

EMMANOUIL KARTERIS PhD
Senior Lecturer in Biomedical Sciences,
College of Health and Life Sciences, Division of Biosciences
Brunel University London

EDUCATION AND QUALIFICATIONS

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| PG Cert: | Postgraduate Certificate in Intellectual Property Law (Brunel University, 2009-2010) |
| PG Cert: | Postgraduate Certificate in Higher Education (Brunel University, 2006-2008) |
| PhD: | Molecular Endocrinology (University of Warwick, 1996-1999) |
| MSc: | Medical Genetics with Immunology - Distinction (Brunel University, 1995-1996) |
| BSc: | Medical Biochemistry (University of Surrey, 1991-1995) |

RESEARCH EXPERIENCE

I have published 51 research manuscripts (h-index: 22.0). I have presented over 90 research abstracts in leading national and international conferences and I am already REF compliant (for REF 2020). I have successfully supervised 6 PhD students, 1PDRA and 1 RA and acted as a mentor for junior academics. Currently I supervise 4 PhD students. For the impact of my research on steroid signalling I was awarded the Young Investigator Award by the European Federation of Endocrine Societies (2006).

The main area of my research is to use liquid biopsies as non-invasive biomarkers for diagnostic or prognostic value for lung and ovarian cancer. My research groups is also studying the involvement of steroid/G Protein-coupled Receptor (GPCR) signalling in gynaecological malignancies. More specifically, we investigate responses of steroids and involvement of endocrine disrupting chemicals (EDCs) in female reproduction and cancer, with emphasis in the mechanistic target of rapamycin (mTOR) pathway.

2016-Present *Senior Lecturer in Biomedical Sciences, Brunel University*

As a Head of the Cancer Biomarkers & Cellular Endocrinology Laboratory (CBCEL) my research areas are:

- Detection and characterisation of rare circulating tumour cells
- Use of liquid biopsies as a diagnostic/prognostic tool
- Role of endocrine disrupting chemicals in the fetal-placental unit
- Use of next generation of rapalogues as therapeutic agents against mesothelioma

2006-2016 *Lecturer in Biomedical Sciences, Brunel University*

- GPCR/Steroid signalling in gynaecological malignancies
- Role of mTOR in endometriosis and ovarian cancer
- Biomarker development for ovarian cancer from blood
- Role of orexin signalling in Alzheimer's Disease

2005-2006 *Lecturer in Molecular Endocrinology, University of Warwick*

- Signalling of novel seven transmembrane domain receptors (7TMDs) in human myometrium.

2003-2005 *Wellcome Trust VIP Research Fellow, University of Warwick*

- Studying the signalling of cardiac orexin receptors under basal, diabetic and ischemic conditions.

2000-2003 *Postdoctoral Research Fellow, University of Warwick*

- Describing in detail the expression of uterine CRH receptors during metabolic complications of pregnancy and providing evidence for a key role of CRH during pregnancy and parturition.

TEACHING DUTIES

- Final Year (Level 3) synoptic exam paper organiser
- Medical Biochemistry (Level 3; module organiser)
- Endocrine Disorders (Level 3; module organiser)
- Final Year Project Dissertation (Level 3)

Delivering lectures for the following modules:

- Clinical Biochemistry (Level 2)
- Intracellular Signalling in Cancer (MSc Level)
- Molecular Mechanisms of Human Disease (MSc Level)
- MSc Dissertation Projects

ADMINISTRATIVE DUTIES

| Post/role/activity/initiative | Period |
|--|--------------|
| Programme Lead for Biosciences | 2014-present |
| Chair of Board of Studies for Biosciences for both UG and PG programmes | 2014-present |
| Chair - Sports Sciences exam boards | 2015-present |
| Member of the Programme Development Team for the College for an undergraduate degree in Environmental Sciences | 2014-present |
| Member for the Athena SWAN self-assessment team for Life Sciences | 2015-present |
| Marketing officer for Biosciences, UCA/Open Day co-ordinator, and Representative to the School's Admissions and Marketing committees | 2009-2013 |

EXTERNAL IMPACT

I have established and developed new relationships with industry (BJS Biotechnologies UK, ALS Germany, TATAA Biocentre Sweden, UPM Finland), professional organisations (Sorooptimists International; Inter-Balkan European Medical Centre) and overseas universities. I am an editorial member of Scientific Reports (Nature Publications), Spandidos Publications and BioMed Research International. I am an external examiner for Exeter University, and acted as external examiner for PhD and MSc theses at peer institutions (Warwick, KCL, Liverpool, Birmingham). I am a reviewer for the MRC and Breast Cancer Campaign, in addition to several highly peered reviewed journals. Recently, I have led a research consortium for a Horizon2020 proposal (FTI call). I have also been invited to give a number of oral presentations including plenary lectures.

RESEARCH GRANTS AWARDED

- The Cancer Treatment and Research Trust (CTRT); PhD Scholarship (2017-2020): Use of liquid biopsies as a potential diagnostic/prognostic test for ovarian cancer (**£60,000**).
- NHS Mt Vernon Cancer Centre; RA post (2018-2019): Detection and enumeration of rare circulating tumour cells (**£25,000**).
- Catalyst Fund; Pilot Project – Brunel University (co-applicant): The multifactorial aetiology of breast cancer – establishing new tools to investigate the role of chemicals and lifestyle factors on breast cancer development (**£15,000**).
- Isamambard PhD Scholarship (2015-2018): Investigate the effects of endocrine disrupting chemicals in the human placenta (**£66,000**).
- The Cancer Treatment and Research Trust (CTRT); PhD Scholarship (2014-2017): Development of a prognostic test for ovarian cancer (**£60,000**).
- Friedreich's Ataxia Research Alliance (2013-2014): "Investigation of diazoxide as a novel frataxin-increasing therapy for Friedreich ataxia". Co-PI (**\$45,000**).
- National Institutes of Health (NIH) USA (2006-2012): "Characteristics of a putative steroid membrane receptor". Co-applicant to Prof. P. Thomas, University of Texas, USA. (**\$1.6 million**).
- PhD studentship (BJS Biotechnology, 2011-2014): "mTOR signalling in ovarian cancer" (**£150,000**).
- Royal Society: Laboratory Visit award (**£2,400** January 2011).
- Society for Endocrinology (2007-2008), UK: Small grant programme (**£9,700**).
- Young Investigator Award (2006), European Federation of Endocrine Societies (**€ 2,000**)
- VIP Wellcome Trust Research Fellowship (2003-2005): "Effect of hyperglycaemia in the signalling of orexin receptors in the heart" (**£60,000**)

SELECTED PUBLICATIONS (past 6 years)

- 1: Chudasama D, Aladag Z, Felicien M, Hall M, Beeson J, Asadi N, Gidron Y, **Karteris E***, Anikin V*. Prognostic value of the DNA Integrity Index in patients with malignant lung tumours *Oncotarget* 2018; (in press) *joint last co-authors.

- 2: Chudasama D, Bo V, Hall M, Anikin V, Jeyaneethi J, Gregory J, Pados G, Tucker A, Harvey A, Pink R, **Karteris E**. Identification of cancer biomarkers of prognostic value using specific gene regulatory networks (GRN): a novel role of RAD51AP1 for ovarian and lung cancers. *Carcinogenesis*. 2018; 39(3):407-417.

- 3: Chudasama D, Burnside N, Beeson J, **Karteris E**, Rice A, Anikin V. Perioperative detection of circulating tumour cells in patients with lung cancer. *Oncol Lett*. 2017 Aug;14(2):1281-1286.

- 4: Chudasama DY, Freydina DV, Freidin MB, Leung M, Montero Fernandez A, Rice A, Nicholson AG, **Karteris E**, Anikin V, Lim E. Inertia based microfluidic capture and characterisation of circulating tumour cells for the diagnosis of lung cancer. *Ann Transl Med*. 2016; 4(24):480.

- 5: Wagner R, Stübiger G, Veigel D, Wuczkowski M, Lanzerstorfer P, Weghuber J, **Karteris E**, Nowikovsky K, Wilfinger-Lutz N, Singer CF, Colomer R, Benhamú B, López-Rodríguez ML, Valent P, Grunt TW. Multi-level suppression of receptor-PI3K-mTORC1 by fatty acid synthase inhibitors is crucial for their efficacy against ovarian cancer cells. *Oncotarget*. 2017; 8(7):11600-11613.

- 6: Kaur A, Sultan SH, Murugaiah V, Pathan AA, Alhamlan FS, **Karteris E**, Kishore U. Human C1q Induces Apoptosis in an Ovarian Cancer Cell Line via Tumor Necrosis Factor Pathway. *Front Immunol*. 2016; 7:599.

- 7: Mankarious A, Dave F, Pados G, Tsolakidis D, Gidron Y, Pang Y, Thomas P, Hall M, **Karteris E**. The pro-social neurohormone oxytocin reverses the actions of the stress hormone cortisol in human ovarian carcinoma cells in vitro. *Int J Oncol*. 2016; 48(5):1805-14.

- 8: Sotiriadis G, Dodagatta-Marri E, Kouser L, Alhamlan FS, Kishore U, **Karteris E**. Surfactant Proteins SP-A and SP-D Modulate Uterine Contractile Events in ULTR Myometrial Cell Line. *PLoS One*. 2015;10(12):e0143379.

- 9: Davies J, Chen J, Pink R, Carter D, Saunders N, Sotiriadis G, Bai B, Pan Y, Howlett D, Payne A, Randeve H, **Karteris E**. Orexin receptors exert a neuroprotective effect in Alzheimer's disease (AD) via heterodimerization with GPR103. *Sci Rep*. 2015; 5:12584.

- 10: Bai B, Cai X, Jiang Y, **Karteris E**, Chen J. Heterodimerization of apelin receptor and neurotensin receptor 1 induces phosphorylation of ERK(1/2) and cell proliferation via Gαq-mediated mechanism. *J Cell Mol Med*. 2014; 18(10):2071-81.

- 11: Foster HA, Davies J, Pink RC, Turkcigdem S, Goumenou A, Carter DR, Saunders NJ, Thomas P, **Karteris E**. The human myometrium differentially expresses mTOR signalling components before and during pregnancy: evidence for regulation by progesterone. *J Steroid Biochem Mol Biol*. 2014; 139:166-72.

- 12: Ramanjaneya M, **Karteris E**, Chen J, Rucinski M, Ziolkowska A, Ahmed N, Kagerer S, Jöhren O, Lehnert H, Malendowicz LK, Randeve HS. QRFP induces aldosterone production via PKC and T-type calcium channel-mediated pathways in human adrenocortical cells: evidence for a novel role of GPR103. *Am J Physiol Endocrinol Metab*. 2013; 305(9):E1049-58.

- 13: Mparmpakas D, Zachariades E, Goumenou A, Gidron Y, **Karteris E**. Placental DEPTOR as a stress sensor during pregnancy. *Clin Sci (Lond)*. 2012; 122(7):349-59.

- 14: Zachariades E, Mparmpakas D, Pang Y, Rand-Weaver M, Thomas P, **Karteris E**. Changes in placental progesterone receptors in term and preterm labour. *Placenta*. 2012; 33(5):367-72.