

CURRICULUM VITAE (AUGUST 2013)

PERSONAL DETAILS

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And

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Date/Place of Birth: 01/09/45, Paignton, Devon UK
Nationality: British; Resident Latvia

FURTHER/HIGHER EDUCATION

Education: 1966-69 Chemistry, University of London

TRAINING AND QUALIFICATIONS

BSc, PhD, MRIC

Qualifications: 1969 University of London First Class Honours Special Degree
in Chemistry
1970-71 SRC research studentship for PhD Physical Chemistry
(nmr spectroscopy), Queen Mary College, London
1974 Elected Member of Royal Society of Chemistry
1974 Chartered Chemist

1981 PhD Chemical Physics (Raman spectroscopy/electrochemistry) University of Kent, Canterbury

Learned Societies:

Member: Royal Institute of Chemistry
Member: Royal Society of Medicine
Member: International Society for Environmental Epidemiology
Member: Ukraine Committee: Physicians of Chernobyl

UK Government Committees

Member: (Department of Health and DEFRA) CERRIE
Committee Examining Radiation Risk from Internal
Emitters 2001-2004

www.cerrie.org

Member: Ministry of Defence DUOB
Depleted Uranium Oversight Board
2002-2007

www.duob.org

Other Committees

Scientific Secretary: European Committee on Radiation Risk

www.euradcom.org

Science Policy group Leader: Policy Information Network on Child
Health and Environment PINCHE

www.pinche.org

Scientific Secretary: International Committee on Nuclear Justice

www.nuclearjustice.org

1.2 EMPLOYMENT

- 1969 – 1975 Research physical chemist, Wellcome Foundation, Beckenham
- 1975 - 1978 Self employed scientific consultant and science writer
- 1979 - 1981 PhD student University of Kent
- 1981- 1982 SERC Research Fellow University of Kent
- 1983- 1992 Self employed scientific consultant and science writer
- 1992- present Science Director, Green Audit, commissioned to research the health effects of ionizing radiation and funded by a number of charities and independent bodies.
- 1995 Funded by the Joseph Rowntree Charitable Trust to write and produce 'Wings of Death- The health effects of low level radiation.'
- 1997-2000 Directed research at Green Audit Funded by Irish State to research health effects of Sellafield
- 1997 Appointed UK Representative of European Committee on Radiation Risk (ECRR)
- 1997 Foundation for children with leukaemia; research on non-ionising radiation
- 2001 Appointed Scientific Secretary of ECRR and commissioned to prepare the report ECRR 2003- The Health effects of low doses of Ionizing Radiation (Published 2003)
- 2001 Appointed to UK Government Committee Evaluating Radiation Risk from Internal Emitters (CERRIE)
- 2001 Appointed to the UK Ministry of Defence Oversight Committee on Depleted Uranium (DUOB)
- 2002 Funded by the Joseph Rowntree Charitable Trust to write a new book on the epidemiological evidence of health consequences of exposure to ionizing radiation: 'Wolves of Water'
- 2003 Appointed Honorary Fellow, University of Liverpool, Faculty of Medicine, Department of Human Anatomy and Cell Biology
- 1992-2008 Science Director, Green Audit
- 2003 Funded by Joseph Rowntree Charitable Trust to write Book *Wolves of Water Cancer and the Environment*
- 2004 Leader of Science Policy for(EU) Policy Information Network for Child Health and Environment *PINCHE* based in Arnhem, The Netherlands
- 2005 3 year research funding by Joseph Rowntree Charitable Trust; Corporate Responsibility in Science and Policy
- 2008 3-year research funding from The Joseph Rowntree Charitable Trust; Corporative Responsibility in Science
- 2008 Appointed Guest Researcher, German Federal Research Laboratories, Julius Kuhn Institute, Braunschweig, Germany
- 2008 Appointed Visiting Professor, School of Molecular Bioscience, Faculty of Life and Health Sciences, University of Ulster, Coleraine, Northern Ireland
- 2012 Appointed Visiting Scientist, Faculty of Science and Engineering, Jacobs University, Bremen, Germany

1.3 TEACHING EXPERIENCE

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| 1970 | Taught O-level Chemistry part time, Inner London Education Authority |
| 1980-1981 | Gave tutorials in quantum mechanics at the Dept. of Chemistry. University of Kent |
| 1995-1997 | Invited lecturer at the University of Sussex Dept. of Physics. |
| 1995-1997 | Invited lecturer in the University of Wales, `Aberystwyth, Physics Department and Geography Department |
| 2000 – 2005 | Invited lecturer in the University of Liverpool Faculty of Medicine SSM5 ‘Environment and Health’ addressing internal radiation risk and cancer epidemiology of small areas. |
| 2005 | Invited lecturer University of West of England; Radiation Risk and epidemiology |
| 2006 | Invited lecturer: Dept. of Law, University of Wales, Aberystwyth |
| 2006 | Invited lecturer: Dept. of Environment, University of West of England |
| 2007 | Invited lecturer: Centre for Molecular Bioscience, University of Ulster (annually) |

1.4 ADMINISTRATIVE EXPERIENCE

Professional Administration:

Senior Scientist

Dept of Physical Chemistry, Wellcome Research Laboratory, Langley Park, Beckenham

Science Director, Green Audit

2004-2006 Leader: Workpackage 6 Science and Policy; PINCHE (EU)

Invited Reviewer

International Journal of Radiation Biology

Science of the Total Environment

European Journal of Biology and Bioelectromagnetics

European Journal of Cancer

Journal of Public Health (Royal College of Physicians, School of Public Health)

Science and Public Policy

The Lancet

Occupational and Environmental Medicine (BMJ)

Annals of Nuclear Energy

1.5 EXPERT WITNESS

Since 1997 Chris Busby has been engaged as an expert witness in several cases that relate to the effects of radioactive pollution on health, in several refugee appeals (Kosovo) based on Depleted Uranium risks, several trials of activists accused of criminal damage at weapons establishment and one at the House of Commons (evidence on Depleted Uranium and other radioactive substances), MoD pension appeals tribunals for the widow of a A-Bomb test veteran and once in the Connecticut State Court for an appeal against licensing releases of radioactivity from the Millstone reactor on Long Island Sound. He is currently acting or has recently acted as expert witness on two cases in the UK involving the health effects of internal irradiation from Depleted Uranium. One of these is in the Royal Courts of Justice and also in three cases in the USA. Two of these (against Exxon) have recently been settled. He also advised on the case of Rocketdyne (Boeing) and the Santa Susana Field Laboratory childhood retinoblastoma cluster in Western Los Angeles which was settled in January 2008 and a TENORM radiation case involving Ashland Oil in Martha Kentucky, also various other TENORM cases in Louisiana. He is currently also expert witness and advisor on the UK Atomic Test veteran litigation in the Royal Courts of Justice. He has been active in several test veterans pensions appeals tribunals gaining reversal in every case of MoD refusals to pay war service pensions in respect of diseases linked to radiation exposure at the test sites. He testified in 2009 before a coroners jury in the case of the death of Stuart Dyson arguing that Dyson probably died of cancer due to his exposure to depleted uranium in the Persian Gulf. Despite opposition from the MoD the jury unanimously agreed that the uranium exposure was the probable cause of death. A full list and brief description of the court cases in which Dr Busby has been retained as an expert witness is given below.

Dr Chris Busby Court cases as expert witness

| Case and lawyer/ team | Court | Year | Details (expertise) | Result |
|---|-------------------------|-------------|---|------------------------|
| 1. R vs Hipperson et al (Charlton) | Newbury Crown Court | 1998 | Criminal Damage Atomic Weapons Establishment Aldermaston (radiation health effects) | Aquitted |
| 2. R vs Helen John | Middlesex Crown Court | 1999 | Criminal Damage House of Commons London (uranium health effects) | Acquitted |
| 3. Sellafield Irish Litigation (McGuill, Herr, Irish State) | Dublin High Court | 1999-2001 | Case against Sellafield THORP reprocessing plant (epidemiology, radiation effects, Irish Sea) | Case withdrawn in 2008 |
| 4. Millstone Reactor Public Enquiry | Connecticut State Court | 2001 | Opposition to relicensing of Millstone Reactor (Radiation health effects and sea dispersion) | Failed |

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| 5. Fatmir Mata (Wilson , Berry) | Immigration Appeal Court | 2001-2003 | Human Rights immigration appeals Kosovo (uranium health effects) | Failed |
| 6. Lela Pelumb (Wilson & Co, Hanley) | Immigration appeal court | 2001 | Depleted Uranium Kosovo (uranium health effects) | Failed |
| 7. Ladrim Spata (Clore and Co, Hirsch) | Immigration appeal court HX 06027 | 2001 | Depleted Uranium Kosovo (uranium health effects) | Failed |
| 8. Shaquiri, Zogu, Malo, Deda and Hidri vs. Secretary of State Home Office (Henwood) | Immigration appeal court | 2002 | Depleted Uranium Kosovo (uranium health effects) | Failed |
| 9. Hadjarmata vs Sec.State Home Office (Wesley, Gryk, Amador) | Immigration appeal court | 2002 | Depleted Uranium Kosovo (uranium health effects) | Failed |
| 10. Mr and Mrs Ardian Kuci vs Sec.State Home Office | Immigration appeal court | 2002 | Depleted Uranium Kosovo (uranium health effects) | Failed |
| 11. Gerald Adshead vs Ministry of Defence | Pensions appeals court | 2002 | A-Bomb Test Veteran cancer (epidemiology, radiation health effects) | Won: appeal allowed |
| 12. R.vs Margaret Jones and Erika Wilson (Alan Harris) | Plymouth Crown Court | 2002 | Criminal Damage Nuclear Submarine base Plymouth (radiation and health) | Acquitted |
| 13. Lee Dell Craft Snr vs Intracoastal Tubular ITCO (Stuart Smith) | New Orleans | 2005- | Cancer following exposure to NORM (Epidemiology, radiation and health) | Settled by defendants |
| 14 Barbara Castell vs Intracoastal Tubular ITCO CDC No 2002-12334 Dv A section 5. (Stuart Smith) | New Orleans | 2005- | Cancer following exposure to NORM (Epidemiology, radiation and health) | Settled by defendants |
| 15 Ursula Bulot et al vs Exxon Mobil Corp and others | New Orleans | 2005- | Cancer following exposure to NORM (Epidemiology, radiation effects) | Settled by defendants |

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| (Stuart Smith) | | | | |
| 16 James Bailey vs Exxon Mobil Corp and others (Stuart Smith) | New Orleans | 2005- | Cancer following exposure to NORM (Epidemiology, radiation effects) | Settled by defendants |
| 17 Zachary Finestone, Lowe et al vs St Lucie Power and Light (Lytal Reiter, Palm Beach Fla). | Florida USA Case 03-04040 Cohn/Lynch BUSBY DAUBERT MOTION | 2005 | Case of children with cancer near St Lucie Nuclear Power Station. (Epidemiology, radiation dispersion modelling and health effects) | Case eventually dismissed |
| 18 R. vs Pritchard and Olditch (Bindmann and partners) | Bristol Crown Court | 2005-6 | Criminal Damage US bombers 2003 (uranium and health) (famous case) | Acquitted |
| 19 R vs RV Jones and Milling (Charlton) | Bristol Crown Court | 2005-6 | Criminal Damage US bombers (uranium weapons) (famous case) | Acquitted after appeal to Lords |
| 20 Brian Gay vs Ministry of Defence | Pensions Appeals Court | 2007 | A-Bomb Test veteran Maralinga ; was his kidney cancer caused by radiation? (Epidemiology, radiation and health) | appeal successful |
| 21 Richard David vs Honeywell Normalair Garratt (L.I.P) | Royal Courts of Justice, Queens Bench Divn. London | 2007-8 | Uranium contamination and health; contaminated via aero engines filters from high altitude (Epidemiology, radiation and health) | Case collapsed; litigant in hospital |
| 22 Cindy Mays and others vs Boeing Rocketdyne Corp (Suzelle Smith) | Los Angeles USA | 2007 | Did radiation releases from the Rocketdyne SSFL cause retinoblastoma in 9 Los Angeles children? Epidemiology, radiation dispersion modelling and health effects). | Settled by defendants |
| 23 Bonnie Anderson et al vs Ashland Oil (K. Mathis et al) | Lawrence Circuit Court Kentucky USA BUSBY DAUBERT MOTION | 2008 | Contamination of property by oilfield NORM (Epidemiology, radiation and health) | Case dismissed Appeal failed |
| 24. A-Bomb Test veterans vs UK Ministry of | Royal Courts of Justice, London | 2009-10 | Cancer and illness in A-Bomb Test veterans (Epidemiology, radiation | 1 st round won, but on appeal |

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| Derfence (Rosenblatts) | | | and health) | |
| 25 Various vs Exxon Mobil Corp (Gordon) | Houston TX | 2009- 10 | Measuring gamma and advising on NORM contamination for potential case | Ongoing |
| 26 Derek Hatton Vs Ministry of Defence (Derek Heaps) | Pensions Appeals Court Birmingham | 2009 | Cancer and <i>polycythemia rubra vera</i> | See below |
| 27 Etienne Pellegal vs Lincoln Electric Co (Garrison) | New Orleans No 2006- 003684 Sec 6 Div L | 2009- 10 | NORM radiation and laryngeal cancer | Won Settled by defendants |
| 28 Stuart Dyson dec. vs MoD HMCoroner, Balmain) | Coroners Court Black Country Jury | 2009 | Cause of Death; did depleted Uranium cause cancer. Big case, reported everywhere | Won |
| 29 Colin Duncan Vs. Ministry of Defence | Pensions appeal Court | 2010 | Exposure to fallout in A- Bomb Tests caused cancer | Won: Appeal allowed |
| 30 Lowell Ryman vs Regents of University of California (Howell) | Los Alamos USA | 2010 | Exposure to radioactivity from Los Alamos and Malignant Myeloma | Case withdrawn by attorney |
| 31 Michael Nase vs Teco Energy (Stuart Smith) | New Orleans USA | 2009 | Exposure to radon and radiation and lymphoma | Won (settled by defendant) |
| 32 Dawn Pritchard vs Ministry of Defence | Pensions Appeals Court | 2010 | A-Bomb Test veteran widow. (Radiation and health) | Ongoing DP has died. |
| 33 L Abdale vs Ministry of Defence (Royal British Legion) | Pensions Appeals Court ENT 00328 2010 | 2010 | A-Bomb Test veteran appeal (Radiation and health) | Ongoing |
| 34 D Battersby vs Ministry of Defence (Royal British Legion) | Pensions Appeals Court ENT 00176 | 2010 | A-Bomb Test veteran appeal (Radiation and health) | Ongoing |
| 35 D Beeton vs Ministry of Defence (Royal British Legion) | Pensions Appeals Court ENT 00129 | 2010 | A-Bomb Test veteran appeal (Radiation and health) | Ongoing |

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| 36 T VButler vs Ministry of Defence (Royal British Legion) | Pensions Appeals Court ENT 00078 | 2010 | A-Bomb Test veteran appeal (Radiation and health) | Ongoing |
| 37 D Hatton vs Ministry of Defence (Royal British Legion) | Pensions Appeals Court | 2010 | A-Bomb Test veteran appeal (Radiation and health) | Ongoing |
| 38 NC Hughes dec vs Ministry of Defence (Royal British Legion) | Pensions Appeals Court ENT00065 | 2010 | A-Bomb Test veteran appeal (Radiation and health) | Ongoing |
| 39 B Lovatt vs Ministry of Defence (Royal British Legion) | Pensions Appeals Court ENT 00279 | 2010 | A-Bomb Test veteran appeal (Radiation and health) | Ongoing |
| 40 D Pritchard vs Ministry of Defence (Royal British Legion) | Pensions Appeals Court ENT 00039 | 2010 | A-Bomb Test veteran appeal (Radiation and health) | Ongoing |
| 41 L Selby vs Ministry of Defence (Royal British Legion) | Pensions Appeals Court ENT 00658 | 2010 | A-Bomb Test veteran appeal (Radiation and health) | Ongoing |
| 42 Denis Shaw vs Ministry of Defence (Royal British Legion) | Pensions Appeals Court ENT 00054 | 2010 | A-Bomb Test veteran appeal (Radiation and health) | Ongoing |
| 43 N Simons vs Ministry of Defence (Royal British Legion) | Pensions Appeals Court ENT 00006 | 2010 | A-Bomb Test veteran appeal (Radiation and health) | Ongoing |
| 44 H Sinfield vs Ministry of Defence (Rosenblatts) | Pensions Appeals Court ENT 00751 | 2010 | A-Bomb Test veteran appeal (Radiation and health) | Ongoing |
| 45 B Smith dec. vs Ministry of Defence (Rosenblatts) | Pensions Appeals Court ENT 00680 | 2010 | A-Bomb Test veteran appeal | Ongoing |
| 46 Mrs A Smith vs Ministry of | Pensions Appeals | 2010 | A-Bomb Test veteran appeal (Radiation and | Ongoing |

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| Defence (Rosenblatts) | Court ENT | | health) | |
| 47 D Taylor vs Ministry of Defence (Chris Francis RAFA) | Pensions Appeals Court ENT 00912 | 2010 | A-Bomb Test veteran appeal (Radiation and health) | Ongoing |
| 48 Mrs W Triggs vs Ministry of Defence (Royal British Legion) | Pensions Appeals Court ENT 00285 | 2010 | A-Bomb Test veteran appeal (Radiation and health) | Ongoing |
| 49 Mrs M Williams vs Ministry of Defence (Royal British Legion) | Pensions Appeals Court ENT 00768 | 2010 | A-Bomb Test veteran appeal (Radiation and health) | Ongoing |
| 50 Kingscliffe Waste Watchers vs Augean Ltd | Public Enquiry | 2010 | Effects of radioactive waste on health (radiation and radioactivity dispersion, exposure and health). | Dismissed |
| 51 Benoit et al vs Brown and Root Smith Stag LLC | New Orleans | 2010 | Environmental contamination and health effects of NORM | Won (settled) |
| 51 Broussard heirs vs Texaco Inc. Smith Stag LLC | New Orleans | 2012 | Environmental contamination by NORM | Won (settled) |
| 52 Lindy Norton and others vs Eskom Holdings | Pretoria High Court, South Africa | 2012 | Health effects of high voltage power lines | Ongoing |
| 53 Debra Dawson vs Boeing | Los Angeles | 2012 | Downwinder cancer SSFL | Ongoing |

In two of the above cases, Dr Busby was deposed by defence attorneys with a view to having his status as an expert witness disallowed by the trial judges under the rules of *Daubert vs Merrel Dow Pharmaceuticals* whereby the judges have conferred on them the power to decide whether an expert witness is expert in the area of expertise being claimed and to disallow his or her testimony if not. In both cases, in the State of Florida and in State of Kentucky the Daubert motions was unsuccessful. In the Broussard case the Daubert Motion was successful, (the judge was a replacement circuit judge) but when the attorneys appealed the decision the case was immediately settled.

In addition to the above Dr Busby has been invited or commissioned to provide expert evidence on the health effects of low doses of ionising radiation, or exposure to uranium for and to, amongst others :

The UK Royal Society Committee on Depleted Uranium
The UK Committee Examining Radiation Risk from Internal Emitters
The UK Committee on Radioactive Waste Management
The US Congressional Committee on Veterans Affairs and Security in the UK House of Lords (Depleted Uranium)
The Canadian Parliament
The Greens in the European Parliament
The UK Environment Minister Michael Meacher MP
The Federal German Agricultural Laboratory, Braunschweig
The EU Policy Information Network on Child Health and Environment, Arnhem, Netherlands
The British Nuclear Test Veterans Association
The UK House of Commons Cross Party Committee on A-Bomb Test Veterans (John Barron MP, Neil Gibson MP)
The United Nations (UNIDIR) Geneva
The World Health Organisation/ Physicians of Chernobyl (Kiev)
The Government of Belarus
The Green Party of England and Wales
SAFEGROUNDS (Nuclear Industry Organisation for waste disposal discussions)
The British Nuclear Energy Society
The British Nuclear Test Veterans Association
The Royal British Legion
The New Zealand Royal Society

1.6 APPOINTED or INVITED ADVISOR

Various national and supra-national groups have sought advice from or appointed Dr Busby as an advisor on various issues e.g.

Green Group European Parliament; Radiation and Health (Caroline Lucas MEP)
Canadian Government: Uranium and Health (appointed by Alex Atamenenko MCP, British Columbia)
UK Committee on Radioactive Waste Management (invited by Prof Gordon McKerron)
Royal Society Committee on Health Effects of Depleted Uranium Weapons (invited by Prof. Brian Spratt)
US Congressional Committee on Veterans Affairs and Security (Uranium weapons) (invited by Senator Christopher Shays)
UNIDIR Geneva (United Nations Institute for Disarmament Research) (Kirstin Vignard)

1.7 RESEARCH INTERESTS.

Overview of major lines of investigation

Chris Busby spent seven years at the Wellcome Foundation, where he conducted research into the physical chemistry and pharmacology of molecular drug receptor interactions. He subsequently moved to the University of Kent at Canterbury where he studied Laser Raman Spectro-electrochemistry in collaboration with Shell Research and later as SRC Research Fellow, a project which resulted in a PhD in Chemical Physics. He developed and published theoretical and experimental details of silver and gold electrodes with surface array properties which enable acquisition of laser Raman spectra of adsorbed molecules in dilute solution.

In the late 1980s he became interested in the mechanisms of low dose internal irradiation and developed the Second Event Theory, which distinguishes between the hazards of external and internal radiation exposure. In 1995 he was funded by the Joseph Rowntree Charitable Trust to develop his arguments and write 'Wings of Death: Nuclear Pollution and Human Health', an account of the results of his research into radiation and cancer and also into cancer increases in Wales, which he argued were a result of global weapons fallout exposure. In 1997 he became the UK representative of the European Committee on Radiation Risk.

From 1997-2000 he was funded by the Irish Government to carry out research into cancer incidence and proximity to the coast. In June 2000 he was invited to present evidence to the Royal Society committee on Depleted Uranium and health, and shortly after this was invited to Iraq to measure DU in the country and relate exposure to health effects which followed the Gulf War. In 2001 he was asked to visit Kosovo to investigate the dispersion of DU using field monitoring equipment. He discovered DU in many areas from analytical measurements made on samples he collected (paid for by the BBC) he showed that there was atmospheric resuspension of DU particles. His work and expertise in the field of environmental health and radioactivity was recognised by his appointment to CERRIE a Government committee reporting on the effects of low level radiation on health. Following his evidence to the Royal Society on the effects of Depleted Uranium, he was appointed to the UK Ministry of Defence committee on Depleted Uranium in 2001. He was invited to address the US Congressional Committee on Veterans Affairs of the Health effects of Depleted Uranium in 2002. He is presently also the Scientific Secretary of the European Committee on Radiation Risk and was commissioned to organise the preparation of the new risk model on radiation exposure and to organise the publication of ECRR 2003: The Health Effects of Exposure to low Doses of Ionizing Radiation, published in January 2003 and now translated into and published in French, Russian, Japanese and Spanish. This work he updated with a chapter on Uranium and evidence of the success of the 2003 model in explaining increases in cancer near nuclear sites and also the reports of increases in cancer in Sweden after Chernobyl reported by Tondel et al. in 2010. In 2004, he (jointly with two other colleagues) published the *Minority Report of the CERRIE committee* (Sosiumi Press) which was supported and introduced by Environment Minister the Rt Hon. Michael Meacher MP. In 2006 he produced and jointly edited with Prof. Alexey Yablokov of the Russian Academy of Sciences *ECRR2006 Chernobyl 20 Years On*. A second edition was produced in 2009.

Between 2004 and 2006 he was leader of the Science and Policy Interface Group of the EU funded Policy Information Network for Child Health and Environment (PINCHE) and organised the discussions and collation of information leading to their final report on the issue which he wrote large parts of. The culmination of this project which involved over 40 scientists and physicians from all major EU countries was the recommendation that as a result of bias in scientific advice to policymakers, all advice committees involving areas of dispute and possible harm to the public should be oppositional committees with reports including all sides of any argument.

Since 2006 Dr Busby has been conducting laboratory experiments researching photoelectron emission from Uranium and elements of high atomic number. He is currently co-supervising a researcher at the Centre of Molecular Biosciences in the University of Ulster on this matter.

He is also currently engaged in experimental and theoretical development of a novel theory of living systems and their origin.

1.8 RESEARCH EXPERIENCE

Dr Busby's early research was in the Physical Chemistry aspects of molecular pharmacology at the Wellcome Research Labs. This involved the use of spectroscopic and thermodynamic methods for examining cell drug interactions at the molecular level. For a year he began a research degree in NMR on molecular conformational changes on protonation but left to return to Wellcome and resume his drug interaction research. From there he moved to developing descriptions of intercellular and intracellular communication mechanisms, a subject which he is still engaged in researching in the laboratory. Later he moved to examining molecular behaviour at charged interfaces and developed a Surface Raman spectroelectrochemical method as a Science Research Council Fellow at the University of Kent.

Between 1992 and 2004 Dr Busby was engaged in research in three areas associated with ionising radiation and health and also was funded for a year (1997) by the *Foundation for Children with Leukemia* to research the interaction between non ionising radiation and ionising radiation. His research in the area of ionising radiation has been split between the development of theoretical descriptions of radiation action on living cells and the epidemiology of cancer and leukaemia in small areas. After 1994 he conducted survey epidemiology of Wales and England and was the first to point out (in a letter to the *British Medical Journal*) that increases in cancer in Wales might be related to weapons fallout. Later he examined childhood leukaemia mortality near the Harwell and Aldermaston nuclear sites and suggested that the excess risk might be related to inhalation of radioactive particles. These results were also carried in a research letter in the *BMJ* which attracted considerable criticism. His description of the mode of radiation action from sequential emitters (his Second Event Theory was developed originally in 1987) has attracted a great deal of interest and also criticism. Between 1997 and 2000 he was funded by the Irish State to carry out epidemiological studies of cancer rates and distance from the Irish Sea using data from Wales Cancer Registry and through a collaboration with the Irish National Cancer Registry. Following this he and his team in Green Audit developed novel small area questionnaire epidemiological methods and applied them to a number of areas in different studies which included Carlingford Ireland,

Burnham on Sea in Somerset and Plymouth, Devon and Trawsfynydd, Gwynedd, Wales, which resulted in a TV documentary in 2004. In addition he carried out cancer mortality small area studies in Somerset and later in Essex. He extended these to wards in Scotland in 2002. He has supervised a PhD student, who has subsequently graduated, at the University of Liverpool in the Faculty of Medicine in an epidemiological study of cancer mortality in Scotland with regard to proximity to putative sources of cancer risk. In all the small area studies he carried out it was possible to show a significant effect of living near radioactively contaminated intertidal sediment. The papers and reports were all published by Green Audit and most have been presented by invitation at learned conferences in Europe including through invitations by the Nuclear Industry itself.

In addition to this, in 1998 Busby set up a radiation measurement laboratory and equipped it with portable alpha beta and gamma measuring systems including a portable gamma spectrometer made in Dresden which uses a 2" NaI detector. He used these to show the presence of Depleted Uranium in Southern Iraq in 2000 when he was invited by the Al Jazeera TV channel to visit the country as a consultant and examine the link between leukaemia in children and levels of Depleted Uranium. Since then he has measured radiation spectra in the field in many countries and now employs a 7" detector manufactured in Kharkov to obtain rapid analysis of field gamma radiation. In 2001 he visited Kosovo with Nippon TV and was the first to show that DU was present in dust in towns in Western Kosovo and through isotope measurements funded by the BBC was able to report to the Royal Society in 2001 and the EU Parliament in Strasbourg that DU became resuspended in dry weather and was rained out, and that it remained in the environment for a considerable time. This subsequently led to UNEP deploying atmospheric particle measuring equipment in areas where DU had been used. More recently, from 2006, Dr Busby has been developing laboratory methods for measuring radiation conversion and amplification by high atomic number micron diameter metal and metal oxide particles (Uranium, Gold). It is his recent contention that such particles amplify background radiation effectiveness by photoelectron conversion and he is the author of a provisional patent application for the use of photoelectrons in cancer therapy to destroy tumours.

In 2005 he was invited by various organisations in New Zealand (NZ Royal Society) to give evidence on the health effects of Depleted Uranium. In 2005 and 2006 he worked with Prof Alexey Yablokov on the ECRR2006 report on Chernobyl which was published on the 20th anniversary of the accident. In 2004 he conducted a study of the health of people living in the vicinity of the Trawsfynydd Nuclear plant in Wales for HTV and later also a study of the veterans of the Porton Down human experiments in the 50s. The results of the Porton Down veterans study led to a settlement and an apology by the government to the veterans in 2008. In 2007 he began epidemiological studies of the children of A-Bomb Test veterans and also of people living near mobile phone base stations. The A-Bomb veterans epidemiology study highlighted high rates of miscarriage and congenital illness in their children and grandchildren. The results were presented to the House of Commons committee investigating this issue in November 2007 and have led to a recent agreement by the UK government to fund further epidemiological research on this issue, research which Dr Busby will oversee on behalf of the Test Veterans. In 2005, with Saoirse Morgan he analysed data from the filters of the Atomic Weapons site in Aldermaston and employed NOAA geophysical modelling to show that uranium from Gulf War 2 weapons use had migrated to the UK. He has become interested in

the use of Uranium Weapons and has recently been involved in obtaining samples from the Israeli actions in The Lebanon and Gaza and analysing vehicle filters for uranium. His discovery of enriched uranium in such samples has received significant media coverage and resulted in an invitation to write a 12-page article for the United Nations *Disarmament Forum* Journal published in Geneva in 2009. His 2010 study with Malak Hamdan and Entear Ariabi of the cancer increases and sex ratio changes in Fallujah Iraq following the US led attacks on the city has achieved considerable prominence.

He is currently an expert advisor on the Test Veterans' litigation and expert witness on their litigation against the British Government where the initial issue of limitation was recently won in a landmark case in the Royal Courts of Justice. He is official scientific advisor to the British Nuclear Test Veterans' Association and has appeared for them in many legal tribunals for Pension Appeal cases. He was appointed Visiting Professor in the School of Molecular Biosciences in the University of Ulster in 2008 where he is co-supervising research on the health effects of uranium. His uranium photoelectron theory was the top 2- page news story in the *New Scientist* of 6th September 2008 and is receiving considerable attention from the international nuclear risk agencies. Also in 2008 he was appointed Guest Researcher at the German Federal Government Julius Kuhn Institute in Braunschweig where he is co-supervising research on Uranium uptake in plants. He is also currently working on the health effects of radioactive contamination of the Baltic Sea with colleagues in Sweden, Finland and Latvia and has set up offices to organise such research in Riga Latvia and in Stockholm Sweden. He left the University of Ulster in 2012 when his Department folded due to the retirement of the Professor. He joined the Jacobs University of Bremen in the same year and moved to Latvia where he has an office in the Latvian Academy of Sciences in Riga.

In May 2009, in his capacity as Scientific Secretary of the European Committee on Radiation Risk (ECRR) he organised an International Conference on the Greek Island of Lesbos attended by eminent radiation scientists from all over the world. The final statement from this conference The Lesbos Declaration called for the abandonment of the current (ICRP) radiation risk models which all the delegates agreed was insecure for its purpose of protecting human health from radiation exposures.

1.9 INVITATIONS TO SPEAK.

| Year | Place, Subject etc. |
|-------------|--|
| 1995 | Jersey, Channel Islands: International conference on nuclear shipments; Health effects of low dose radiation |
| 1995 | Oxford Town Hall: Low dose radiation effects |
| 1995 | Drogheda, Ireland: Sellafield effects |
| 1996 | House of Commons. Symposium on Low Dose Radiation |
| 1997 | Strasbourg EU Parliament: Euratom Directive |
| 1997 | Brussels, EU Parliament STOA workshop on criticisms of ICRP risk models |
| 1997 | Kingston Ontario: World Conference on Breast Cancer: paper on cohort effects and weapons fallout |

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| 1998 | Muenster, Germany, International Conference on Radiation: Second Event effects |
| 1998 | Manchester Town Hall, Ethics and Euratom |
| 1999 | Copenhagen: Danish Parliament: Euratom Directive and low dose effects |
| 1999 | Carlingford, Ireland: Sellafield effects |
| 2000 | Kos Island: ASPIS (EC) meeting on 'Is cancer an environmental effect'; low dose radiation and cancer |
| 2000 | London: Royal Society: low dose effects and Depleted Uranium |
| 2001 | Strasbourg: Green Group; Health effects of Depleted Uranium |
| 2001 | Bergen: International Sellafield conference, Sellafield effects on health |
| 2001 | Oslo: Nobel Institute: Health effects of low dose radiation and DU |
| 2001 | London: Royal Society: Health effects of Depleted Uranium (again) |
| 2001 | Kiev: WHO conference on Chernobyl: paper on infant leukaemia |
| 2001 | Prague: <i>Res Publica</i> International Conference on Depleted Uranium |
| 2001 | Strasbourg: EU Parliament, with UNEP; Health effects of Depleted Uranium |
| 2002 | Bergen: Conference on Sellafield |
| 2002 | Helsinki: Health effects of low dose radiation |
| 2002 | London: US Congressional Committee on National Security: Gulf war syndrome and Depleted Uranium |
| 2002 | London Greenpeace: Small area statistics and radiation effects |
| 2002 | Chilton: Health effects of radioactive waste |
| 2002 | Oxford, British Nuclear Energy Society: Effects of low doses of radiation |
| 2002 | Royal Society of Physicians: Small area health statistics and radiation |
| 2003 | Birmingham: Non ionising radiation. Chaired |
| 2003 | Liverpool University: Depleted Uranium and Health |
| 2003 | Oxford University: Health Effects of Radiation from Internal Emitters |
| 2003 | Munich: Whistleblowers |
| 2003 | Copenhagen: Radiation and the foetus |
| 2003 | Hamburg: Depleted Uranium |
| 2004 | Berlin: Low level radiation |
| 2004 | London: PINCHE, child health and environment |
| 2004 | London, Westminster: Children with leukaemia |
| 2004 | Chicago: Radiation studies |
| 2005 | New Zealand Royal Society, Wellington |
| 2005 | New Zealand, Auckland University |
| 2005 | Chicago: Small area epidemiology by citizen groups |
| 2005 | Salzburg, Austria. PLAGS; International Nuclear Law and Human Rights |
| 2005 | Stockholm, Swedish Parliament; Low Dose Radiation and Depleted Uranium |
| 2006 | ECRR, Charite Hospital, Berlin, Health effects of the Chernobyl Accident |
| 2006 | Hiroshima Japan, Depleted Uranium |
| 2007 | Kuala Lumpur, Depleted Uranium: War Crimes Tribunal |
| 2007 | London, House of Commons: Chernobyl and health; anniversary lecture. |
| 2007 | London: Safeguards Nuclear Industry CIRIA conference; low dose effects |
| 2007 | Blackpool: A-Bomb Veterans and low dose radiation effects |
| 2007 | University of Ulster: Childhood leukaemia in Ireland and Sellafield |
| 2007 | Hanover: Federal Agricultural Laboratories; Uranium chemistry and physics |
| 2007 | Geneva: United Nations. Health effects of Uranium weapons |
| 2007 | Geneva: United Nations. Chernobyl: WHO and the IAEA |

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| 2007 | London, House of Commons Select Committee: Nuclear Test Veterans Children Epidemiology study |
| 2007 | London, Royal Society: Science Policy Advice and Scientific Dishonesty |
| 2008 | Ljubljana Slovenia: Parliament; Nuclear Energy and Human Health |
| 2008 | Malmo Sweden; Uranium and health- new discoveries |
| 2008 | Helsinki; Chernobyl effects |
| 2008 | Moscow, Russian Academy of Sciences; A new theory of living systems. |
| 2009 | Malmo Sweden, Uranium weapons and health |
| 2009 | Stockholm Sweden, ICRP, SRM, Errors in radiation risk model |
| 2009 | Lesvos Island Greece; Requirements of a Adequate Radiation Risk Model |
| 2009 | Academy of Sciences, Riga, Latvia: the ECRR and ICRP radiation risk models |
| 2009 | Arusha Tanzania: Health effects of Uranium mining |
| 2009 | Dar es Salaam, Tanzania: Health effects of Uranium Mining |
| 2010 | Geneva, Human Rights Council, Fallujah uranium effects |
| 2010 | Riga Latvia; Environment Ministry; Baltic Sea Radioactivity and Health |
| 2010 | Stockholm Sweden; Finlandhuset; Cancer and Birth Defects in Fallujah Iraq |
| 2010 | Riga Latvia; Latvian NGOs; Baltic sea radioactivity and the ECRR model |
| 2010 | Pretoria South Africa, North West University, Uranium and Health |
| 2011 | Tokyo, Fukushima health effects |
| 2011 | Fukushima, Aizu Wakamatsu, health effects |
| 2011 | Berlin, Fukushima Health effects |
| 2011 | Riga, Fukushima |
| 2011 | Chepstow UK, Fukushima |
| 2011 | Oxford Town Hall, Fukushima |
| 2011 | Vilnius University, Lithuania, Scientific Philosophy and radiation risk models |
| 2012 | Riga Latvia, Developing a new ideology for human security |
| 2012 | Geneva, Independent WHO: Small area epidemiology for citizens |
| 2012 | Geneva, Human Rights Council; American Association of Anthropology; Marshall Islands Nuclear Test effects |
| 2012 | Geneva, Human Rights Council; Union of Arab Jurists; Iraq Uranium |
| 2013 | Brussels: European Parliament, Official Intervention on EURATOM Basic Safety Standards for Radiation Risk for European Parliament Green Group |

2. PUBLICATIONS

PEER REVIEWED PAPERS.

Busby Christopher (2013). Aspects of DNA Damage from Internal Radionuclides, New Research Directions in DNA Repair, Prof. Clark Chen (Ed.), ISBN: 978-953-51-1114-6, InTech, DOI: 10.5772/53942. Available from: <http://www.intechopen.com/books/new-research-directions-in-dna-repair/aspects-of-dna-damage-from-internal-radionuclides>
This has had more than 3600 downloads three months after its publication in May 2013.

ALAANI, S., AL-FALLOUJI, M., **BUSBY, C***, HAMDAN, M.. Pilot study of congenital anomaly rates at birth in Fallujah, Iraq, 2010. Journal of the Islamic Medical Association of North America, North America, 44, aug. 2012. Available at: <http://jima.imana.org/article/view/10463>.

Alaani Samira Tafash Muhammed, **Busby Christopher***, Hamdan, Malak and Blaurock-Busch Eleonore (2011) Uranium and other contaminants in hair from the parents of children with congenital anomalies in Fallujah, Iraq *Conflict Health* 5, 1-15

Busby, Chris*; Hamdan, Malak; Ariabi, Entesar. (2010) Cancer, Infant Mortality and Birth Sex-Ratio in Fallujah, Iraq 2005–2009. *Int. J. Environ. Res. Public Health* 7, no. 7: 2828-2837.

Busby C.C. (2009) Very Low Dose Fetal Exposure to Chernobyl Contamination Resulted in Increases in Infant Leukemia in Europe and Raises Questions about Current Radiation Risk Models. *International Journal of Environmental Research and Public Health*.; 6(12):3105-3114. <http://www.mdpi.com/1660-4601/6/12/3105>

Busby Chris (2009) Depleted Uranium, Why all the fuss? *Disarmament Forum* 3 25-33
Geneva: United Nations

Busby Chris, Lengfelder Edmund, Pflugbeil Sebastian, Schmitz Feuerhake, Inge (2009) The evidence of radiation effects in embryos and fetuses exposed by Chernobyl fallout and the question of dose response. *Medicine, Conflict, Survival* 25(1) 18-39

Busby Chris (2008) Is there a sea coast effect on childhood leukaemia in Dumfries and Galloway, Scotland, 1975-2002 ? *Occupational and Environmental Medicine* 65, 4, 286-287

Busby Chris and Schnug Ewald (2008) Advanced biochemical and biophysical aspects of uranium contamination. In: (Eds) De Kok, L.J. and Schnug, E. *Loads and Fate of Fertilizer Derived Uranium*. Backhuys Publishers, Leiden, The Netherlands, ISBN/EAN 978-90-5782-193-6.

Busby C and Howards V (2006) Fundamental errors in official epidemiological studies of environmental pollution in Wales. *J Public Health (Oxf)* 28(2) 177-8

Busby C and Fucic A (2006) Ionizing Radiation and children's health: PINCHE conclusions *Acta Paediatrica* S 453 81-86

Newby JA, Busby CC, Howard CV and Platt MJ (2007) The cancer incidence temporality index: An index to show temporal changes in the age of onset of overall and specific cancer (England and Wales, 1971-1999) *Biomedicine & Pharmacotherapy* 61 623-630

Van den Hazel P, Zuurbier M, Bistrup M L, Busby C, Fucic A, Koppe JG et al (2006) Policy and science in children's health and environment: Recommendations from the PINCHE project. *Acta Paediatrica* S 453 114-119

Koppe JG, Bartonova A, Bolte G, Bistrup ML, Busby C, Butter M et al (2006) Exposure to multiple environmental agents and their effects. *Acta Paediatrica* S 453 106-114

Van den Hazel P, Zuurbier M, Babisch W, Bartonova A, Bistrup M-L, Bolte G, Busby C et al, (2006) 'Today's epidemics in children: possible relations to environmental pollution' *Acta Paediatrica* S 453 18-26

Elsaesser A, Busby C, McKerr G and Howard CV (2007) Nanoparticles and radiation. EMBO Conference: Nanoparticles. October 2007 Madrid

C. V. Howard, A. Elsaesser & C. Busby (2009) The biological implications of radiation induced photoelectron production, as a function of particle size and composition. *International Conference; Royal Society for Chemistry NanoParticles 2009*

www.soci.org/News/~-/media/Files/.../Oral_18_32.ashx

Busby CC (2005) Does uranium contamination amplify natural background radiation dose to the DNA? *European J. Biology and Bioelectromagnetics*. 1 (2) 120-131

Busby CC (2005) Depleted Uranium Weapons, metal particles and radiation dose. *European J. Biology and Bioelectromagnetics*. 1(1) 82-93

Busby CC and Coghill R (2005) Are there enhanced radioactivity levels near high voltage powerlines? *European J. Biology and Bioelectromagnetics*. 1(2) Ch 7.

Busby Chris and Bramhall Richard (2005) Is there an excess of childhood cancer in North Wales on the Menai Strait, Gwynedd? Concerns about the accuracy of analyses carried out by the Wales Cancer Intelligence Unit and those using its data. *European J. Biology and Bioelectromagnetics*. 1(3) 504-526

Busby Chris and Morgan Saoirse (2005) Routine monitoring of air filters at the Atomic Weapons Establishment Aldermaston, UK show increases in Uranium from Gulf War 2 operations. *European J. Biology and Bioelectromagnetics* 1(4) 650-668

Busby C.C (2002). 'High Risks at low doses.' *Proceedings of 4th International Conference on the Health Effects of Low-level Radiation: Oxford Sept 24 2002*. (London: British Nuclear Energy Society).

Busby, C. C. and Cato, M. S. (2000), 'Increases in leukemia in infants in Wales and Scotland following Chernobyl: evidence for errors in risk estimates' *Energy and Environment* 11(2) 127-139

Busby C.,(2000), 'Response to Commentary on the Second Event Theory by Busby' *International Journal of Radiation Biology* 76 (1) 123-125

Busby C.C. and Cato M.S. (2001) 'Increases in leukemia in infants in Wales and Scotland following Chernobyl: Evidence for errors in statutory risk estimates and dose response assumptions'. *International Journal of Radiation Medicine* 3 (1) 23

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Busby Chris and Cato, Molly Scott (1998), 'Cancer in the offspring of radiation workers: exposure to internal radioisotopes may be responsible.' *British Medical Journal* 316 1672

Busby C, and M. Scott Cato, (1997) 'Death Rates from Leukemia are Higher than Expected in Areas around Nuclear Sites in Berkshire and Oxfordshire', *British Medical Journal*, 315 (1997): 309.

Busby, C. (1994), 'Increase in Cancer in Wales Unexplained', *British Medical Journal*, 308: 268.

Busby C and Creighton JA (1982)' Factors influencing the enhancement of Raman spectral intensity from a roughened silver surface'. *J.Electroanal. Chem.* 133 183-193

Busby CC and Creighton JA (1982)' Efficient silver and gold electrodes for surface enhanced Raman spectral studies' *J. Electroanal Chem* 140 379-390

Busby CC (1984) *J.Electroanal Chem* 162 251-262

Busby CC (1984) 'Voltage Induced intensity changes in surface Raman bands from silver electrodes and their variation with excitation frequency'. *Surface Science* 140 294-306

BOOKS

Busby, C. C. (1992), Low level radiation from the nuclear industry: the biological consequences. (Aberystwyth: Green Audit)

Busby C.C (1992) Peledriad isaf o'er diwydiant niwcliar: yr canleniadau biolegol. (Aberystwyth: Green Audit)

Busby, C. C. (1994), Radiation and Cancer in Wales (Aberystwyth: Green Audit).

Busby, C. C. (1995), *Wings of Death: Nuclear Pollution and Human Health* (Aberystwyth: Green Audit)

Busby C.C (2003) ed with Bertell R, Yablokov A, Schmitz Feuerhake I and Scott Cato M *ECRR2003: 2003 recommendations of the European Committee on Radiation Risk- The health effects of ionizing radiation at low dose--Regulator's edition.* (Brussels: ECRR-2003) 2004 Translations of the above into French Japanese Russian and Spanish (see www.euradcom.org for details)

Busby CC, with Bramhall R and Scott Cato MS (2000) *I don't know Much about Science: political decision making in scientific and technical areas.* Aberystwyth: Green Audit (this book influenced the structure and formation of the CERRIE committee and advocates an oppositional structure to science advisory committees in order to allow for cultural bias in science advice. It has now been carried forward by PINCHE in Europe.).

Busby CC, Bramhall R and Dorfman P (2004) *CERRIE Minority Report 2004: Minority Report of the UK Department of Health/ Department of Environment (DEFRA) Committee Examining Radiation Risk from Internal Emitters (CERRIE)* Aberystwyth: Sosiumi Press

Busby CC and others (2004) Report of the Committee Examining Radiation Risk from Internal Emitters (CERRIE) *Chilton, UK: National Radiological Protection Board*

Busby C and Yablokov AV (2006) ECR 2006. Chernobyl 20 year On. The Health Effects of the Chernobyl Accident. Brussels: ECRR/ Aberystwyth: Green Audit

Busby Chris (2006) *Wolves of Water. A Study Constructed from Atomic Radiation, Morality, Epidemiology, Science, Bias, Philosophy and Death.* Aberystwyth: Green Audit

Busby Christo (2009) Our Mother who art in Everything. Poems 2004-8 Llandrinddod Wells, Wales: Sosiumi Press

Busby C and Yablokov AV (2009) ECR 2006. Chernobyl 20 year On. The Health Effects of the Chernobyl Accident. 2nd Edition Brussels: ECRR/ Aberystwyth: Green Audit

Busby C, Yablolov AV, Schmitz Feuerhake I, Bertell R and Scott Cato M (2010) ECRR2010 The 2010 Recommendations of the European Committee on Radiation Risk. The Health Effects of Ionizing Radiation at Low Doses and Low Dose Rates. Brussels: ECRR; Aberystwyth Green Audit

Busby C (2010) The health effects of exposure to uranium and uranium weapons. Documents of the ECRR 2010 No 2. Brussels: ECRR download free from www.euradcom.org

Busby C, Busby J, Rietuma D and de Messieres M—Eds (2011) Fukushima—what to expect. Proceedings of the 3rd International Conference of the European Committee on Radiation Risk May 5/6th 2009 Lesvos Greece Aberystwyth: Green Audit

Also:

Busby C (2004) *Nuclear Cover-Ups* Video DVD Aberystwyth: Green Audit Films

Busby Christo (2009) *Songs from a Cold Climate* (CD) Aberystwyth: Green Audit

See also www.myspace.com/christobusby

CHAPTERS IN BOOKS

Busby, C. C. (1996a), ' in Bramhall, R. (ed.), *The Health Effects of Low Level Radiation: Proceedings of a Symposium held at the House of Commons, 24 April 1996* (Aberystwyth: Green Audit).

Busby C.C and Scott Cato M (1999) 'A Planetary Impact index' in Molly Scott Cato and Miriam Kennett eds. *Green Economics- beyond supply and demand to meeting peoples needs*. Aberystwyth: Green Audit

Busby C (2004) Depleted Science: the health consequences and mechanisms of exposure to fallout from Depleted Uranium weapons. In *The Trojan Horses of Nuclear War* Kuepker M and Kraft D eds. Hamburg: GAAA

Busby Chris (2007) New nuclear risk models, real health effects and court cases. Pp 35-46 in- *Updating International Nuclear Law* Eds—Stockinger H, van Dyke JM *et al*. Vienna: Neuer Wissenschaftlicher Verlag

Busby C (2008) Depleted Uranium. Why all the fuss? *United Nations Disarmament Forum Journal UNIDIR, Nov 2008*

Busby C. (2011) Uranium Weapons, a Depleted Science. Pp 51-66 in *Iraq-Silent Death*. Ed--Christian Scherrer Pulau Pinang Malaysia: University Sains Malaysia ISBN 9789838615044

Busby C. (2011) Lost in Translation: Science Dishonesty and the Science Policy Interface. Pp 184-198 in *Iraq-Silent Death*. Ed--Christian Scherrer. Pulau Pinang Malaysia: University Sains Malaysia ISBN 9789838615044

Christopher Busby (2013). Aspects of DNA Damage from Internal Radionuclides, *New Research Directions in DNA Repair*, Prof. Clark Chen (Ed.), ISBN: 978-953-51-1114-6, InTech, DOI: 10.5772/53942. Available from: <http://www.intechopen.com/books/new-research-directions-in-dna-repair/aspects-of-dna-damage-from-internal-radionuclides>

ARTICLES

Numerous articles for 'The Ecologist' on low dose radiation effects have been translated into most languages and reprinted.

Numerous articles and reports in *Radioactive Times: the Journal of the Low level Radiation Campaign*

Busby was invited to join the Russia Today Opinion team in January 2013 when it began: see RT Op Ed website. www.rt.com/op-ed

Main Green Audit published papers

- Busby C and Scott Cato M (2001) *Increases in leukemia in infants in Wales and Scotland following Chernobyl: Evidence for errors in statutory risk estimates and dose response assumptions. Kiev WHO conference paper. Occasional Paper 2001/7. Aberystwyth: Green Audit*
- Busby C C, Bramhall R and Dorfman P (2001) *Environmental risk methodology and Breast cancer mortality near Bradwell nuclear power station in Essex 1995-1999. Occasional Paper 2001/8 Aberystwyth: Green Audit*
- Busby C C, Kaleta R and Rowe H (2000), *The effects of Sellafield on cancer incidence in Ireland from 1994 to 1996. Analysis of national Cancer Registry small areas data., Report 2000/12 (Aberystwyth: Green Audit)*
- Busby C, (1994), 'Investigation of the Incidence of Cancer around Wylfa and Trawsfynydd Nuclear Installations, 1974-86- Welsh Office Report A-EMJ28. An appraisal for Wales Green Party', Aberystwyth: Green Audit
- Busby C, Dorfman P, Rowe H (2000) *Cancer Mortality and Proximity to Hinkley Point Nuclear Power Station in Somerset: Part I Breast Cancer. Occasional Paper 2000/2 Aberystwyth: Green Audit*
- Busby C, Dorfman P, Rowe H (2000) *Cancer Mortality and Proximity to Hinkley Point Nuclear Power Station in Somerset: Part II Prostate Cancer. Occasional Paper 2000/3 Aberystwyth: Green Audit*
- Busby C, Dorfman P, Rowe H (2000) *Cancer Mortality and Proximity to Hinkley Point Nuclear Power Station in Somerset: Part III All malignancies, lung and stomach cancer. Summary Occasional Paper 2000/4 Aberystwyth: Green Audit*
- Busby C, Rowe H (2000) *Cancer Incidence in Carlingford and Greenore, County Louth: Results of the STAD/ Green Audit Questionnaire Report 2000/06 Aberystwyth: Green Audit*
- Busby C.C (2000), Science on Trial: On the Biological Effects and Health Risks following exposure to aerosols produced by the use of Depleted Uranium weapons. Invited presentation to the Royal Society, London July 19th 2000 and also given at the International Conference against Depleted Uranium, Manchester 4th November 2000.Occasional Paper 2000/10
- Busby C.C (2001) ' Depleted Uranium in Kosovo: Review of UNEP Report of 13th March 2001' Occasional Paper 2001/3 Aberystwyth: Green Audit
- Busby C.C (2001) *Health Risks following exposure to aerosols produced by the use of Depleted Uranium Weapons. Presentation to Res Publica International Conference Prague 24th Nov 2001. Occasional Paper 2001/12 (Aberystwyth Green Audit)*

- Busby C.C (2002) 'Review of the Home Office statement on the health Consequences of exposure to Depleted Uranium in Kosovo' Report 2002/2 *Aberystwyth: Green Audit*
- Busby C.C, (2000) *Radiation from Sellafield and Cancer near the Irish Sea. The Second Annual progress report from the Irish Sea Group in support of the litigation Short and Others vs BNFL and Others* Aberystwyth: Green Audit
- Busby C.C, Dorfman P, Rowe H and Kocjan B (2001), *Cancer mortality and proximity to Oldbury Nuclear Power Station in Gloucestershire 1995-1999. Including all malignancies, female breast, prostate and lung cancer mortality. With an analysis of childhood leukemia incidence in ages 0-4 between 1974 to 1990 in Welsh Areas of Residence.* Occasional paper 2001/6 (Aberystwyth: Green Audit)
- Busby C.C. (2002) 'Lymphoma Incidence in Italian Military personnel involved in Operations in Bosnia and Kosovo' Occasional Paper 2002/3 *Aberystwyth: Green Audit*
- Busby CC (2000) *From Sellafield to Chernobyl and Beyond: Exposure to man-made ionizing radiation as the primary environmental cause of recent cancer increases.* ASPIS (European Commission DG XVI) Conference: Is cancer predominantly an environmental disease? Kos Island September 2000. Occasional Paper 07/00 Aberystwyth: Green Audit
- Busby C C (2001) On internal irradiation and the health consequences of the Chernobyl accident; Presented at the 6th Conference of the British and Irish Charity Organisations 'Mitigating the consequences in Belarus of the Chernobyl Catastrophe', London April 6th 2001/ Occasional Paper 2001/5 Aberystwyth: Green Audit
- Busby, C (1996) 'Childhood Leukemia and Radiation new Newbury', Occasional Paper 96/5 (Aberystwyth: Green Audit).
- Busby, C. C. (1996), 'Nuclear waste reprocessing at Sellafield and cancer near the Irish Sea: arguments for an independent collaborative study' *Occasional Paper 96/1* (Aberystwyth: Green Audit).
- Busby, C. C. (1996), 'Cancer and Leukemia in Children born in Wales and Scotland after Chernobyl: Preliminary Note', *Occasional Paper 96/2* (Aberystwyth: Green Audit).
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- Busby, C. C. and Cato, M. S. (1998), 'Increases in leukemia in infants in Wales and Scotland following Chernobyl: evidence for errors in risk estimates', Occasional Paper 98/2 (Aberystwyth: Green Audit).
- Busby, C. C., (1998), 'Averaging Errors in the perception of Health Risks from Internal radioisotopes with specific emphasis on mutagenic enhancement due to 2nd Event effects from sequentially decaying man-made fission-product

- beta emitters', Proceedings of the European Parliament STOA workshop, February 1998. (Aberystwyth: Green Audit)
- Busby, C. C., Cato, M. S., Kocjan, B., and Mannion, E. (1998), 'Proximity to the Irish Sea and leukemia incidence at ages 0-4 in Wales from 1974-89' *Occasional Paper 98/4* (Aberystwyth: Green Audit).
This resulted in a 30 minute BBC TV Wales documentary
- Busby C.C (2002) 'The health effects of Depleted Uranium weapons: Invited Written evidence to the US Congressional Subcommittee on National Security, Veterans' Affairs and International Relations Hearing. London 18th June 2002; Occasional Paper 2002/3 Aberystwyth: Green Audit
- Busby C.C (2002) 'Lymphoma Incidence in Italian Military Personnel Involved in Operations in Bosnia and in Kosovo' Occasional Paper 2002/2 Aberystwyth: Green Audit.
- Busby C. Glyn E, Griffiths A, de Messieres M. Morgan S (2006) A Survey of Cancer in the Vicinity of Trawsfynydd Nuclear Power Station. 2006/3 Aberystwyth: Green Audit.
(this was the basis for a 40 minute TV documentary by ITV Wales)
- Busby C, de Messieres M and Morgan S (2006) Did Chemical Exposures of Servicemen at Porton Down Result in Subsequent Effects on their Health? The 2005 Porton Down Veterans Support Group Case Control Study. First Report. Paper 2006/2 Aberystwyth, Green Audit.
(Shortly after this study was reported in the media the government apologised to the Porton Veterans and gave them £3M compensation)
- Busby Chris, de Messieres Mireille (2007) British Nuclear Test Veterans Association/ Green Audit Children's Health Study 2007 Report 2007/5 Aberystwyth: Green Audit
(This was presented to the House of Commons Committee on Test Veterans and is the basis for an ongoing discussion with the MoD about further studies of the veterans children and grandchildren)
- Busby Chris, de Messieres Mireille, Morgan Saoirse (2007) Infant and Perinatal Mortality and Stillbirths near Hinkley Point Nuclear Power Station in Somerset, 1993-2005. Occasional Paper 2007/6 Aberystwyth: Green Audit
(This was peer reviewed by Derek Pheby of the University of the West of England for the BBC and covered in a short TV documentary by BBC Points West)

BOOK REVIEWS

'Chernobyl: the definitive history', by RF Mould (Bristol: Institute of Physics): reviewed for 'The Ecologist' in 2001
'Animal Pharm' by Mark Purdey (Clairview Books) reviewed for Caduceus in 2008

3. PERSONAL

Dr Busby has 7 children and 14 grandchildren and lives between the ancient Baltic city of Riga, Latvia and his 65 ton 1903 Dutch Barge *Marius* in France. His interests include music and writing and performing songs (he plays guitar, banjo, diatonic accordion, bandoneon, garmoshka, violin, viola, nykleharpa and Hardanger fiddle: see www.myspace.com/christobusby), writing poetry, and sailing.