunhofer Forum. Berlin, 19th Feb., 2014.

Invited participant, MRC/ESRC workshop, *Anti-Microbial Resistance: Defining the Social Science Agenda*, 25th April, 2014, MRC Head Office, London.

Invited presentation, *Principles, Politics or Practice? What's causing the impasse in GMOs, endocrine disruptors and pesticides?* Workshop on 'Breaking through the European Precautionary Impasse: the politics of scientific decision making'. Brussels School of International Studies, 15th May, 2014.

Invited contributor to panel discussion, *Mind the gap: from cell discovery to therapeutics – governance*. Horizons in Human Cells Conference, 26th – 28th May, 2014.

Invited participant, *Rising Powers Policy Workshop: Models of Biomedical Innovation and Consumer Demand*, UK ESRC Rising Powers Programme 2013-15; London 29th May, 2014.

Invited participant, DEFRA Workshop on *Pharmaceuticals in the Environment: scoping the issues*. London, 18th June, 2014.

Seminar for PhD students at the John Innes Centre, Norwich: *How Can Scientists and Social Scientists Best Work Together?* 20th June, 2014.

Innogen Institute organised session on '*Foresighting Trajectories for Advanced Innovative Technologies*' at the National Science and Innovation Centre conference, 'Achieving Scientific Excellence and Economic Growth', 19th June, 2014. Speakers: J. Tait, J. Chataway, M. Mastroeni.

Invited speaker, Horizon Scanning Seminars for Senior Leaders: No 5 Emerging Technology. Scottish Government Strategy Unit, 2nd July, 2014, Edinburgh, Scotland

Session organiser and presenter, *Governance, Risk and Responsible Innovation*, European Congress on Biotechnology (ECB16), Edinburgh, 13-16 July, 2014

Invited keynote speaker, ESF/EMBO Symposium, *Synthetic biology of antibiotic production*. Saint Feliu de Guixols, Spain, 30th Aug – 4th Sept., 2014.

Invited speaker, Nuffield Council on Bioethics event: *The Culture of Scientific Research*. 17th Sept., 2014, Edinburgh, Scotland.

Invited keynote speaker, British Crop Protection Council Congress, *European regulatory affairs*, 30th Sept. – 1st October, 2014, Brighton, UK.

Invited keynote speaker, 9th Annual Biocontrol Industry Meeting (ABIM), 20th – 22nd October, 2014, Basel, Switzerland.

Invited participant, UK/US Summit, organised by the UK Synthetic Biology Leadership Council and US National Academies' Forum on Synthetic Biology, *Creating an Environment to Support Investment and Innovation in Synthetic Biology*. 28th and 29th Oct., 2014, London.

Invited keynote speaker, European Risk Forum meeting - *Toward an ever better performing EU Impact Assessment system: Considering wider regulatory impacts of risk management decisions*, 18th Nov., 2014, Brussels, Belgium.

2013

Invited presentation on 'Social Science of GM and Other Technologies', Rank Prize Fund Conference on *Gene Transfer to Plants: 30 Years On*, London, 28 Jan, 2013.

Invited participant, *Pharmaceutical Resilience for Serious Infectious Disease*, Royal United Services Institute, London, 5th Feb., 2013.

Co-organiser, *Will independence affect Scottish science and innovation?* Edinburgh International Science Festival, 1st April, 2013.

Invited presentation. *Global food security and the Governance of Modern Biotechnologies*. EU FP7 TiMet Conference, Barcelona, Spain, 15th Apr., 2013.

Invited participant, *Panel on Governance of New Technologies*. EGN Conference, Genomes and Societies: Global Challenges around Life Sciences. London, 30 Apr – 1 May, 2013

Invited presentation, *Good Governance and Responsible Innovation*. Science and Innovation 2013, QEII Conference Centre, London, 27th June, 2013. (Workshop session organised by the Innogen Institute)

Invited attendee for Ministerial announcement and speech by the Secretary of State for Agriculture on the potential role of GM technology in helping us to meet future challenges. Rothamsted Research, 20th June, 2013.

Invited participant, Workshop, Synthetic Biology, Innovation and Intellectual property: towards a UK Strategy. London, 24th June, 2013. (organised by the Innogen Institute and the Synthetic Biology Leadership Council).

Invited presentation. *Uncertainty and Risk: Lowering barriers to Syngenta's ability to develop and register products*. Workshop: Biological Sciences and Product Safety, Syngenta, Jealotts Hill, 2-3 Sept, 2013.

Invited presentation, *New biotechnologies: innovation, governance and stakeholder interactions*. Conference: Green Viruses, from gene to landscape. Hyers-les-Palmiers, France, 7-11 Sept., 2013.

Invited participant for ESRC, *International Workshop on Cell Therapies: Regulatory Pathways*. Bethesda, MD, USA, 17th Sept., 2013.

Invited participant in a series of meetings on *Research Strategy and Federal Funding Infrastructure*, organised by Science and Innovation Network UK-US Responsible Research and Innovation Partnership Campaign, Boston, 18-20 Sept. 2013.

Invited participant, *Scoping workshop for a responsible innovation study on unconventional hydrocarbons*. Research Councils UK Energy Programme, London, 1st Oct., 2013.

Keynote address. *Science, evidence and advocacy in European regulatory decision making*. British Crop Protection Council Congress, Brighton, 1st October, 2013.

Invited presentation and panel discussion. *Public relations in the pesticide industry*. British Crop Protection Council Congress, Brighton, 2nd October, 2013.

Invited participant. *Synthetic Biology in the Media: what does it mean for business?* Science Media Centre and Technology Strategy Board, London, 9th Oct., 2013.

Invited presentation. *To what extent can best practice standards promote innovation and reduce the need for government intervention?* EU Workshop on Synthetic Biology IP, Standards and Regulatory Issues, London, 10 – 11 Oct., 2013 (organised by the Innogen Institute in collaboration with the Synthetic Biology Leadership Council).

Invited seminar, *New Models of Collaboration between Social and Natural Sciences*. Science, Technology and Innovation Studies Seminar, Edinburgh, 21st Oct., 2013.

Invited presentation, *A value system approach to development of life science innovation*. OECD Working Party on Biotechnology, Paris, 5th Nov, 2013.

Invited presentation, *Adaptive Governance of innovative Technology*, Innogen Institute event for ESRC Festival of Social Science, Edinburgh, 6th Nov, 2013.

2012

Invited presentation, *Interdisciplinary Research: the Science-Society Interface*. ESRC Impact Agenda Workshop, Manchester Business School, Manchester, 22nd Feb., 2012.

Invited participant. *Regenerative Medicine: Navigating the Uncertainties*. BIS Conference Centre, London, 24th Feb., 2012.

Invited presentation. *Medicine Value Systems*. Conference – Progress to Therapy: Realising the Promise of Regenerative Medicine. Glasgow, 21-23 March, 2012.

Invited presentation, *Biofuels: an ethical solution to the global transport fuel problem*. Edinburgh International Science Festival, 14th April, 2012. Sponsor, Nuffield Council on Bioethics.

Invited participant, *Tools for Global Crises*. OECD Conference, Paris, 18th April 2012.

Invited Presentation, “Open Innovation in the Life Sciences”; Workshop – *Collaborate to Innovate: Open Innovation, SMEs, Motives and Barriers to Cooperation*, BioCity, Scotland, 31st May, 2012.

Invited Presentation, “Synthetic Biology and Social Sciences”, *4th New Phytologist Workshop on Synthetic Biology*. Bristol, 8th June, 2012.

Invited presentation, “Current regulatory landscape and potential inadequacies and gaps” *Science, Policy and Politics in Food Production and Consumption*. 13th FERA/JIFSAN Symposium (UK Food and Environment Research Agency and US Joint Institute for Food Safety and Applied Nutrition), York, 13th-15th June, 2012.

Invited participant and adviser, Final Conference for SYBHEL FP7 Project, *Synthetic Biology, for Human Health: the ethical and legal issues*. London, 19th June, 2012; including video presentation on “Public concerns, Public Education”, <http://vimeo.com/44795242>.

Invited participant, *Going for Growth Roundtable*, Agricultural Biotechnology Council, BIS Conference Centre, London, 26th June, 2012.

Invited presentations, “Beyond ELSI: smart adaptive governance of synthetic biology”; Technology Strategy Board Synthetic Biology Special Interest Group Consortium Building Workshops. Edinburgh, 24th July, 2012; Manchester, 25th July, 2012.

Invited presentation, “Smart Adaptive Governance of Synthetic Biology: Beyond ELSI” *Society for General Microbiology Conference*, Warwick, 5th Sept., 2012.

Panel member, discussion on *Personalised/Stratified Medicine*; Inaugural Edinburgh BioQuarter Networking Event, led by Sir William Castell, Chair, Wellcome Trust, 2nd October, 2012.

Invited presentation, *Cell therapy value systems: facilitating routes to market*. BEST Stem Cells Symposium, Edinburgh, 22nd October 2012.

Invited seminar presentation, *Doing Interdisciplinary Research: Challenges and Opportunities*. Espacio Interdisciplinario, Universidad de la Republica, Uruguay, 22nd Oct., 2012 (by video link).

Invited presentation, ‘Governance: an area of flux’, Strategic Workshop, *Biological Containment of Synthetic Microorganisms: Science and Policy*. EMBO, Heidelberg, Germany, 13-14 November 2012.

Invited presentation, ‘Adaptive Governance of Innovative Technologies’ *1st Annual L’Oréal R&I Scientific Workshop*. Paris, 26th November 2012.

Invited presentation by video link to conference: *Bioenergy Futures: Technical Feasibility Meets Social Sustainability*, sponsored by the Sustainable Michigan Endowment Project (SMEP) and Michigan State University’s AgBioResearch, East Lansing MI, USA, 29 Nov – 1 Dec, 2012.

Invited speaker, UK Parliament event, *Science and Democracy*, Labour Party ‘One Nation Innovation Framework’, London, 3rd Dec 2012.

Invited presentation, ‘Personalised medicine: a smarter, more adaptive regulatory approach’, *Opportunities for Diagnostic Technologies in Personalised Medicine*, ESP KTN/Edinburgh University, 6th Dec 2012.

Discussion panel on ‘Risk Assessment Challenges of Synthetic Biology’, *SynBio Workshop*, organised by COGEM (Commissie Genetische Modificatie - NL), HCB (High Council for Biotechnology - FR), SBB (Biosafety and Biotechnology Unit - BE), and ZKBS (Zentrale Kommission für die Biologische Sicherheit - DE), Paris, 12/12/12.

2011

Invited presentation, *Dialogue, Engagement and Risk Governance*, Syngenta Synthetic Biology Workshop, Jealotts Hill, Berkshire, 11th-12th Jan, 2011.

Invited Seminar, *Appropriate Risk Governance for Agricultural Innovation*, seminar for Syngenta staff, Jealotts Hill, Berkshire, 13th Jan., 2011.

Invited presentation, *Drugs and Pesticides: managing risk and uncertainty in the life sciences*. CAMERAS Conference, “Volcanoes and Snowstorms – effective decision making and public communication in a risky and uncertain world”. Edinburgh 2nd-3rd March 2011.

Invited presentation, *Introduction and Overview*, Nuffield Council on Bioethics Launch of Report, “Biofuels: ethical issues”, London, 13th April 2011

Invited presentation, *Futurecasting: techniques and technology with an impact on medical research in the next decade*. MRC Fellows Symposium, London 18th May 2011.

Invited Nuffield Council on Bioethics participant to brief UK Government Departments on *Biofuels: Ethical Issues Report* (Defra, Dept. of Transport, DECC, DfID, Treasury, BIS

(Foresight) at the invitation of UK Government Ministers Caroline Spelman and Vince Cable). London, 30 June 2011.

Invited Nuffield Council on Bioethics participant to brief EC Commissioner for DG Energy on *Biofuels: Ethical Issues* Report, London, 23 June 2011.

Invited participant, Conference on *Risk Assessment and Synthetic Biology*, Sloan Foundation, New York, USA, 6th-8th July 2011.

Invited participant, *Regenerative Medicine Forward Look*, Stakeholder Workshop, Joint Research Councils and Technology Strategy Board, London, 5th-6th Sept., 2011.

Invited presentation, *Current Regulatory Landscape: potential inadequacies and gaps*. Conference on 'New Prospects and Perils of Synthetic Biology', Food and Environment Research Agency, York, 22nd and 23rd Sept., 2011.

Invited presentation, *Inappropriate Governance of Risks in Life Sciences: food security and health issues*. International Risk Governance Council Annual Event, Lausanne, Switzerland, 3rd October 2011.

Invited workshop presentation, *Agrifood: Feeding Nine Billion*, TSB Innovate '11 Conference, London, 11th Oct., 2011.

Invited report and presentation, *Innovation, policy and public interactions in the management of infectious diseases*. Institute on Science for Global Policy Conference on 'Emerging and Persistent Infectious Diseases', Edinburgh, Scotland, 23-26 October, 2011.

Invited participant, *Advances in Biological Sciences and Security*. Joint UK Home Office/US Department of Homeland Security meeting, Baltimore, USA, 9th and 10th November, 2011.

Invited presentation, *Societal Issues Influencing Agriculture and Crop Protection*. TSB KTN Biosciences Conference, The Impact of Reduced Pesticide Availability, London, 13th Dec., 2011.

Invited plenary presentation, *The Role of Big Pharma in Drug Development Partnerships*. IQPC 3rd Annual Congress: Drug Discovery Partnerships, Dusseldorf, 13th-14th Dec., 2011.

2010

Invited participant, Food Standards Agency Workshop on the *Evaluation and Expression of Uncertainties in Risk Assessment*, 2nd & 3rd Feb., 2010, Oulton Hall, Leeds.

Invited presentation, "Risk Governance of Synthetic Biology" EC Directorate General for Health and Consumers, *Synthetic Biology Workshop: From Science to Governance*, Sofitel Brussels-Europe Hotel, Brussels, 18-19 March 2010

Invited presentation and platform discussant, *Designer Life: Scotland's Next Industrial Revolution*, Edinburgh International Science Festival, Royal College of Surgeons, Edinburgh, 13th April, 2010.

Invited seminar, *Health Related Modelling*. Health Protection Scotland, Glasgow, 20 July 2010.

Invited participant, "*The Future of Environmental Bioscience: Science, Technology, Policy and Society*". OECD Workshop, Rimini, Italy, 16-17 September, 2010. (Also acted as rapporteur and wrote two follow-up reports).

Invited speaker, *Better Health through Bio-medicine - Innovative Governance*, OECD Workshop, Berlin, Germany, 27-28 September, 2010.

Presentation, *How to get more Bangs for the bucks you've already spent*, Conservative Party Conference, Birmingham, 5th October, 2010-10-21

Presentation, *Synthetic Biology Round Table*, Scottish Parliament, 6th October, 2010

Invited Plenary Presentation, *Impact through Biosciences*. Technology Strategy Board, Knowledge Transfer Network, First Annual Conference, Edinburgh, 18-19 October, 2010.

Invited participant and presenter, *Synthetic Biology Related Workshop*. Sloan Foundation, Wilson Centre and US Department of Energy, Washington DC, USA, 8-9 November 2010.

Invited presentation, EGN/OECD Conference “Delivering Global Promise through Life Sciences”, Paris, 7th Dec., 2010.

2009

Invited seminar presentation, “Predicting Infectious Disease Outcomes – could we do better?” London International Development Centre Seminar Series on *Social Science of Infectious Diseases*, 28 Jan, 2009, London.

Invited participant and presenter at international workshop on *Developing New Approaches to Biological Risk Assessment*. US International Council for Life Sciences and UK Royal Society, 19 Feb., 2009, London

Invited presentation, “Innovation, societal and regulatory interactions in vaccine development.” *NOAH Food Chain Conference*, 25 Feb. 2009, London.

Invited presentation, “Regulation-Innovation Interactions: what works for synthetic biology”. *Advances in Synthetic Biology*. 28-29 April, 2009, London.

Invited presentation, “Data – Knowledge – Application – Governance”, *BioSysBio 2009*, 21 May, 2009, Cambridge.

Invited presentation, “Contingency Planning for an Influenza Pandemic: risk governance deficits and how to avoid them” *Lloyds Business Continuity Workshop*, 24 June, 2009, London.

Invited presentation, “Food, sustainability and plant science: a global challenge”, EMBO/EMBL International Conference, 6 – 7 November 2009, Heidelberg, Germany.

2008

Invited seminar, “Rules of Engagement and Second-guessing Science”, Institute for Science and Policy, Nottingham University, 21st February, 2008.

Invited presentation, “Appropriate Risk Governance of Innovation in Life Sciences”. CSG/EGN Conference, *Genomics and Society – Setting the Agenda*. Amsterdam, 17-18 April, 2008.

Invited presentation to workshop on *Dealing with Uncertain Technological Risks: improving the appraisal and regulation of risks from emerging technologies*. Pugwash Conferences on Science and Public Affairs, 31 May – 1 June, 2008, Edinburgh.

Invited presentation and workshop chair, *Future Infectious Disease Threats to the European Union*. European Centre for Disease Control (ECDC), 1-2 July, 2008, Stockholm.

Invited Presentation, EGN Workshop, *Public Engagement: Promise and Perils*, Edinburgh, 17 July, 2008.

(With Joanna Chataway and David Wield) offered presentation, “Alternative Futures for Life Science Innovation” *EGN Conference, Reinventing Life*, 27-28 Oct., 2008, London.

Participant in conference discussion session, “The Knowledge Exchange – Innovative Europe” *EGN Conference, Reinventing Life*, 27-28 Oct., 2008, London.

Invited participant, *OECD Secretariat Consultation with Experts on Delivery of Environmental Biotechnology Innovation*, 29 Oct, 2008, Paris.

Guest Lecture, “*Pharmaceutical Futures: Health Biotechnology in 2030*” Oct. 30, 2008, University of Utrecht.

Invited presentation, “Environmental and Social Ecology of Human Infectious Disease”, *MRC Infections and Immunity Board Workshop*, 3 Nov., 2008, London.

Invited Participant, *Future of Synthetic Biology Workshop*, Wellcome Trust, 4 Nov., 2008, London.

Invited presentation, “Governance of Synthetic Biology: science, policy and citizens” *EMBL/EMBO Conference on Systems and Synthetic Biology: Scientific and Social Implications*. 7-8 Nov., 2008, Heidelberg.

Invited plenary presentation, “The life science industry sector: how much momentum does it have and what is its future?” *Genomics Momentum, 2008*. 11 Nov., 2008, Rotterdam.

Invited seminar, “Predicting complex Futures: the role of regulation in health technology foresight”. *Complexity and Policy*, 26 Nov., 2008, LSE, London.

2007

Invited session discussant, “Governance and Knowledge and the Science-Society interface”, Egenis Conference, *Governing Genomics: Interdisciplinary Perspectives on the Regulation of the Biosciences*, Exeter, 25th-27th Jan., 2007

Invited presentation, “Life Science Industries – Managing a Turbulent Future”, *Molecular Medicine Tri-Conference: Global Strategies Executive Summit*, San Francisco, 27th Feb – 2nd March, 2007

Invited presentation, “Riding a Roller-coaster: policy, public and science interactions”, *Synthetic Biology 3*, 24-26 June, 2007, Zurich, Switzerland.

Invited keynote presentation, “Life Science Industries – Managing a Turbulent Future”, *The Pharma-Bio Outsourcing Conference*, London, 10-11 July 2007.

Invited keynote presentation, “Upstream Engagement and Life Science Innovation”, SRA UK Chapter Conference, *Risk Perception: Current Themes and Debates*, University of Nottingham, 7th September, 2007.

Offered presentation, “Path-breaking Innovations and their Regulation”. *EGN Annual Conference*, 24 October, 2007, London.

Invited presentation, “Governance of Innovation in Life Sciences”, Workshop on *Promises and Challenges of Life Sciences Industry in Central and Eastern Europe*. Organised by Innogen Centre, Open University; 18 Oct., 2007, Prague.

Panel discussion participant, “Lessons from monoclonal antibodies and GM crops – fast track to market and public acceptance” *European Stem Cells Business Summit*, Edinburgh, 11-12 October, 2007.

Invited presentation, “Systems Biology and Medicine”, *Third International Conference on Pathway Medicine*, Edinburgh University, 1st Nov., 2007.

2006

Chair, OECD Working Party on Biotechnology, international meeting on *Research Models for the Delivery of Health Innovation*, Paris, 23/3/06

Invited participant and presenter, US/EU Transatlantic Dialogue on *Synthetic Biology*, Warrenton, Virginia, USA, 24th-25th April, 2006.

Invited presentation, “Societal contexts for managing diseases in the future”, *Infectious Diseases – Preparing for the Future*, Launch of results of OSI Foresight Project on *Detection and Identification of Infectious Diseases*, London,

Invited presentation, “Interdisciplinary Research Processes and Challenges”, RELU/BA Workshop on *The Challenge of Interdisciplinarity*, Birmingham, 12th May, 2006

Invited presentation, “Singing from the same hymn-sheet: Can Genomics Harmonise with Chemistry?”, *SCIPharm 2006 Conference*, Edinburgh, 14th-17th May, 2006.

Invited presentation, “Managing Risk in a Creative Society”, OECD –organised session in the 7th *World Knowledge Forum, Creative Economy*, Seoul, South Korea, 17th-19th Oct., 2006

Chair, “Risk Management and Communication Session”, BCPC Conference, *Crop Science and Technology – Global aspects of crop production, crop protection and food supply*, Glasgow, 25th Oct., 2006.

Invited speaker, “Emerging Research Models”, *OECD International Workshop on Emerging Research Models for Delivery of Health Innovation*, Paris, 20th-21st Nov., 2006.

Invited presentation, “Impacts of Policy and Regulatory Decisions on Translational Processes in Life Sciences”, *From Innovation to Mainstream Healthcare Services: assessing the challenges of translation*, EBK Workshop, University of Warwick, 29th Nov, 2006.

Invited speaker, “Applying the IRGC Risk Governance Framework: the case of GM crops”, *Society for Risk Analysis 26th Annual Meeting*, Baltimore, USA, 4th-6th Dec., 2006.

2005

Invited Keynote Address, on *Interdisciplinary Rural Research: Learning the Lessons from Previous Collaborative Programmes between Social and Natural Scientists*, ESRC/NERC RELU Programme Conference, Birmingham, 20th January, 2005.

Invited presentation on *Citizen Centred Public Policy Making*. HSE Chief Scientist’s Seminar; London 21st March and Bootle, 26th April, 2005

Invited Participant in discussion dinner on *Genetic Connections*, organised by Scottish Enterprise Edinburgh and Lothians (SEEL), 15th March, 2005

Invited presentation on *The Life Science Industry Sector and the Challenge of Upstream Engagement*, 6CP Conference on ‘The Future of Research: New Players, Roles and Strategies’, 21-22 April, 2005, Rotterdam.

Invited Keynote Address on *Innovation, Risk and Stakeholder Engagement: Framing New Technology*, International Risk Governance Council 2005 General Conference, Beijing, China, 20-21 September, 2005.

Invited Keynote Address on *Innovation, Risk and Stakeholder Engagement: Framing New Technology*, Safety and Risk Evaluation International Forum, China Business Council for Sustainable Development, 22nd September, 2005, Beijing, China.

Invited presentation on *Risk Management and Risk Perception – Science and Society*. BCPC International Congress Special discussion session on the Report of the Royal Commission on Environmental Pollution on ‘Crop Spraying and the Health of Bystanders’, 1st November 2005, Scottish Exhibition and Conference Centre, Glasgow

Offered presentation: “Governance of Stem Cells: US and EU Perspectives”. Scottish Stem Cell Network Conference: *Stem Cell 2005: Progress to Therapy*, Edinburgh 4th-5th March 2005

Offered presentation (with Robin Williams) "Innovation, Risk and Stakeholder Engagement: Framing Nanotechnology" *EuroNanoForum 2005*, Edinburgh, 5th-7th September, 2005

2004

Invited participant and presenter, with Robin Williams, at the inaugural meeting of the PRIME Network of Excellence, Madrid, 8th – 10th January 2004.

Invited presentation on 'What Counts as Democratic Engagement?' at the Genome Canada meeting on *Genomics in an Open Society*, Vancouver, February 5th-7th, 2004.

Chair and joint organiser of a seminar on 'Will Stem Cells be the Solution to Degenerative Diseases?', Innogen Centre with the Royal Society of Arts and the Scottish Stem Cells Network, Royal College of Surgeons, Edinburgh, 12th Feb., 2004.

Commissioned seminar for Scottish Executive staff on 'Risk and Ethics' for the *SUPRA Seminars Series* with Prof. Jane Bower, 17 Feb., 2004

Invited commentary on 'Learning the Lessons and the Future for Deliberation post GM Nation?', *GM Nation? the Public Debate: Learning the Lessons*, British Academy, London, 19 Feb., 2004.

Invited participant, Stakeholder Consultation Meeting, Agriculture and Environment Biotechnology Commission, London, 26 Feb., 2004.

Invited presentation on 'Integrated Governance of GM crops and Pesticides' as part of the *Bio-Talk Seminar Series*, Technology and Agrarian Development Group, Wageningen University, Netherlands, 30th March, 2004.

Invited presentation on 'Interdisciplinary Research: Processes and Challenges', EC Conference on *The Europe of Knowledge 2020: a vision for university based research and innovation*, Liege Convention Centre, Liege, Belgium, 25-28 April 2004.

Invited participant at the *Diebold Conference on Innovation and Public Policy*, Royal Institute of British Architects, London, 27 April 2004.

Commissioned seminar for Scottish Executive staff on 'Risk and Sustainable Development' for the *SUPRA Seminars Series* with Dr. Joseph Murphy, 30 April, 2004

Invited presentation on *Science and Bias* to BA Festival of Science Session on 'Is Science Fact Science Fiction' 6th September, 2004

Invited presentation on *Interdisciplinary Research* to SHEFC Meeting, *RAE 2008 - interdisciplinary, inter-institutional, applied and practice-based*, 7 October 04, to inform the development of guidance to RAE 2008 panels.

Invited attendee at Department of Health *Mid-Term Review of Genetics Knowledge Parks*, Leeds, 11-12 October 2004

Invited presentation on *Operationalising the Precautionary Principle* at RSA Forum for Technology, Citizens and the Market, London, 13th October 2004.

Invited presentation on *Governance of Life Science and Related Industry Sectors* to SEERAD (Scottish Executive Environment and Rural Affairs Department) Genomics Workshop, Dundee, 14th October 2004.

Invited attendee at HFEA Reception, Edinburgh, 19th October 2004.

Invited presentation and participant in discussion on *Should Scientists Tamper with Nature?*, ESRC Organised event at Royal Society of Edinburgh, 9th November, 2004.

Offered presentation on *Integrated Risk Management and Global Governance of Pesticides* to Society for Risk Analysis European Conference, Paris, 15-17 November, 2004.

Invited Chair of Final Discussion Session, Closing Conference of EC STAGE Programme, 26th Nov, 2004.

2003

Invited presentation to Royal Society of Arts, Edinburgh on Regulation of GM Crops, 14th Jan., 2003.

Invited Seminar to Scottish Executive staff on Integrated Policy Approaches in the context of Genomics Innovation, with Professor Jane Bower

Invited Presentation on *Corporate Responses to Regulation and Public Perception: The case of agriculture/pesticides*, CARR Seminar on Environmental Risk: Corporate Responsibility, Corporate Responsiveness, University of Aberdeen, March 20th and 21st, 2003.

Café Scientifique presentation on GM crop development, Edinburgh International Science Festival, Oxygen Café, 1st April 2003.

Invited participation in ESRC Meeting to develop Stem Cell Research Programme, London, 17th June, 2003

Invited seminar to staff at the Roslin Institute, Edinburgh, on *Genetic Research on Plants, Animals and People: what do scientists need to know about public concerns and policy responses*, 19th June, 2003.

Society for Risk Analysis, *First World Congress on Risk*, Brussels, 22-25 June, 2003.

Overall organiser of sessions on 24th June, and leader of a session on Globalisation and GM crop development. (Innogen Centre's contribution to ESRC Social Science Week).

Invited presentation to Post-Graduate Forum on Genomic Sciences, SPRU, Brighton, 20th August, 2003

Invited presentation on *The UK GM Crops Dialogue: Governing Life Sciences and Nanotechnology* to British Association Meeting, Science and Governance Session organised by Prof Steve Rayner, Salford, 8th Sept. 2003.

Invited Seminar to Scottish Executive staff on 'Integrated Policy Approaches - Risk : Engaging stakeholders in the policy process' in the context of GM Crops and Genetics Databases, with Ann Bruce, 9th Sept. 2003

Invited by ESRC to organise and chair a workshop on *Social Issues* at MRC Conference, *Stem Cells Shaping the Future*, 15th Sept., 2003; other presenters at the Workshop were Dr. Graeme Laurie (Innogen) and Professor Sarah Franklin (Cesagen)

Invited, along with James Mittra, by the Scottish Science Advisory Committee to meet Ms Tamara Traubman, Science Correspondent, Haaretz Newspaper, Israel, guest of the Foreign and Commonwealth Office, 26th September, 2003 to discuss UK's role in science, focusing on DNA research, bioethics and the GM debate.

Offered presentation, with David Wield and Robin Williams on *Integrated Policy Making and Governance of Life Sciences* at the 'Biotech Society' Conference, Helsinki, 29th-30th Sept. 2003

Invited member, along with Graeme Laurie, of the delegation from the Scottish Stem Cell Network and Royal Society of Edinburgh to Brussels on 15th October 2003, to discuss '*Stem cell research - opportunities and challenges*'. The objectives of the meeting were: to provide an opportunity for MEPs, Council staff and Commission staff to develop their understanding of stem cell science, and its social and economic implications; to inform the debate about the ethics of stem cell research and development and to inform the discussion on the guidelines for FP6 funding of this area of research; and to raise the profile of Scottish

achievements in stem cell research. Both Joyce Tait and Graeme Laurie gave presentations.

Invited Seminar to Scottish Executive staff on 'Risk Management in Policy Making: the role of science and technology in evidence-based policy making in the context of transport; with John Adams, UCL, 20th Nov., 2003.

Invited seminar on *Bio-informatics and the challenges of interdisciplinary research* to the Edinburgh Bio-informatics Network, 27th Nov., 2003.

Invited participant and presenter at the UNIDO European Consultative Meeting on Biotechnology, Vienna, 9th -12th December 2003.

2002

Invited participant and presenter at the Workshop on 'The US, the EU, and Precaution: A Comparative Case Study Analysis of the Management of Risk in a Complex World' funded by the German Marshall Fund of the US, the European Commission and the US Mission to the EU, organised by the European Policy Forum, Bruges, January 2002

Invited presentation on 'The Regulation of Science – Foresight and Precaution' to the event on The Regulation of Science, organised by the Hazards Forum at the Royal Society of London, February 2002; Chair, Stephen Falder, Better Regulation Task Force, Cabinet Office; Keynote speaker Professor David King FRS, Chief Scientific Adviser, Cabinet Office

Invited participant at the Conference on 'The Role of Foresight in the Selection of Research Policy Priorities', and rapporteur for one of the sessions; held in Seville, May, 2002 to mark the Spanish Presidency of the EU, organised by the EC Directorates General for Research and the Joint Research Centre.

Invitee to Working Meeting on *The Future of GMOs in the European Union*, Institute for Prospective Technology Studies, Seville, 13-14 June, 2002.

Invited presenter and participant, International Summer Academy on Technology Studies, *Technology and the Public*, Deutschlandsberg, Austria, 7-13 July, 2002,

Invited presentation on *Governance and Integration* at EC Conference, 'Europe's Regions Shaping the Future: the Role of Foresight', Brussels, 24-25 September, 2002.

Invited participant at Royal Society of Edinburgh Dinner to discuss *A Science Strategy for Scotland*, 24th October, 2002.

Participant at Workshop: *Trust in the Public Sector*, ESRC Network for Evidence-Based Policy and Practice, 1st November, 2002, York.

Seminar on '*Risk and Governance*', University of East Anglia, Understanding of Risk Programme, 22nd November, 2002.

Invited participant in Scenario Workshops organised by the Prime Minister's Strategy Unit as part of the UK GM Crops Dialogue, 2nd Dec., 2002

Invited contribution to the work of the Cabinet Office Better Regulating Task Force Report on *Scientific Regulation: Innovation with Controls*, 5th Dec., 2002

2001

Presentation to Royal Commission on Environmental Pollution on Public Attitudes to Chemicals and Industry Strategies in Developing Chemicals.

Presentation to Chemicals Stakeholder Forum on the same subjects.

Presentation to the European Congress on Biotechnology, Madrid, on public Attitudes to biotechnology

Presentation on Transboundary Risk Regulation to the World Business Council on Sustainable Development/Royal Institute for International Affairs Conference on Building a Low Carbon Future.

Presentation on Risk Regulation and Communication to Water Pollution Symposium – Stakeholders Meeting, organised by the Environment Agency and Water UK.

Meeting organised by OECD and DEFRA to advise on UK's performance against sustainability indicators.

Participant at PIU Strategic Thinkers Seminar on Managing Risk and Uncertainty

Presentation on 'The European Agro-biotechnology Industry' to Berkeley (US) Workshop on 'The Political and Cultural Economy of Agricultural Biotechnologies and the Life Science Industries', June 2001, Berkeley, California

Presentation to Conference on 'Unity and diversity: The contribution of the social sciences and the humanities to the ERA', held at Bruges, October 29-30, 2001, to mark the Belgian Presidency of the EU.

2000

Invited participant in a series of meetings under the French Presidency of the EU to discuss Agricultural Research in the European Research Area; culminating in the Versailles conference in Dec. 2000.

Presentation to the Harvard Centre for Risk Analysis conference in Washington DC on Implementation of the Precautionary Principle in Europe.

Presentation on Transboundary Risk Regulation to Society for Risk Analysis Symposium on Risk and Governance, Virginia, USA,

Presentation to OECD Workshop, Wageningen, on the Adoption of Technologies for Sustainable Farming Systems

28 July 2015