

CLIFF MURRAY BSc PhD FRCPath FRSB

Name	John Clifford Cox Murray
Current employment	Director, Murray BioSciences Ltd (Company No. 8131114);
Qualifications	PhD Biochemistry/Pathology, Cambridge University, UK, 1977 BSc Hons Biochemistry, St. Andrews University, UK, 1973
Languages	First language English; conversant in Italian and French

Employment History

August 2012 - date

Independent Consultant in Biosciences; Director of Murray BioSciences Ltd.

Consultancy projects include:

- Senior Scientific Advisor to Technology Validation Group at Department of Health and Social Care (July 2021 – Nov 2021)
- supporting BioPharma services as Head of Clinical R&D (part-time) at Source Bioscience UK plc (since August 2017). These services include biomarker discovery, assay development and clinical trial support, exploiting my experience and expertise in histopathology, genomics and *in vitro* diagnostics.
- writing a Business Plan for a University spin-out based on application of Next Generation DNA Sequencing to microbiology testing (2018-2019)
- assisting a university department in commercialising a test for TB infection in badgers (2015-2016)
- advising a biotech company on development and marketing of novel circulating tumour cell enrichment technology (2015-2016)
- advising Genomics England Ltd, a UK government-sponsored project that will sequence the genomes of 100,000 NHS patients with cancers or rare diseases, on DNA quantitation and qualification (2014-2016)
- assisting a major US healthcare company catering to the private clinical sector in the UK on introducing Next Generation Sequencing into clinical practice (2012-2014)
- working closely with the Germinator at BioCity Nottingham, played a key role in mentoring and spin-out of biotechnology companies from Nottingham and Nottingham Trent Universities.

Jan 2005 – July 2012: Head of R&D, Source Bioscience UK Ltd

From June-December 2004, I worked one day per week in a scientific support role for the Drug Development Services branch of Medical Solutions (as was). In August 2004 I was offered a full-time position in Medical Solutions and took up the position in January 2005.

In March 2008, Medical Solutions was renamed Source Bioscience UK Ltd. Source is a major UK provider of pathology and tissue services to the public and private healthcare sector, to the Pharma/Biotech industries, and to the academic/research community. Services range from routine histology through to Next Generation Sequencing. My responsibilities within the organisation as head of R&D included:

- (1) formulating and guiding scientific strategy for the company
- (2) supporting the development of new business proposals as well as current contract work
- (3) providing day-to-day scientific support to the organisation.

1994-2004: Reader in Oncology, Nottingham University

In 1993, accepted a tenured position in the new CRC Department of Clinical Oncology at Nottingham University. The Tumour Vascular Biology Group, of which I was head, reached a maximum number of 15 staff during this period and stabilised at 12 members. The group was continuously funded by CRC, now CRUK, through programme grants, most recently £0.75m awarded to me personally in March 2004. I gained extensive administrative experience through my involvement with University teaching and research issues, as well as through running my own research group

1989-1994: Senior Scientist and Head, Endothelial Biology Group, CRC Gray Laboratory, Mt Vernon Hospital, Northwood, UK

On return to the UK, I was appointed to head a new endothelial biology group at the CRC Gray Laboratory. I supervised the research of one post-doctoral fellow, three technicians and two PhD students, as well as various visiting scientists. In 1993 my group's research was alpha-star rated by a visiting CRC committee, and further expansion of the group was recommended.

1988-1989: Visiting Scientist, Department of Physiology and Cellular Biophysics, Columbia University, NY

This sabbatical was arranged with Dr David Stern in order to learn about new tumour-derived factors that modify endothelial-dependent coagulation pathways. It was from this research that a long-term interest in novel tumour cytokines developed.

1984-1988: Scientist, Cancer Research Campaign Gray Laboratory, Mount Vernon Hospital, Northwood, UK

I joined Prof Juliana Denekamp's research group with the brief of setting up endothelial cell cultures from different tissues and studying how they differ in a tumour microenvironment.

1980-1984: Scientific Staff, Strangeways Research Laboratory, Cambridge

On return to the UK I was offered a scientific staff position, to study the effect of electromagnetic radiation on cell metabolism and gene expression.

1977-1980 Fogarty Visiting Fellow, National Institutes of Health, USA

This was a productive training period following completion of the PhD, during which I developed my skills in cell biology and my life-long interest in cancer research, working with Dr Lance Liotta and others at the NCI.

Honours, Certifications and Membership of professional organisations

Fellow of the Royal Society of Biology

Fellow of the Royal College of Pathologists

Practitioner of the Academy for Higher Education (Tertiary level teaching qualification)

British Association for Cancer Research, member

American Association for Cancer Research, member

British Society for Cell Biology, member

British Institute of Radiology, member

Other activities and outside interests

Formerly Member of the Board of Trustees, the RAFT (Restoration of Appearance and Function Trust) Charity

Formerly Scientific Advisor to Origin Sciences Ltd, Cambridge UK

Honorary Treasurer, University of the Third Age local branch (2018-date)

Other interests include hill-walking, studying classical guitar, and painting.

Publications related to Research

95 Peer-reviewed papers, and book chapters