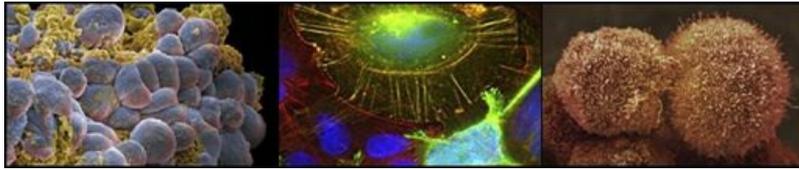


# Endocrine-Related Cancer



**Section leader:** **Professor Wiebke Arlt** (<http://www.birmingham.ac.uk/staff/profiles/cem/EDM/Arlt-Wiebke.aspx>)

Endocrinology and cancer are inextricably linked in multiple tumour settings. The term Endocrine Cancer encompasses a broad spectrum of neoplasia, including (1) tumours of the endocrine organs (e.g. pituitary, thyroid, adrenal), (2) endocrine-related tumours (e.g. breast, prostate, colon), and (3) neuroendocrine tumours (e.g. pheochromocytoma). The hormonal control of cell growth is central to numerous physiological processes in endocrine and non-endocrine tissues, and dysregulation through abnormal hormonal signalling may have direct effects on transformed cell growth. Endocrine Cancer is thus an inherently multidisciplinary field, covering all aspects of hormone action on cancer, including causation, progression, dependence, prevention, resistance and treatment, and impacting on a large proportion of human tumours.

Within Endocrine Cancer, our research relies on a balance of cutting-edge scientific methodologies and deep clinical understanding of the diseases we are trying to treat. Our internationally-renowned scientific researchers have expertise in the most innovative and cutting-edge techniques, including steroid profiling; cancer genetics and genomics in the fields of sequencing and DNA damage; cancer cell biology and signalling in treatment and screening; mass spec and metabolomic screening; metabolic flux analysis; NMR; murine models of disease; *in vivo* and *in vitro* imaging. Our outstanding laboratory facilities span the Schools of Cancer Sciences and Clinical and Experimental Medicine. Through our clinical and surgical members we enjoy close and productive links with the NHS.

The theme of Endocrine Cancer boasts particular strengths in thyroid, breast, colorectal, and adrenal cancer research, as well as world-leading expertise in pheochromocytoma. Thyroid cancer is a particular strength, running the full gamut of basic, translational and clinical research. Intensive and successful breast cancer research is also prominent, with multiple publications in leading journals. Further, we have leading international research into pheochromocytoma and adrenal cancer, the latter as a central component of the European Network for the Study of Adrenal Tumours, **ENSAT** (<http://www.ensat.org/>). The over-arching goals of our research within the field of endocrine cancer are thus to (i) understand the complex interactions between hormones and tumorigenesis; (ii) to extrapolate *in vitro* findings to the *in vivo* setting; and (iii) to inform future therapeutic treatments of pituitary, thyroid, colonic, adrenal, breast and prostate cancers, as well as pheochromocytoma.

## Research Groups

- **Translational Thyroid Research Group** (</research/activity/mds/domains/endocrinology-metabolism/endocrine-cancer/translational-thyroid/index.aspx>) - **Dr Kristien Boelaert** (<http://www.birmingham.ac.uk/staff/profiles/cem/EDM/Boelaert-Kristien.aspx>)
- **Steroid Metabolism in Cancer Research Group** (</research/activity/mds/domains/endocrinology-metabolism/endocrine-cancer/steroid-metabolism-in-cancer/index.aspx>) - **Dr Paul Foster** (<http://www.birmingham.ac.uk/staff/profiles/cem/EDM/Foster-Paul.aspx>)
- **Endocrine Cancer Research Group** (</research/activity/mds/domains/endocrinology-metabolism/endocrine-cancer/endocrine-cancer-research-group/index.aspx>) - **Professor Chris McCabe** (<http://www.birmingham.ac.uk/staff/profiles/cem/EDM/McCabe-Chris.aspx>)