



MSc Environmental Diagnosis & Management

Research Project Symposium 2008

Management Auditorium, RHUL

Thursday 4th September

09.00 Registration & Coffee

09.20 **Welcome:** Dr Kevin C Clemitshaw (MSc Programme Director)

09.25 **Opening Remarks:** Dr David Waltham (Head of Department of Earth Sciences)

Chair: Kevin C Clemitshaw

- 09.30 Ademola Adeseun "Derivation of UK compliant criteria for human health risk assessments using inhalation data for total petroleum hydrocarbons" (*Atkins*)
- 09.45 Yasaman Akbarzadehyazdi "Assessment of current risks to soil, groundwater and human health from a historical fire training area" (*MWH UK*)
- 10.00 Gifty Amo-Danso "Derivation of assessment criteria for WHO-12 polychlorinated biphenyls" (*Buro Happold*)
- 10.15 Michael Andrews "A critical review of the PG01 risk prioritisation methodology" (*Mouchel*)
- 10.30 Ancuta Asandei "Evaluation of Environment Agency sediment sampling strategies used in the environment monitoring programme around Sellafield" (*Environment Agency*)

10.45 Coffee & Posters

Chair: Dr Steven Smith

- 11.00 Gurpreet Bharth "Environmental and ecological impacts of ¹³⁷Cs from different types of nuclear reactor" (*British Energy & Viridian EMPower*)
- 11.15 Emily Boram "Impact of combined sewer and surface water outfalls on the aesthetic, water and ecological quality of a receiving riverine system" (*RPS Group*)
- 11.30 David Chapman "A characterisation study of the Bermuda Airport landfill site" (*Bermuda Department of Environmental Protection*)
- 11.45 Luiza Dumitrescu "Comparison between modelled and measured vaporisation of hydrocarbons at two sites in SE England" (*Atkins*)
- 12.00 Simon Elliott "A critique of the Ground Gas Guidance and application of GIS and Gas Volume Models to a site in the North West of England" (*Mouchel*)
- 12.15 Stephen Gray "Do low level receptors receive a higher dose of nitrogen dioxide than standard inlet height suggests?" (*London Borough of Richmond-upon-Thames*)
- 12.30 **Lunch & Posters** Posters illustrate further highlights of the research projects

Chair: Dr Steven Smith

- 13.30** Daniela Ledrova "Human health risk assessment of petroleum hydrocarbon contamination of soils"
(Waterman Environmental)
- 13.45** Abida Khan "An assessment of the bioavailability of heavy metals in airborne particulate matter"
(Royal Holloway, University of London)
- 14.00** Ifigenia Kiriakoglou "Phase II investigation of the agricultural area of Pithiou in Evros prefecture in Greece"
(Institute of Geological & Mineral Research, Xanthi, Greece)
- 14.15** Michelle Lewis "Design and interpretation of statistically validated ground contamination investigation data"
(Arup)
- 14.30** Rebecca Martin "A review of remediation technologies for radionuclide contaminated soil"
(AWE, Aldermarston & Viridian EMpower)
- 14.45** Pegah Massahzadeh "Assessment of a free and dissolved-phase hydrocarbon plume in a chalk aquifer"
(MWH UK)

15.00 Tea & Posters

Chair: Dr Kevin C Clemitshaw

- 15.30** Tom McDonagh "Evaluation of benzo-a-pyrene levels across borough of Caerphilly, Wales"
(Sinclair Knight Merz)
- 15.45** Alexandra Petrotou "A phase II study of heavy metal contamination in the Ptolemais-Kozani Basin in Greece"
(University of Thessaly, Greece)
- 16.00** Gezim Ramabanaj "Investigation of inorganic contamination of Brentham allotments land in Ealing Borough, London"
(London Borough of Ealing)
- 16.15** Sinbad Sweeney "Retrospective analysis of ambient elemental carbon and its significance in London particulate matter concentrations"
(King's College London)
- 16.30** Mark Thorne "Investigation of contamination on a former sewage works and an infilled mineral extraction site"
(Elmbridge Borough Council)
- 16.45** Steven Vaughan-Jones "Risk and uncertainties: Performance and costs of waste treatment options"
(SLR Consulting)

17.00 Closing Remarks: Dr Kevin C Clemitshaw

17.05 End of Research Project Symposium 2008

Acknowledgements

Generous support and supervision of the research projects by staff at the environmental consultancies, local authorities, universities, research institutes, regulatory agencies, and government departments named above, is gratefully acknowledged.

Prospective sponsors and supervisors of projects for 2009 are invited to contact the Programme Director, (k.clemitshaw@es.rhul.ac.uk) to discuss possibilities.

Thank you to all academic, administrative and technical colleagues at RHUL for their contribution to the delivery and management of the MSc Programme, and to the external examiner for his constructive comments.

MSc Environmental Diagnosis & Management

Research Project Symposium 2009

Management Auditorium, RHUL

Tuesday 1st September

10.00 Registration & Coffee

10.20 Opening Remarks: Dr Kevin C Clemitshaw (MSc Programme Director)

10.25 Welcome: Dr David Waltham (Head of Department of Earth Sciences)

Chair: Dr Kevin C Clemitshaw

10.30 Constantina Antoniou *(Medisell, Cyprus)*
"Assessment of particulate matter in Cyprus"

10.45 Willena Bondurant *(University College London & RHUL)*
"Physical and chemical properties of bio-aerosols and infection control"

11.00 Rachel Church *(Environment Agency (Portsmouth), & University of Portsmouth)*
"Diagnosis and assessment of water pollution in Portsmouth Harbour. The role of faecal coliforms and eutrophication between 2004-2009"

11.15 Lynsey Coles *(Atkins, Epsom)*
"The effects of soil type and soil organic matter input variables on generic screening values derived using CLEA v1.04"

11.30 Coffee

Chair: Dr Martin King

11.45 Gurpriya Kang *(London Borough of Richmond-upon-Thames)*
"The analysis of annual and seasonal trends in ambient BTEX levels across the London Borough of Richmond"

12.00 Conor Keane *(Environment Agency (Penrith), & EMpower)*
"Investigate the approach taken to groundwater management on and around nuclear sites for robustness to climate change impacts"

12.15 Annett Kiss *(NERC Centre for Ecology & Hydrology, Wallingford)*
"Understanding algal growth in rivers and predicting their response to climate change"

12.30 Penelope Lloyd *(NERC Centre for Ecology & Hydrology (Lancaster), & University of Lancaster)*
"Are cancer drugs in the River Douglas? Developing liquid chromatography triple quadrupole tandem mass spectrometry to analyse cyclophosphamide"

12.45 Lunch

13.45 Award of The Arup Prize, 2007-08 (Chris Barrett, Arup & Kevin C Clemitshaw, RHUL)

Chair: Dr Steve Smith

14.00 Callum McKendrick *(University of Warwick Horticultural Research Institute)*
"Development of novel compounds and products for industrial applications from lignocellulosic straw waste by utilising enzymatic microbial activity"

14.15 Mark McLaughlin *(Dublin City University, Ireland)*
"A bio-augmentation product for fats, oils and grease degradation"

14.30 Olusola Ojo *(MWH UK (Gerrard's Cross), & RHUL)*
"Health health risk assessment for Royal Air Force base residential housing in Feltwell, Norfolk"

14.45 Duncan Rose *(Forestry Commission (Farnham), & RHUL)*
"Stimulating the bio-degradation of PAHs in soil with a history of contamination using physical and chemical techniques"

15.00 Tea

Chair: Dr Kevin C Clemitshaw

15.15 Marie Sanchez *(Environment Agency (Preston), University of the West of England, & EMPower)*
“An assessment of the impact of authorised radioactive waste discharges on wildlife in Natura 2000 sites using the ERICA assessment tool”

15.30 Peter Sheppard *(Arup, London)*
“Derivation of standard exposure conditions for potentially contaminated non-standard land uses for incorporation into CLEA v1.04”

15.45 Athina Vasilakou *(RHUL)*
“Air pollutants with adverse impacts upon climate and health”

16.00 Closing Remarks: Dr Kevin C Clemitshaw

16.05 End of Research Project Symposium 2009

16.30 Drinks Reception in the Department of Earth Sciences

Acknowledgements

Generous support and supervision of the research projects by staff at the organisations named above is gratefully acknowledged.

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MSc Environmental Diagnosis & Management

Research Project Symposium 2010

Management Auditorium, RHUL

Thursday 2nd September

Programme

09.45 Registration & Refreshments

10.05 Opening Remarks: Dr Kevin C Clemitshaw (MSc Programme Director)

10.10 Welcome: Dr David Waltham (Head of Department of Earth Sciences)

Chair: Dr Kevin C Clemitshaw

10.15 Kate Brady *(Sellafield Ltd & EMpower)*
"The setting of standards for exclusion of solids from aqueous waste discharges for the nuclear industry"

10.30 Hannah Brown *(NERC Centre for Ecology & Hydrology, Wallingford)*
"Revision and update of the QUESTOR model of algae growth in the river Ure"

10.45 Shirley Cade *(National Nuclear Laboratory, Warrington, & EMpower)*
"The use of groundwater level and temperature data to investigate groundwater recharge and movement"

11.00 Stephen Cassells *(Arup, London)*
"Evaluation of the performance of the UK air quality review and assessment process"

11.15 Lucia Cavalcanti *(RHUL)*
"Particulate air pollutant episodes in London"

11.30 Refreshments

Chair: Dr Dave Alderton

11.45 Rebecca Jones *(Department of Environment, Food & Agriculture, Isle of Man)*
"Discrepancies in dioxin monitoring at the Isle of Man Energy from Waste Facility: The impact of clinical waste"

12.00 Hassan Kani *(London Borough of Richmond-upon-Thames, Kings College London & RHUL)*
"Analysis of ambient BTEX levels at contrasting locations within the UK"

12.15 Chris Morris *(National Physical Laboratory & EMpower)*
"Instrumental radiochemical analysis system for environmental waste management"

12.30 Kabir Muktar *(RHUL)*
"A laboratory-based study of contaminated mine waters with special focus on removal of lead, zinc, arsenic and antimony"

12.45 Bojana Nanic-Holden *(Environment Agency, Penrith, & EMpower)*
"A review of permeable reactive barrier conceptual design for Sellafield Site using updated characterisation data and revised conceptual models"

13.00 Lunch

13.50 Award of The Arup Prize 2008-09: Chris Barrett (Arup) & Kevin C Clemitshaw

Chair: Dr Martin King

- 14.00 Maria Ntantou** *(University of the Aegean, Greece)*
“Optimisation of a methodology to manage small scale catchments: The case of Mytilene (Lesvos, Greece)”
- 14.15 Jun Hyun Park** *(Arup, London)*
“Improving annual average NOx modelling techniques in urban locations”
- 14.30 Ben Parry** *(Forestry Commission, Farnham, & RHUL)*
“Potential of nettles cultivated in a closed-loop system to provide biomass and treat landfill leachate”
- 14.45 Ben Smith** *(Atomic Weapons Establishment, Aldermarston & EMpower)*
“Influencing staff attitudes and behaviour towards energy conservation”
- 15.00 Krzysztof Turowski** *(London Borough of Hounslow)*
“Assessment of human health risks posed by a potentially contaminated land site in East Bedfont”

15.15 Refreshments

Chair: Dr Steve Smith

- 15.30 Maria Vigano** *(Arup, London)*
“Asbestos in soil: Guidelines for investigation procedures and risk assessment”
- 15.45 Thomas Whitaker** *(NERC Centre for Ecology & Hydrology, Wallingford)*
“Exposure assessment for engineered silver nano-particles through Sewage Treatment Works”
- 16.00 Ruth Williamson** *(NERC Centre for Ecology & Hydrology, Wallingford)*
“The relationships between phytoplankton density and community structure with river depth and time, in the River Thames”
- 16.15 Christine Wissink** *(Kent County Council)*
“Downscaling climate change projections and communicating potential impacts within local communities: A case study for the Kent coast”
- 16.30 Closing Remarks:** Dr Kevin C Clemitshaw
- 16.35 End of Research Project Symposium 2010**
- 17.00 Drinks Reception in the Department of Earth Sciences**

Acknowledgements

Generous support and supervision of the research projects by staff at the organisations named above is gratefully acknowledged.

Prospective sponsors and supervisors of research projects for 2011 are invited to contact the EDM MSc Director, (k.clemitshaw@es.rhul.ac.uk).

Sponsorship of 6 full studentships by the Natural Environment Research Council is also gratefully acknowledged.

Thank you to our academic, administrative and technical colleagues at RHUL for their help with the delivery and management of the EDM MSc.

Thank you also to the External Examiner and the EDM MSc Advisory Panel for their constructive comments and advice.

MSc Environmental Diagnosis & Management

Research Project Symposium 2011

Queen's Building Lecture Theatre, RHUL

Wednesday 31 August

Programme

12.45 Registration & Lunch

13.50 Opening Remarks: Dr Kevin C Clemitshaw (MSc Course Director)

Chair: Dr Kevin C Clemitshaw

14.00 Chris Ball *EDF Energy (Barnwood) & EMpower*
The evolution of a diesel spill and the development of a predictive fate and transport model

14.20 Holly Banham *EA (Nottingham, Preston & Warrington), Severn Trent Water & EMpower*
Implications of permitted discharges of radioactive substances to low-flow environments

14.40 Lucia Cavalcanti-Vervecken *RHUL*
Analysis and interpretation of CO₂ data recorded at contrasting sites within the EU

15.00 Emma Fromant *Arup (London)*
Assessment of the ability for odour standards and modelling to predict odour complaints

15.20 Charlotte Hidson *Hyder (Guildford)*
An evaluation of the performance of permeable reactive barriers

15.40 Refreshments

Award of The Arup Prize 2009-2010: Chris Barrett (Arup) & Kevin C Clemitshaw

Chair: Dr Steve Smith

16.00 Chris Jury *London Borough of Sutton*
Modelling of scenarios to reduce CO₂ emissions in the London Borough of Sutton

16.20 Cyrus Larijani *National Physical Laboratory (Teddington) & EMpower*
The production and purification of radiotracer ^{236g}NP for environmental applications

16.40 Zuoyi Liu *EPA, Changchun City, Northeast Normal University & University of Jilin (China)*
Impacts of snow-melting agents on soil and ground-water: A case study of Changchun, China

17.00 Alice Waylett *NERC Centre for Ecology & Hydrology (Wallingford)*
Analysis of QUESTOR modelling relating to phytoplankton in the upper part of the River Thames

17.20 Closing Remarks: Dr Kevin C Clemitshaw

17.25 End of Research Project Symposium 2011

17.30 Drinks Reception

Acknowledgements

Support and supervision of the research projects by staff at the organisations named above is gratefully acknowledged.

Prospective sponsors and supervisors of research projects for 2012 are invited to contact the EDM MSc Director, (k.clemitshaw@es.rhul.ac.uk).

Sponsorship of 6 full studentships by the Natural Environment Research Council is also gratefully acknowledged.

Thank you to the academic, administrative and technical staff at RHUL for their help with the delivery and management of the EDM MSc.

Thank you also to the Visiting Examiner for his positive comments and advice.



MSc Environmental Diagnosis & Management Research Project Symposium 2012

Moore Auditorium, RHUL

Wednesday 29th August

Programme

09.45 Registration & Refreshments

10.15 Opening Remarks: **Dr Kevin C Clemitshaw (EDM MSc Director)**
Dr Dave Waltham (Head of Department of Earth Sciences)

Chair: Dr Kevin C Clemitshaw

10.30 Ellen Barrow Arup (London), Forest Research (Farnham) & RHUL
Amendment with biochar of heavy metal contaminated soils as an alternative to phytoremediation

10.45 Oscar Chow NERC Centre for Ecology and Hydrology (Wallingford)
What is the scientific basis for using earthworms to remediate land contaminated with organic contaminants?

11.00 Robyn Cummings Environment Agency (Penrith) & EMpower
Options for leak management from nuclear legacy facilities during decommissioning

11.15 Annabelle Dodson Syngenta International Research Centre (Jealott's Hill) & RHUL
Effect of management and vegetation type on earthworm populations in field margins and a crop at Jealott's Hill

11.30 Refreshments

Chair: Dr Dave Lowry

12.00 Lauren Dombowsky Atkins (London)
The study of a successfully remediated historic landfill

12.15 Camilla Ghiassae King's College London
Remote sensing of primary CO, NH₃, NO, NO₂, SO₂ and hydrocarbon combustion emissions from on-road black cabs in the City of London

12.30 Peter Henshaw Arup (London)
Investigation into cumulative impacts of emissions from decentralised energy plant on local air quality in London

12.45 Ayshan Isgandarzada RHUL
Evaluation and assessment of behaviour and attitudes towards recycling of waste at Royal Holloway University of London

13.00 Lunch

13.45 Award of The Arup Prize 2010-12: Chris Barrett (Arup)
Dr Kevin C Clemitshaw

Chair: Dr Kevin C Clemitshaw

- 14.00 Ellen Jones** Arup (London) & Anglian Water (Peterborough)
The development of an odour risk screening methodology for Anglian Water
- 14.15 Jasmeet Kaur** NERC Centre for Ecology and Hydrology (Wallingford)
The role of Zebra mussel (*Dreissena polymorpha*) grazing in controlling phytoplankton communities and algal blooms in the River Thames
- 14.30 Stina Nikolaysen** Waterman Environmental (London)
Comparison of measured and modelled concentrations of nitrogen dioxide with height above ground
- 14.45 Camille Peers De Nieuwburgh** Shell Technology Centre (Thornton)
Analysis of the cause of continued vapour intrusion following a high volume fuel release in Northern France

15.00 Refreshments

Chair: Dr Dave Alderton

- 15.15 Emma Phillips** WSP Environment & Energy (London), Trucost & RHUL
Integrating environmental and social risk in to supply chain decision-making”
- 15.30 Ana Ramalho Carneiro Da Silva** Arup (London)
An approach to assess risk of harm to human health from lead in soil on contaminated sites
- 15.45 Ellie Walshe** NERC British Geological Survey (Keyworth) & RHUL
The effect of flooding and drying cycles on element mobility in soils
- 16.00 Matthew Wright** EDF (Barnwood) & EMpower
Sensitivity of discharge monitoring programmes from nuclear power with respect to climate change

16.15 Closing Remarks: Dr Kevin C Clemitshaw

16.20 End of Research Project Symposium 2012

16.30 Refreshments in Crosslands, Founder’s Building

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Prospective sponsors and supervisors of research projects for 2013 are invited to contact the EDM MSc Director (k.clemitshaw@es.rhul.ac.uk).