Research output

Clinical and functional characterization of CXCR1/CXCR2 biology in the relapse and radiotherapy resistance of primary PTEN-deficient prostate carcinoma

Poster abstract: Novel dissolving microarray patches for intradermal delivery of finasteride

Polymer-Supported Gold Nanoparticle Radiosensitizers with Enhanced Cellular Uptake Efficiency and Increased Cell Death in Human Prostate Cancer Cells

Exploiting Current Understanding of Hypoxia Mediated Tumour Progression for Nanotherapeutic Development

Pioneering an Unconscious Bias Educational Activity with Pharmacy Students

Cell-Penetrating Peptides as a Tool for the Cellular Uptake of a Genetically Modified Nitroreductase for use in Directed Enzyme Prodrug Therapy

DNA vaccination via RALA nanoparticles in a microneedle delivery system induces a potent immune response against the endogenous prostate cancer stem cell antigen

Nuclear Uptake of Gold Nanoparticles Deduced Using Dual-Angle X-Ray Fluorescence Mapping

Enhanced nanoparticle delivery exploiting tumour responsive formulations.

Towards photon radiotherapy treatment planning with high Z nanoparticle radiosensitisation agents: the Relative Biological Effective Dose (RBED) framework

Radio-resistance of PTEN-deficient prostate tumours is enhanced by treatment-induced chemokine signalling and is associated with biochemical recurrence and development of metastasis.
Octaarginine-modified gold nanoparticles enhance the radiosensitivity of human colorectal cancer cell line LS180 to megavoltage radiation

Gene Therapy With RALA/iNOS Composite Nanoparticles Significantly Enhances Survival In A Model Of Metastatic Prostate Cancer

Unravelling the cell-type dependent radiosensitising effects of gold through the development of a multifunctional gold nanoparticle

Process Algebra with Layers: Multi-scale Integration Modelling Applied to Cancer Therapy

Using Surface Plasmon Resonance excitation to determine real-time subcellular distributions of gold nanoparticles in live cells

A hierarchical Bayesian approach to calibrating the linear-quadratic model from clonogenic survival assay data

Erythropoietin drives breast cancer progression by activation of its receptor EPOR

Systemic RALA/iNOS nanoparticles; a potent gene therapy for metastatic breast cancer coupled as a biomarker of treatment

Enhanced radio-sensitivity of PTEN-deficient prostate tumours mediated by inhibition of intrinsic and treatment-potentiated CXC-chemokine signaling

Multifunctional and robust composite materials comprising gold nanoparticles at a spherical polystyrene particle surface

Preclinical evaluation of Gold-DTDTPA Nanoparticles As Theranostic Agents In Prostate Cancer Radiotherapy

A comparison of gold nanoparticle surface co-functionalization approaches using Polyethylene Glycol (PEG) and the effect on stability, non-specific protein adsorption and internalization
Prostate cancer cell sensitivity to the cytotoxic properties of NO: an iNOS gene therapy approach.

Gold nanoparticle surface functionalization: mixed monolayer versus hetero bifunctional peg linker

Transcending epithelial and intracellular biological barriers; a prototype DNA delivery device

Development of TMTP-1 targeted designer biopolymers for gene delivery to prostate cancer

Transcending epithelial and intracellular biological barriers; a prototype DNA delivery device

Imaging and radiation effects of gold nanoparticles in tumour cells

CD74: a potential mediator of resistance in the treatment of Glioblastoma

Imaging intracellular and systemic in vivo gold nanoparticles to enhance radiotherapy

Viral mimetic systems: the next generation nonviral vectors

Prostate cancer radiotherapy: potential applications of metal nanoparticles for imaging and therapy

CD44 increases the efficiency of distant metastasis of breast cancer

Peptide-based Cationic Nanoparticles for the Targeted Gene Therapy of Metastatic Breast Cancer

Gold nanoparticle surface functionalization: a necessary requirement in the development of novel nanotherapeutics

Nitric oxide synthase gene therapy: A potent therapeutic in metastatic breast cancer

Gold nanoparticle cellular uptake, toxicity and radiosensitisation in hypoxic conditions

Abstract C215: Sensitivity of PTEN-deficient prostate carcinoma xenografts to ionizing radiation through inhibition of treatment-induced CXCL8 signaling

**Radiosensitising Nanoparticles as Novel Cancer Therapeutics — Pipe Dream or Realistic Prospect?**

**Potentiation of Inflammatory CXCL8 Signalling Sustains Cell Survival in PTEN-deficient Prostate Carcinoma**

**The contribution of N₂O₃ to the cytotoxicity of the nitric oxide donor DETA/NO: an emerging role for S-nitrosylation**

**Cell type-dependent uptake, localization, and cytotoxicity of 1.9 nm gold nanoparticles**

**Energy Dependence of Gold Nanoparticle Radiosensitization in Plasmid DNA**

**Nanodosimetric effects of gold nanoparticles in megavoltage radiation therapy**

**Biological consequences of nanoscale energy deposition near irradiated heavy atom nanoparticles**

**Erratum: Biological consequences of nanoscale energy deposition near irradiated heavy atom nanoparticles (Scientific Reports (2011) 1 (018) DOI:10.1038/srep00018)**

**Nitric Oxide Methods and Protocols**

**Transcriptional regulation of inducible nitric oxide synthase gene therapy: targeting early stage and advanced prostate cancer.**

**Evaluation of cytotoxicity and radiation enhancement using 1.9 nm gold particles: potential application for cancer therapy.**

**Nitric oxide synthase gene therapy enhances the toxicity of cisplatin in cancer cells.**

**Nitric oxide-A novel therapeutic for cancer.**
Gene therapy via inducible nitric oxide synthase: a tool for the treatment of a diverse range of pathological conditions.

Development of a novel PSMA-driven gene therapy strategy for the treatment of prostate cancer

hOC/iNOS - A novel gene therapy approach for the treatment of advanced hormone refractory prostate cancer

The radiation-inducible pE9 promoter driving inducible nitric oxide synthase radiosensitizes hypoxic tumour cells to radiation

Inductible nitric oxide synthase gene therapy for cancer

Human Osteocalcin: a strong promoter for nitric oxide synthase gene therapy, with specificity for hormone refractory prostate cancer.

Enhancement of the anti-cancer potential of iNOS gene therapy under the control of a radiation-responsive synthetic CArG promoter

Projects
R1007PMY: Anti-inflammatory radiosensitising gold nanoparticles for the treatment of prostate cancer
Coulter, J., Butterworth, K., Jain, S. & McCarthy, H.
25/01/2019 → …

R1997PMY: GMP manufactured radiosensitising gold nanoparticles
Coulter, J.
14/12/2018 → …

R1626PMY: Improving Patient Outcome by Integrating the Generic with the Personal
Coulter, J.
08/04/2016 → 31/03/2017

R1786PMY: Nanoengineered microneedle arrays for enhanced plasmonic photothermal therapy of basal cell carcinoma
Donnelly, R., Bell, S., Coulter, J., Mangwandi, C. & McCarthy, H.
03/07/2017 → …

Awards

Activities
Association for Radiation Research (External organisation)
Jonathan Coulter (Chair)
01 Jul 2018 → 30 Jun 2020
Association for Radiation Research 2018 Annual Meeting  
Jonathan Coulter (Conference committee co-chair)  
25 Jun 2018 → 27 Jun 2018

Aoife Carr  
Jonathan Coulter (Host)  
01 Feb 2018 → 30 Apr 2018

Marios Sotiropoulos  
Jonathan Coulter (Host)  
01 Feb 2018 → 30 Apr 2018

School of Pharmacy - Work Experience Days  
Jonathan Coulter (Organiser), & Daniel Corbett (Organiser)  
Jan 2018 → Feb 2018

International journal of molecular sciences (Journal)  
Jonathan Coulter (Peer reviewer)  
Dec 2017 → …

China Medical University – Queen’s University Belfast Joint College  
Jonathan Coulter (Visiting lecturer)  
04 Nov 2017 → 11 Nov 2017

STFC User Meeting  
Lindsey Bennie (Speaker), , Aaron McCulloch (Speaker), , Shannon O’Neill (Participant), , Natalie Owen (Participant), , Helen McCarthy (Participant), , Frederick Currell (Participant), & Jonathan Coulter (Presenter)  
05 Sep 2017

Drug Delivery (Journal)  
Jonathan Coulter (Peer reviewer)  
Sep 2017 → …

British Society of Nanomedicine  
Shannon O’Neill (Speaker), , Tracy Robson (Participant), & Jonathan Coulter (Presenter)  
10 Aug 2017 → 11 Aug 2017

British Society of Nanomedicine  
Jonathan Coulter (Member of the organising committee), & Christopher Scott (Organiser)  
10 Aug 2017 → 11 Aug 2017

British Society of Nanomedicine  
Lindsey Bennie (Speaker), , Shannon O'Neill (Participant), , Natalie Owen (Participant), , Aaron McCulloch (Participant), , Helen McCarthy (Participant), & Jonathan Coulter (Presenter)  
10 Aug 2017

Inflammatory radiation signalling: a strategy to enhance gold nanoparticle delivery  
Jonathan Coulter (Keynote speaker)  
17 Jul 2017

COLLOIDS AND SURFACES B-BIOINTERFACES (Journal)  
Jonathan Coulter (Peer reviewer)  
Jul 2017 → …
Radiation induced inflammatory signalling as a targeting strategy for locally advanced prostate cancer
Jonathan Coulter (Invited speaker)
30 Jun 2017

Association for Radiation Research - Oxford 2017
Natalie Owen (Presenter), Emma Harrison (Participant), Dorian Dixon (Participant), David Waugh (Participant), & Jonathan Coulter (Presenter)
26 Jun 2017

Neil Kearney
Jonathan Coulter (Host)
01 May 2017 → 30 Sep 2017

All Ireland schools of Pharmacy
Shannon O’Neill (Speaker), Tracy Robson (Participant), & Jonathan Coulter (Presenter)
24 Apr 2017

All Ireland schools of Pharmacy
Natalie Owen (Speaker), Emma Harrison (Participant), Dorian Dixon (Participant), & Jonathan Coulter (Presenter)
24 Apr 2017

Improving the biological relevance of in vitro models using 3D cell culture
Jonathan Coulter (Invited speaker)
10 Jan 2017

British Journal of Radiology (Journal)
Jonathan Coulter (Peer reviewer)
Jan 2017 → …

School of Pharmacy - Work Experience Programme
Jonathan Coulter (Organiser), & Daniel Corbett (Organiser)
Jan 2017 → Feb 2017

Irish Radiation Research Society Annual Meeting
Shannon O’Neill (Speaker), Tracy Robson (Participant), & Jonathan Coulter (Presenter)
10 Nov 2016

Irish Radiation Research Society Annual Meeting
Natalie Owen (Speaker), Dorian Dixon (Participant), Emma Harrison (Participant), & Jonathan Coulter (Presenter)
10 Nov 2016

Nanomed - International Meeting
James Nicol (Participant), Emma Harrison (Participant), Dorian Dixon (Participant), Helen McCarthy (Participant), & Jonathan Coulter (Speaker)
07 Nov 2016 → 09 Nov 2016

Cancer Translational Research Group
Shannon O’Neill (Presenter), Tracy Robson (Participant), & Jonathan Coulter (Participant)
28 Oct 2016

Association for Radiation Research (External organisation)
Jonathan Coulter (Vice Chair)
01 Jul 2016 → 30 Jun 2018
**Association for Radiation Research**
James Nicol (Speaker), Dorian Dixon (Participant), Helen McCarthy (Participant), & Jonathan Coulter (Presenter)
27 Jun 2016 → 29 Jul 2016

**Northern Ireland Young Scientist**
Jonathan Coulter (Participant)
Jun 2016 → …

**Jilin University**
Jonathan Coulter (Contributor)
16 May 2016 → 20 May 2016

**Carron Shankland**
Jonathan Coulter (Host)
12 May 2016

**MEDIC consortium meeting**
Jonathan Coulter (Recipient), Carron Shankland (Member), Frederick Currell (Recipient), Matthew Hubbard (Recipient), & Karen Polizzi (Recipient)
07 May 2016

**Journal of Controlled Release: official journal of the Controlled Release Society (Journal)**
Jonathan Coulter (Peer reviewer)
Apr 2016 → …

**All Ireland Schools of Pharmacy Conference 2016**
Shannon O’Neill (Presenter), Tracy Robson (Participant), & Jonathan Coulter (Presenter)
21 Mar 2016

**All Ireland Schools of Pharmacy Conference 2016**
Natalie Owen (Presenter), Emma Harrison (Participant), Dorian Dixon (Participant), & Jonathan Coulter (Presenter)
21 Jan 2016

**Cancer Nanotechnology (Journal)**
Jonathan Coulter (Guest editor), Suneil Krishnan (Guest editor)
10 Jan 2016 → …

**School of Pharmacy - Work Experience Programme**
Jonathan Coulter (Organiser)
Jan 2016 → Feb 2016

**NanoMed**
James Nicol (Participant), Emma Harrison (Participant), Dorian Dixon (Participant), Helen McCarthy (Participant), & Jonathan Coulter (Speaker)
24 Nov 2015

**China Medical University – Queen’s University Belfast Joint College**
Jonathan Coulter (Visiting lecturer)
16 Oct 2015 → 31 Oct 2015

**Using gold nanoparticles to improve prostate cancer outcomes**
Jonathan Coulter (Speaker)
13 Oct 2015
1st L H Gray Memorial Trust Symposium
James Nicol (Presenter), Dorian Dixon (Participant), Helen McCarthy (Participant), & Jonathan Coulter (Presenter)
19 Jun 2015

Northern Ireland Young Scientist
Jonathan Coulter (Contributor)
Jun 2015 → …

International Congress of Radiation Research
Jonathan Coulter (Presenter)
25 May 2015

Heloise Lefebvre
Jonathan Coulter (Host)

International Journal of Nanomedicine (Journal)
Jonathan Coulter (Peer reviewer)
03 Feb 2015 → …

Gene Therapy (Journal)
Jonathan Coulter (Peer reviewer)
21 Jan 2015 → …

PLoS ONE (Journal)
Jonathan Coulter (Peer reviewer)
30 Dec 2014 → …

Nature Scientific Reports (Journal)
Jonathan Coulter (Peer reviewer)
16 Oct 2014 → …

Careers fair
Jonathan Coulter (Contributor)
Oct 2014

Irish Radiation Research Society
Jonathan Coulter (Organiser)
06 Sep 2014

Nitric Oxide - Biology and Chemistry (Journal)
Jonathan Coulter (Peer reviewer)
20 Aug 2014 → …

Translational Nanomedicine
Jonathan Coulter (Presenter)
Aug 2014

Benardo Gabiatti
Jonathan Coulter (Host)
23 Jun 2014 → 19 Dec 2014
Northern Ireland Young Scientist Event
Jonathan Coulter (Contributor)
06 Jun 2014

Association for Radiation Research
Jonathan Coulter (Invited speaker)
Jun 2014

Cancer Nanotechnology (Journal)
Jonathan Coulter (Peer reviewer)
28 May 2014 → …

Nano-radiation processes (NARAP-II)
Jonathan Coulter (Invited speaker)
02 May 2014

Modulating radiosensitivity in PTEN deficient prostate cancers through the inhibition of treatment induced CXCL8 signalling
Jonathan Coulter (Keynote speaker)
03 Apr 2014

Modulating radiosensitivity in PTEN deficient prostate cancers through the inhibition of treatment induced CXCL8 signalling
Jonathan Coulter (Keynote speaker)
01 Apr 2014

Modulating radiosensitivity in PTEN deficient prostate cancers through the inhibition of treatment induced CXCL8 signalling
Jonathan Coulter (Keynote speaker)
31 Mar 2014

Cancer Nanotechnology (Journal)
Jonathan Coulter (Editorial board member)
10 Mar 2014 → …

UCAS careers exhibition
Jonathan Coulter (Contributor)
Mar 2014

Promoting QUB MPharm and BSc degree pathways
Jonathan Coulter (Contributor)
Feb 2014

Nanomedicine: Nanotechnology, Biology and Medicine (Journal)
Jonathan Coulter (Peer reviewer)
22 Jan 2014 → …

Agency for Health Quality and Assessment of Catalonia (External organisation)
Jonathan Coulter (Member)
Oct 2013

ERRS meeting
Jonathan Coulter (Presenter)
01 Sep 2013
Gold nanoparticles - novel prostate cancer radiosensitising agents
Jonathan Coulter (Invited speaker)
26 Jul 2013

Northern Ireland Young Scientist Event
Jonathan Coulter (Contributor)
Jun 2013

University of Toronto
Jonathan Coulter (Visiting researcher)
Jun 2013 → Sep 2013

Megane Guinot
Jonathan Coulter (Host)
May 2013 → Sep 2013

International Journal of Cancer (Journal)
Jonathan Coulter (Peer reviewer)
26 Apr 2013

International journal of radiation biology (Journal)
Jonathan Coulter (Peer reviewer)
Apr 2013 → …

Gold nanoparticles as sensitisers for radiation therapy - UCC
Jonathan Coulter (Invited speaker)
14 Feb 2013

Journal of Pharmacy and Pharmacology (Journal)
Jonathan Coulter (Peer reviewer)
Jan 2013 → …

Careers Convention
Jonathan Coulter (Participant)
2013

Langmuir (Journal)
Jonathan Coulter (Peer reviewer)
06 Nov 2012 → …

Cancer Translational Research Group
Jonathan Coulter (Speaker)
Nov 2012

Clinical and Experimental Pharmacology and Physiology (Journal)
Jonathan Coulter (Editorial board member)
Oct 2012