

Wednesday, 19th March, 2008

"Complementary and Alternative Medicine - Holistic Healing or Noxious Nonsense?"

Professor Colin Bradley



In his lecture, Colin will review the principal types of treatment that are categorised as complementary and alternative medicine (CAM). He will attempt to review the evidence for their use and outline the potential benefits and harms attributed to them and will try and provide listeners with a practical approach to such treatments so that they can maximise the likelihood of benefiting from CAM and minimise the risk of coming to harm.

Colin Bradley was appointed as the first ever Professor of General Practice in UCC in 1997. Preceding this he was Senior Lecturer in General Practice at the University of Birmingham and, previous to that, a lecturer at the University of Manchester. His doctoral thesis was on the decision making of general practitioners with regard to prescribing and he has continued to work in the area of medicine use by GPs and their patients.

Wednesday, 26th March, 2008

"Genes, Microbes, and Food: New Insights and Human Health Implications"

Dr. Paul O'Toole



Most of us know that a good diet is important for general health; that the genes we inherit make us more or less likely to develop certain health conditions; we might even know that our guts are full of bacteria, and if the wrong ones get in, it can be quite unpleasant! What is scientifically recognized is that the way in which our bodies interact with our diet is also highly influenced by our genetic make-up, and the bacteria in our intestinal tract. Different people may metabolize food ingredients in different ways, depending on the genes they carry for life. However the bacteria in our intestines are variable, and can even be replaced, and the pattern of bacteria present can influence how we metabolize food. Recent evidence suggests a link between the bacteria present and obesity. This lecture will discuss the interaction between human genes, diet, and intestinal bacteria, and will review the prospects for improving our health.

Paul O'Toole gained his BA (Mod) Microbiology and PhD from Trinity College Dublin. After research positions in Sweden and Canada exploring bacterial pathogens, he moved to Massey University, New Zealand in 1995, where he became interested in non-pathogenic gut bacteria. He returned to University College Cork in 2002 where he is now a Senior Lecturer in Genetics, in the Department of Microbiology. He leads the Lactobacillus genome sequencing program at the Alimentary Pharmabiotic Centre, where he is also a Principal Investigator.

Grand Final UCC Science for All Postgraduate Student Public Presentation Competition

Wednesday, 2nd April, 2008, 7.00p.m.
Boole Lecture Theatre 4, UCC.



Come and hear a selection of our finest postgraduate students explain their researches in science, engineering and food science, in terms understandable to a general audience. These students are the finalists in our Annual Postgraduate Student Public Presentation Competition. The competition will be held in Boole 4 Lecture Theatre, Starting at 7.00p.m. The competition will be judged by a panel of lay-judges.



List of Lectures

Wednesday, 16th January, 2008

"Stem Cell Research and Cloning: Scientific, Medical and Ethical Issues"
Professor Martin Clynes

Wednesday, 23rd January, 2008

"Intelligent Design"
Professor William Reville

Wednesday, 30th January, 2008

"Are Biofuels Good or Bad?"
Dr. Jerry Murphy

Wednesday, 6th February, 2008

"Nuclear Fusion – Energy for the Future"
Professor Mike Mansfield

Wednesday, 13th February, 2008

"Is Biodiversity Threatened by Climate Change?"
Professor Mike Jones
(Lecture sponsored by RIA)

Wednesday, 20th February, 2008

"Getting On Your Nerves: Stress on the Brain – From Disease to Drugs"
Dr. John F. Cryan

Wednesday, 27th February, 2008

"Alzheimer's Disease: Progress in Understanding a Complex Brain Disorder"
Dr. Cora O'Neill

Wednesday, 5th March, 2008

"Obesity: A Global Public Health Issue in the 21st Century"
Professor Nora O'Brien

Wednesday, 12th March, 2008

"The Hows and Whys of Cancer"
Professor Rosemary O'Connor

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Grand Final UCC Science for All

Postgraduate Student Public Presentation Competition

The series is organised by

Professor William Reville,
Public Awareness of Science Officer
The Faculty of Science, UCC.

For further information

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<http://understandingscience.ucc.ie>



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Coláiste na hOllscoile Corcaigh, Éire
University College Cork, Ireland

The Faculty of Science

Annual Public Lecture Series

Science has made the most amazing discoveries over the past 400 years, and today the entire developed world is dependent on science-based technology. In this Lecture Series, a distinguished list of speakers will discuss various aspects of science and technology, many of particular relevance to Ireland today.

This public lecture series will run weekly from January through March 2008 on Wednesday evenings, in Boole 4 Lecture Theatre at UCC.

Lectures start at 8.00p.m., but please come a little earlier.

All are welcome

Wednesday, 16th January, 2008

"Stem Cell Research and Cloning: Scientific, Medical and Ethical Issues"

Professor Martin Clynes



Recent developments in technology have opened up exciting new possibilities for research on, and therapeutic application of stem cells from adult, neonatal and embryonic sources. It is also now possible to clone animals. These developments have important implications for our understanding of life processes and may lead to new treatments for degenerative diseases, but claims on the scope and timescale of new cures have been wildly exaggerated especially in the case of embryonic stem cells. Stem cells from adult sources are easier to control and are more likely to be of therapeutic benefit in the immediate future, whether or not it is right to undertake destructive research on human embryos. Ethical issues include informed consent, duress on donors, biosafety issues, the acceptability of cloning and animal welfare issues.

Martin Clynes is Professor of Biotechnology and Director of the National Institute for Cellular Biotechnology at Dublin City University. His research interests are in chemotherapy resistance in cancer, skin cell therapy for diabetes and eye diseases, and the cell and molecular biology of how cells can be used to produce genetically engineered medicines.

Wednesday, 23rd January, 2008

"Intelligent Design"

Professor William Reville



Teleological arguments for the existence of God based on evidence of design in nature have a very long history. The latest manifestation of this argument is simply called Intelligent Design (ID). ID claims to see, using scientific reasoning, the work of a super-intelligent Designer in the complexity of life and asserts that this complex 'design' cannot be explained by the theory of evolution through natural selection. This lecture will demonstrate that the complexities of life can be explained by evolution, that ID arguments are fatally flawed and that ID itself is not science.

William Reville is Associate Professor of Biochemistry, Public Awareness of Science Officer and College Radiation Protection Officer at UCC. He also writes the weekly science column Under the Microscope in The Irish Times. He has written about 100 scientific papers and is author of the book Science Today: Understanding the Natural World (Irish Times Books, 1999).

Wednesday, 30th January, 2008

"Are Biofuels Good or Bad?"

Dr. Jerry Murphy



After initial optimism, there is now an evident backlash against biofuels. Views have been expressed including:

- "more energy is used to make biofuels, than is contained in the biofuel"
- "1% of all agricultural land is required to fuel 1% of all transport fleets"
- "biofuels have lead to large increases in the price of food."

These and other questions will be examined along with a discussion on merits or otherwise of the various biofuel types, feedstocks and systems.

Jerry Murphy is a Lecturer in Transportation Engineering in the Department of Civil and Environmental Engineering, University College Cork. He is the principal investigator in Bioenergy and Biofuels in the Environmental Research Institute. Jerry is a referee on a number of peer reviewed journals. He has published and presented widely in the area of biofuels and is the Ireland representative on the International Energy Agency Bioenergy Liquid Biofuels Task (IEA BioenergyTask 39).

Wednesday, 6th February, 2008

"Nuclear Fusion - Energy for the Future"

Professor Mike Mansfield



In this lecture Mike will describe the principles that underlie attempts to harness nuclear fusion as a terrestrial energy source. In particular, comparisons will be made with nuclear fission. The current state of the worldwide nuclear fusion programme will be reviewed.

Mike Mansfield is a native of London (with Irish family background). He obtained B.Sc.(1965) and Ph.D.(1969) at Imperial College London and D.Sc.(1994) at National University of Ireland. He has held teaching and research appointments in Italy, Germany and UK. He joined the Department of Physics, UCC in November 1978. He has been Associate Professor there since 1988. He was Visiting Scientist at the JET (Joint European Torus) project, the leading European fusion project, Oxford, UK, 1984/5. He leads an Atomic and Molecular Physics/Plasma Diagnostics research group in UCC. Mike is a member of the Irish fusion group within EURATOM, carrying out spectroscopic diagnostics of European fusion machines. He co-authored a physics textbook Understanding Physics (with Colm O'Sullivan of UCC).

Wednesday, 13th February, 2008

"Is Biodiversity Threatened by Climate Change?"

Professor Mike Jones

Lecture sponsored by Royal Irish Academy (RIA)



The Millennium Ecosystem Report has said, by the end of the 21st century, climate change and its impacts may be the dominant direct driver of biodiversity loss and changes in ecosystem services globally. Historically, habitat and land use change have had the biggest impact on biodiversity but climate change is projected to increasingly affect all aspects of biodiversity, from individual organisms, through populations and species, to ecosystem composition and function. This lecture examines the evidence for these predictions and assesses the consequences both locally and globally.

Mike Jones is Professor and Head of Botany at TCD. He obtained a BA Hons degree (1968) from the University of Lancaster and PhD (1971). He is Editor of the Biology and Environment, Proceedings of the RIA and is the Chairman of COST Action 627, Carbon Storage in European Grasslands. He is a Member of the RIA Committee on Climate Change. He was made a Fellow of TCD in 1987. His current research project is Assessment of the European Terrestrial Carbon Balance (Carbo-Europe-IP), EU sixth framework programme.

Wednesday, 20th February, 2008

"Getting On Your Nerves: Stress on the Brain - From Disease to Drugs"

Dr. John F. Cryan



The impact of stress on our daily lives is greater than ever before and therefore stress-related disorders are having a significant impact on the health and well-being of all. For certain susceptible individuals the effects of stress may be life threatening. Therefore, research focused on understanding how the body and in particular the brain deals with stress is of great importance. Recent advances in neuroimaging, molecular genetics and physiology are shedding new light on the impact of stress on nerve cells and brain circuits. This may offer novel avenues for developing pharmacological interventions to treat stress-related disorders including major depression, anxiety and irritable bowel syndrome.

John Cryan is a Senior Lecturer in the School of Pharmacy and Dept. Pharmacology & Therapeutics, UCC. He is also a Principal Investigator in the Alimentary Pharmabiotic Centre at UCC. His research is focused on the neurobiological and behavioural consequences of stress and how therapeutic drug treatments can modify them. He has won numerous awards for his research and has published over 60 scientific papers on this topic.

Wednesday, 27th February, 2008

"Alzheimer's Disease: Progress in Understanding a Complex Brain Disorder"

Dr. Cora O'Neill



Alzheimer's is a slowly progressive degenerative disorder of the brain that is the most common cause of dementia as we age. The disease was first described by Alois Alzheimer just over 100 years ago. The causes of Alzheimer's disease are complex and far from understood, although significant progress is being made. This lecture reviews the key areas of progress in our understanding of the cell and molecular causes of Alzheimer's disease and summarises the many challenges still remaining. The progress towards development of effective treatments for Alzheimer's will also be briefly reviewed.

Cora O'Neill obtained a BSc degree in Biochemistry from University College Dublin and a PhD in Biochemistry from Trinity College Dublin. Following her PhD, she spent many years as research scientist in an Alzheimer's Disease Research Centre at Karolinska Institute, Stockholm. She is currently a Senior Lecturer in the Department of Biochemistry, UCC, where her research specialises in understanding the molecular mechanisms of neurodegeneration particularly in Alzheimer's disease.

Wednesday, 5th March, 2008

"Obesity: A Global Public Health Issue in the 21st Century"

Professor Nora O'Brien



Latest data indicate that globally there are more obese individuals than food insecure individuals. Obesity is primarily related to lifestyle parameters including diet and exercise that affect long term energy balance. A positive energy balance results in accumulation of excess body fat with long term health consequences.

Nora O'Brien is a Nutritionist and is Associate Professor in the Department of Food and Nutritional Science, UCC. She completed her undergraduate studies in UCC and subsequently obtained a Masters degree from the University of Minnesota, a PhD from Cornell University and Postdoctoral experience at the University of Louvain. She has maintained for many years a large, productive and well-funded research group working in the area of nutrition and health. Currently, Nora holds a major Science Foundation Ireland Investigator Programme Award together with funding from other national and international sources. Nora has long-standing interest in the relationships between diet, exercise, energy balance and health.

Wednesday, 12 March, 2008

"The Hows and Whys of Cancer"

Professor Rosemary O'Connor



Cancer will soon be the leading cause of death in the developed world and will double in incidence in Ireland within the next fifteen years. In this lecture Rosemary will talk about the nature and causes of different cancers. She will also talk about the new kinds of therapies that are becoming available.

Rosemary O'Connor hails from County Sligo. She received a BSc in Biochemistry from NUI Galway and a PhD from NUI Maynooth. After receiving her PhD she spent 10 years doing cancer research in Wurzburg, Germany, in Philadelphia, and in a biotechnology company in Boston. In 1997 she joined the Biochemistry Department in UCC where she is now the Professor of Cell Biology. Her research team at UCC collaborates with labs from all over the world to study how cancer cells survive, and to develop new therapies for the disease.