Institutional webpage: https://www.oncology.ox.ac.uk/team/francesca-buffa
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I am a Full Professor of Computational Biology and Cancer Genomics at the University of Oxford, and I am a Principal Investigator funded by a European Research Council Consolidator Award and a Cancer Research UK programme grant. Prior to this position I was Associate Professor at the University of Oxford for nearly 5 years, and I have been a Group Leader for more than 8 years. My research brings together computational science and integrative genomics to understand complex disease such as cancer, with the goal to translate this knowledge into useful clinical tools. I'm also committed to help forming the next generation of biomedical and computational scientists, providing them with the necessary knowledge to tackle the big data challenge, and ultimately improve human health.

1. Career and Education

Current research and academic employment

Since 2020	Professor of Computational Biology and Cancer Genomics, University of Oxford
Since 2018	Principal Investigator, European Research Council Consolidator Award, Project: microC 772970
Since 2018	Visiting Professor, MSc/PhD Program in Life Science Innovation, Tsukuba University (Japan)
Since 2016	Principal Investigator, Cancer Research UK (CRUK), Department of Oncology, Oxford
Since 2015	Academic Lead for Bioinformatics, Dpt of Oncology, Medical Sciences Division, University of Oxford

Major current Commission of Trust (selected, continued in Section 6)

2021	Panel Member, Research Council of Norway, Norway
Since 2020	Scientific Advisory Board Member, iCAN Digital Precision Cancer Medicine Flagship, Finland
Since 2020	NIHR Urgent Public Health Group COVID-19 Prioritization Panel
Since 2017	Member of the UK Research Excellence Framework 2021 (REF2021), Biological Science A5 and Interdisciplinary Research Panels (https://www.ref.ac.uk/panels/panel-membership/)
Since 2015	Recurrent member of Horizon2020 EU Grant Panels (1-2 panels per year)
Since 2015	Recurrent member of CRUK, MRC and Breast Cancer Now expert panels

Major Awards (selected, continued in Section 2)

2018-2023	European Research Council Consolidator Programme Award (applying for extension to 2024)
2016-2022	Cancer Research UK Programme
2013-2016	Cancer Research UK Career Development Award

Education and prizes in education

2001	PhD, Institute of Cancer Research (ICR), University of London, UK. PhD Prize.
2000	1st Prize PhD Project Presentations. "Mathematical modelling of radiation response in hypoxic conditions" (Abstract published in: Med Phys 29259)
2000	EDRO Fellowship to attend the 1st Workshop on Biology in Radiation Oncology, Arhus, NL
1997-2001	PhD Fellowship, ICR, University of London, UK
1996-1997	Research Fellowship, Physics, Oncology Institute of Southern Switzerland
1992-1996	Theoretical Physics 4-year BSc. First-class Honours. University of Turin, Turin, Italy. Research Project Thesis: "Gauge invariant treatment for decay rate effects in quantum field theory"

Previous employment

2015-2019	Associate Professor, Computational Biology and Integrative Genomics, Medical Sciences Division
2014-2015	Lecturer, Department of Oncology, Medical Sciences, University of Oxford
2013-2016	Group Leader, Computational Biology and Integrative Genomics, Department of Oncology
2010-2013	Senior Research Fellow, Weatherall Institute of Molecular Medicine (WIMM)
2006-2010	Senior Post-doctoral Researcher (Merit Award), Computational Biology, WIMM, University of Oxford
2003-2006	Post-doctoral Researcher, Gray Cancer Institute, London, UK
2001-2003	Post-doctoral Researcher, Institute of Cancer Research (ICR), London, UK

Other previous honorary positions

2013	Functional Genomics Lead, OIRO, Department of Oncology
2009-2013	Visiting Research Fellow, Wellcome Trust Centre for Human Genetics
2005-2008	Visiting Statistician, Medical Research Council (MRC), London, UK

2. Advanced study and research

Description of current research can also be found on my institutional web-pages:
https://www.oncology.ox.ac.uk/team/francesca-buffa
https://www.oncology.ox.ac.uk/research/research-group/computational-biology-and-integrative-genomics

Major grants as Principal Investigator

2018-2023	European Research Council ERC-2017-COG Programme Award, microC772970, 'Agent-Based Modelling of Gene Networks to model clonal selection in the tumour microenvironment and predict therapeutic resistance'. ~£2M
2016-2022	Cancer Research UK Programme Award 'Computational Biology and Integrative Genomics of the Tumour Microenvironment'. ~£1.8M
2013-2016	Career Development Award, CR-UK/MRC Oxford Institute. ~£0.8M

Major grants as Co-Principal Investigator

2011-2015	EU Framework Programme 7 Network EURECA [ANRVYG0], ~£0.4M
2010-2015	EU Framework Programme 7 Network p-Medicine [ANRTOS0], ~£0.5M

Other Major Grants as Co-Investigator

2015-2018	Prostate Cancer UK [PG14 008 TR2] 'Development and validation of a hypoxia gene signature as a biomarker of radioresistance in prostate cancer' ~£0.4M
2014-2019	Cancer Research UK Science Committee [C1094/A17977] NIMRAD-METAGENE 'Prospective qualification of a hypoxia metagene biomarker' ~£0.3M
2011-2013	Cancer Research UK BIDD [A12617] 'PredicTr-OPC Biomarker classifiers to predict prognosis following treatment of oropharyngeal carcinoma' ~£0.1M
2009-2011	Cancer Research UK TRICC [C2094/A11365] BCON-TRANS 'Investigation of the ability of a hypoxia-associated signature to predict benefit from hypoxia-modifying therapy' ~£0.1M
2008-2011	Medical Research Council [G0801525] 'Validation of a multiplex hypoxia biomarker' ~£0.9M
2006-2008	Cancer Research UK TRICC [C602/A6777] 'ABC Tamoxifen late relapse' ~£0.2M

Other grants

I also hold/held many additional small (<£0.1M) grants both as principal investigator and co-investigator; and I am collaborator on several grants, including large ones e.g. the Stratification of Colorectal Cancer UK-wide multidisciplinary consortium (https://www.scort.org.uk)

Patents and Licenses

2019	Open License software *MeRLin*, web-tool for mining clinical genomic data
2018	Open License software *microC*, a 3D virtual environment for executable biology
2017	Licensed software *HTSense*, a web-tool for complex high-throughput screens
2011	Patent WO/2011/076895 'Hypoxia Tumor Markers'
2008	Patent WO/2008/137090 'Knowledge-Based Proliferation Signatures'

Publications in peer-reviewed journals

I published 132 peer-reviewed papers. My H-index is 51, i10-index 110 (Google Scholar). Listed below are selected research publications illustrating contribution to the fields of computational biology, genomics/transcriptomics and cancer research. After, I list other publications since 2011. Earlier publications omitted, but full list can be provided.

Selected publications

Skwarski M, McGowan DR, Belcher E, Di Chiara F, Stavroulias D, McCole MG, Derham J, Chu KY, Teoh E, Chauhan J, O'Reilly D, Harris BHL, Macklin PS, Bull JA, Green M, Rodriguez-Berriguete G, Prevo R, Folkes LK, Campo L, Ferencz P, Croal P, Flight H, Qi C, Holmes J, O'Connor JPB, Gleeson F, McKenna WG, Harris AL, Bulte D, Buffa FM, Macpherson RE, Higgins GS. Mitochondrial Inhibitor Atovaquone Increases Tumor Oxygenation and Inhibits Hypoxic Gene Expression in Patients with Non-Small Cell Lung Cancer. Clin Cancer Res:clincanres.4128.2020 (2021)

Di Giovannantonio M, Harris BH, Zhang P, Kitchen-Smith I, Xiong L, Sahgal N, Stracquadanio G, Wallace M, Blagden S, Lord S, Harris D, Harris AHL, Buffa FM (corresponding), Bond GL. *Heritable genetic variants in key cancer genes link cancer risk with anthropometric traits.* J Med Genet.: jmedgenet-2019-106799. Online ahead of print (2020)

Dhawan A, Barberis A, Cheng WC, Domingo E, West C, Maughan T, Scott JG, Harris AL, Buffa FM (*corresponding*). *Guidelines for using sigQC for systematic evaluation of gene signatures.* Nature Protocols

14(5):1377-1400. doi: 10.1038/s41596-019-0136-8 (2019)

Burdova K, Yang H, Faedda R, Hume S, Chauhan J, Ebner D, Kessler BM, Vendrell I, Drewry DH, Wells CI, Hatch SB, Dianov GL, <u>Buffa FM</u>, D'Angiolella V. *E2F1 proteolysis via SCF-cyclin F underlies synthetic lethality between cyclin F loss and Chk1 inhibition.* EMBO J. 38(20):e101443. doi:10.15252/embj.2018101443 (2019)

Voukantsis D, Kahn K, Hadley M, Wilson R, <u>Buffa FM (*corresponding*)</u>. *Modeling genotypes in their microenvironment to predict single- and multi-cellular behaviour.* Gigascience. 8(3). pii: giz010. doi: 10.1093/gigascience/giz010. PMID: 30715320 (2019)

Lord SR, Cheng WC, Liu D, Gaude E, Haider S, Metcalf T, Patel N, Teoh EJ, Gleeson F, Bradley K, Wigfield S, Zois C, McGowan DR, Ah-See M, Thompson A, Sharma A, Bidaut L, Pollak M, Roy P, Karpe F, James T, English R, Adams R, Campo L, Ayers L, Snell C, Roxanis I, Frezza C, Fenwick J, <u>Buffa FM (*joint last*)</u>, Harris AL. *Integrated Pharmacodynamic Analysis Identifies Two Metabolic Adaption Pathways to Metformin in Breast Cancer.* Cell Metabolism 28(5)679-688 (2018)

Dhawan A, Scott J, Harris AL, <u>Buffa FM (*corresponding*)</u>. *Pan-cancer characterisation of microRNA across cancer hallmarks reveals microRNA mediated downregulation of tumour suppressors.* Nature Communications, 9 (1), 5228 (2018)

Haider S, McIntyre A, van Stiphout RG, Winchester LM, Wigfield S, Harris AL, <u>Buffa FM (*corresponding*)</u>. *Genomic alterations underlie a pan-cancer metabolic shift associated with tumour hypoxia.* Genome Biology 17(1)140 (2016)

Mehta S, Hughes NP, Li S, Jubb A, Adams R, Lord S, Koumakis L, van Stiphout R, Padhani A, Makris A, <u>Buffa FM (*joint last and corresponding*)</u>, Harris AL. *Radiogenomics Monitoring in Breast Cancer Identifies Metabolism and Immune Checkpoints as Early Actionable Mechanisms of Resistance to Anti-angiogenic Treatment.* EBioMedicine. (2016) 10109-16.

Masiero M, Costa Simões F, Dong Han H, Snell C, Peterkin T, Bridges E, Mangala L, Yen-Yao Wu S, Pradeep S, Li D, Han C, Dalton H, Lopez-Berestein G, Tuynman J, Mortensen N, Li J, Patient R, Sood AK, Banham A, Harris A, <u>Buffa FM (*corresponding*)</u>. *A core human primary tumor angiogenesis signature identifies the endothelial orphan receptor ELTD1 as a key regulator of angiogenesis.* Cancer Cell 24229-41 (2013)
This paper was featured in Highlights, American Association of Cancer Research, Cancer Res 73; 5299 (2013)

Favaro E, Bensaad K, Chong MG, Tennant DA, Ferguson DJ, Snell C, Steers G, Turley H, Li JL, Günther UL, <u>Buffa FM</u>, McIntyre A, Harris AL. *Glucose utilization via glycogen phosphorylase sustains proliferation and prevents premature senescence in cancer cells.* Cell Metab. 16751-64. (2012)

<u>Buffa FM (*corresponding*)</u>, Camps C, Winchester L, Snell CE, Gee HE, Sheldon H, Taylor M, Harris AL, Ragoussis J. *microRNA-associated progression pathways and potential therapeutic targets identified by integrated mRNA and microRNA expression profiling in breast cancer.* Cancer Res. 715635-45 (2011)
This paper has been featured in Key Paper Evaluation. Expert Rev Anticancer Ther 2012 Mar;12(3)323-30.

Korpal M, Ell BJ, <u>Buffa FM</u>, Ibrahim T, Blanco MA, Celià-Terrassa T, Mercatali L, Khan Z, Goodarzi H, Hua Y, Wei Y, Hu G, Garcia BA, Ragoussis J, Amadori D, Harris A, Kang Y. *Direct targeting of Sec23a by miR-200s influences cancer cell secretome and promotes metastatic colonization.* Nature Med 171101-8 (2011)

Moskwa P, <u>Buffa FM</u>, Pan Y, Panchakshari R, Gottipati P, Muschel R, Beech J, Kulshrestha R, Abdelmohsen K, Weinstock D, Gorospe M, Harris A, Helleday T, Chowdhury D. *miR-182-mediated downregulation of BRCA1 impacts DNA repair and sensitivity to PARP inhibitors.* Mol Cell 41210-20 (2011)

<u>Buffa FM (*corresponding*)</u>, Harris AL, West CM, Miller CJ. *Large-meta analysis of multiple cancers reveals a common, compact and highly prognostic hypoxia metagene.* Br J Cancer 102428-35 (2010)

Higgins GS, Harris AL, Prevo R, Helleday T, McKenna WG, <u>Buffa FM (*corresponding*)</u>. *Overexpression of POLQ confers a poor prognosis in early breast cancer patients.* Oncotarget 1175-84 (2010)

Generali D, <u>Buffa FM (*joint first*)</u>, Berruti A, Brizzi MP, Campo L, Bonardi S, Bersiga A, Allevi G, Milani M, Aguggini S, Papotti M, Dogliotti L, Bottini A, Harris AL, Fox SB. *Phosphorylated ERα, HIF-1α and MAPK signalling, as predictors of primary endocrine treatment response and resistance in breast cancer patients.* J Clin Oncol 27227-234 (2009)

Gee HE, Camps C, <u>Buffa FM</u>, Colella S, Sheldon H, Gleadle JM, Ragoussis J,Harris AL. *MicroRNA-10b and breast cancer metastasis.* Nature. 455E8-9 (2008)

Winter SC, <u>Buffa FM (*joint first*)</u>, Silva P, Miller C, Valentine HR, Turley H, Shah KA, Cox GJ, Corbridge RJ, Homer JJ, Musgrove B, Slevin M, Sloan P, Price P, West C, Harris AL. *Relation of a hypoxia metagene derived from head and neck cancer to prognosis of multiple cancers.* Cancer Res 673441-9 (2007)

<u>Buffa FM (*corresponding*)</u>, Bentzen SM, Daley FM, Dische S, Saunders MI, Richman PI, Wilson GD. *Molecular marker profiles predict loco-regional control of head and neck squamous cell carcinoma in a randomized trial of continuous hyperfractionated accelerated radiotherapy.* Clin Cancer Res 10 3745-3754 (2004)
This paper has been featured in Press Release, American Association of Cancer Research (Nov. 2003)

Other peer-reviewed publications since 2011

Goedegebuure RSA, Kleibeuker EA, Buffa FM, Castricum KCM, Haider S, Schulkens IA, Ten Kroode L, van den Berg J, Jacobs MAJM, van Berkel AM, van Grieken NCT, Derks S, Slotman BJ, Verheul HMW, Harris AL, Thijssen VL. J Interferon- and STING-independent induction of type I interferon stimulated genes during fractionated irradiation.Exp Clin Cancer Res. 2021 May 8;40(1):161. doi: 10.1186/s13046-021-01962-2.

Walsh CA, Akrap N, Garre E, Magnusson Y, Harrison H, Andersson D, Jonasson E, Rafnsdottir S, Choudhry H, <u>Buffa F</u>, Ragoussis J, Ståhlberg A, Harris A, Landberg G. *The mevalonate precursor enzyme HMGCS1 is a novel marker and key mediator of cancer stem cell enrichment in luminal and basal models of breast cancer.* PLoS One. 2020 Jul 21;15(7):e0236187. doi: 10.1371/journal.pone.0236187. eCollection 2020. PMID: 32692762

Kawashima M, Bensaad K, Zois CE, Barberis A, Bridges E, Wigfield S, Lagerholm C, Dmitriev RI, Tokiwa M, Toi M, Papkovsky DB, *Buffa FM*, Harris AL. *Disruption of hypoxia-inducible fatty acid binding protein 7 induces beige fat-like differentiation and thermogenesis in breast cancer cells.* Cancer Metab. 2020 Jul 6;8:13. doi: 10.1186/s40170-020-00219-4. eCollection 2020.

Dhawan A, Scott J, Sundaresan P, Veness M, Porceddu S, Hau E, Harris AL, <u>Buffa FM</u>, Gee HE. *Role of gene signatures combined with pathology in classification of oropharynx head and neck cancer.* Sci Rep. 2020 Jun 23;10(1):10226. doi: 10.1038/s41598-020-66983-x.

Morotti M, Bridges E, Valli A, Choudhry H, Sheldon H, Wigfield S, Gray N, Zois CE, Grimm F, Jones D, Teoh EJ, Cheng WC, Lord S, Anastasiou D, Haider S, McIntyre A, Goberdhan DCI, <u>Buffa FM</u>, Harris AL. *Hypoxia-induced switch in SNAT2/SLC38A2 regulation generates endocrine resistance in breast cancer.* Proc Natl Acad Sci U S A. 116(25):12452-12461 (2019)

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Louphrasitthiphol P, Ledaki I, Chauhan J, Falletta P, Siddaway R, <u>Buffa FM</u>, Mole DR, Soga T, Goding CR. *MITF controls the TCA cycle to modulate the melanoma hypoxia response.* Pigment Cell Melanoma Res. 2019 Nov;32(6):792-808. doi: 10.1111/pcmr.12802. Epub 2019 Jul 8. PMID: 31207090

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Carter R, Cheraghchi-Bashi A, Westhorpe A, Yu S, Shanneik Y, Seraia E, Ouaret D, Inoue Y, Koch C, Wilding J, Ebner D, Ryan AJ, <u>Buffa FM</u>, Sharma RA. *Identification of anticancer drugs to radiosensitise BRAF-wild-type and mutant colorectal cancer.* Cancer Biol Med. 2019 May;16(2):234-246. doi: 10.20892/j.issn.2095-3941.2018.0284. PMID: 31516745

Valli A, Morotti M, Zois CE, Albers PK, Soga T, Feldinger K, Fischer R, Frejno M, McIntyre A, Bridges E, Haider S, <u>Buffa FM</u>, Baban D, Rodriguez M, Yanes O, Whittington HJ, Lake HA, Zervou S, Lygate CA, Kessler BM, Harris AL. *Adaptation to HIF1α Deletion in Hypoxic Cancer Cells by Upregulation of GLUT14 and Creatine Metabolism.* Mol Cancer Res. 17(7):1531-1544. doi: 10.1158/1541-7786.MCR-18-0315 (2019)

Lord SR, Collins JM, Cheng WC, Haider S, Wigfield S, Gaude E, Fielding BA, Pinnick KE, Harjes U, Segaran A, Jha P, Hoefler G, Pollak MN, Thompson AM, Roy PG, English R, Adams RF, Frezza C, <u>Buffa FM,</u> Karpe F, Harris AL. *Transcriptomic analysis of human primary breast cancer identifies fatty acid oxidation as a target for metformin.* Br J Cancer. doi: 10.1038/s41416-019-0665-5 [EPub head of print] (2019)

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Victori P, <u>Buffa FM</u> (*corresponding*). *The many faces of mathematical modelling in oncology*. Br J Radiol. 92(1093): 20180856. doi: 10.1259/bjr.20180856 (2019)

O'Cathail SM, <u>Buffa FM</u> (*corresponding*). *Science in Focus: Bioinformatics Part 1 - Lost in Translation*. Clin Oncol (R Coll Radiol). 2019 Jun;31(6):337-340. doi: 10.1016/j.clon.2019.03.043. Epub 2019 Apr 8. PubMed PMID: 30975523.

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Favaro E, Lord S, Harris AL, <u>Buffa FM</u> (*corresponding*). *Gene expression and hypoxia in breast cancer.* Genome Medicine 3(8)55 (2011)

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Jubb AM, <u>Buffa FM</u> (*joint first*), Harris AL. *Assessment of tumor hypoxia for prediction of response to therapy and cancer prognosis.* J Cell Mol Med 1418-29 (2009)

Bentzen SM, <u>Buffa FM</u>, Wilson G. *Multiple biomarker tissue microarrays Bioinformatics and practical approaches.* Cancer and Metastasis Review 27(3)481-94 (2008)

Book chapters

<u>Buffa FM</u> and Harris AL. *Diagnostic and prognostic biomarkers*, Cancer Systems Biology, Bioinformatics and Medicine Research and Clinical Applications. Eds F. Marcus and A. Cesario. Springer (2011)

<u>Buffa FM</u>. *Fundamental Radiobiology and its Application to Radiation Oncology.* NATO Science for Peace and Security B Physics and Biophysics. Springer 2009 ISBN 978-90-481-3095-5

Selected List of External Invited Lectures and Seminars since 2015

2021   Invited Speaker, Festival of Genomics & BioData (https://www.festivalofgenomics.com/) (Jan 2021)

2020   ESTRO 2020 conference. Invited Lecture for the Cutting-edge Genomics in Radiation Oncology Symposium (online - Nov 2020)

2020   Keynote speaker at the International Synthetic & Systems Biology Summer School (SSBSS), Scuola Normale Superiore in Pisa, Italy (June 2020, moved to date TBC)

2020   King Abdulaziz University-Oxford University Bio-Innovation Symposium, Jeddah, Saudi Arabia. Invited talk (March 2020, moved to date TBC)

2020   UiO:Life Science, Novel Methods for Personalised Cancer Medicine, Oslo. Invited talk (February 2020)

2020   16th International Wolfsberg Meeting on Molecular Radiation Biology/Oncology, Invited Talk (June 2020)

2019   NCMM EMBL Partner Network, Oslo, Norway Invited talk: 'Big Data and Systems Medicine'

2018   International Festival of Robotics, Scuola Normale Superiore and Scuola Superiore Sant'Anna, Pisa, Italy. Keynote Address 'Big Data and Systems Medicine'

2018   RIKEN, Tokyo, Japan. Invited Seminar 'miRNA dysregulation in cancer'

2018   AACR Conference, Chicago, USA. Invited Talk 'Multi-omic approaches to personalized medicine'

2017   BioData EU 2017, Cambridge, UK. Invited Lecture 'Systems approaches to stratified medicine'

2017   Tsukuba University, Japan. Invited Seminar 'Computational approaches to Personalized Medicine'

2017   The Oliver Scott and Jack Fowler Memorial Symposium, Oxford, UK. Invited Lecture 'Personalized therapies challenges and new possibilities for computational modelling',

2017   Association for Radiation Research (ARR) Annual Conference. Invited Lecture 'Multi-omic systems approaches to stratified medicine'

2016   Computational and Molecular Biology Symposium 2016, Dublin, Ireland. Keynote Lecture 'In-silico analysis and modelling of the tumour microenvironment',

2016   RNAi2016, Oxford. Invited Talk 'Role of the miRNA processing machinery in cancer progression'

2016   European Network for Breast Development and Cancer (ENBDC), Weggis, Switzerland. Keynote Lecture 'Systems approaches to cancer biomarker discovery'

2016   Microsoft Research Cancer Workshop, Cambridge, UK. Invited Talk 'Systems approaches to cancer biomarker discovery'

2016   MRC Stratified Medicine Initiative, London. Invited Talk 'Analytical challenges in stratified medicine'

2015   AstraZeneca-MedImmune Cambridge Cancer Science Symposium, Cambridge, UK. Invited Talk 'Systems approaches to biomarker discovery'

3. University Lectures and Classes

Master's and Doctoral Courses

Since 2020   Lecturer and Module Lead, Genomics, MSc in Personalized Medicine, University of Oxford

Since 2019   Lecturer, Bioinformatics Module, Master's/Doctoral Tsukuba Life Science Innovation, Tsukuba

Since 2018   Course Design, MSc in Personalized Medicine, University of Oxford

Since 2017   Master's and Doctoral Program in Life Science Innovation, University Tsukuba, Japan.

Since 2009   MSc in Radiation Biology, University of Oxford.

Lecturing at others University Courses

2011-2018   Lecturer, Master Class in Translational Research, Kings College London, UK

2004-2009   Lecturer, MSc in Radiation Biology, Gray Cancer Institute and UCL, London, UK

2001-2002   Lecturer, PhD course, DKFZ, Heidelberg, Germany

4. Other Teaching and Student Supervision

Development, Design and Teaching of Advanced Courses

Additionally to my commitment to teaching traditional university courses (Section 3), I developed alternative teaching platforms to address the increasing demand for specific training in bioinformatics and computational sciences.

Since 2019, termly   Development and Teaching of weekly Bioinformatics courses, Bioinformatics Hub Training Platform, University of Oxford, UK

Since 2017, yearly   Development and Teaching of a two weeks Transcriptomics Advanced Course, Wellcome Genome Campus, Cambridge, UK

2013   Designed and taught a 5-day Cancer Bioinformatics Course, University of Oxford

Post-Graduate Teaching

2011-2018   Teaching Machine Learning and Statistical Methods at "Models in Radiation Oncology", the European Society for Radiotherapy and Oncology (ESTRO) School

2006-2013   Teaching Bioinformatics at European School of Medical Physics, Advanced Study Institute

2008   Teaching Bioinformatics at EUROXY School, EU 6th framework programme

2000   Teaching Monte-Carlo methods and mathematical models at Radiation Oncology Course, ICR, UK

Supervision of students and postdoctoral scientists

Supervision of postdoctoral scientists

Primary supervision 18 postdoc research fellows (5 working on the ERC programme, 5 working on EU projects; 5 working on the CRUK programme; and 3 in the Bioinformatics Hub); 2 research assistants (CRUK and ERC programmes); 2 Senior Bioinformaticians; 1 lecturer from University of Madrid, Spain; 1 senior researcher from FORTH, Greece. Co-supervision of 6 postdoc fellows at the Department of Oncology, Ludwig Cancer Institute, WIMM.

Supervision of students

Current supervisor of 11 D.Phil students and 2 MSc students at University of Oxford.

External faculty member of the Dottorato in Scienze Biomediche e Biotecnologiche, University of Ferrara, Italy.

Previous primary supervisor of 3 D.Phil Students to completion; primary supervisor of several Oxford University MRes, MSc Students to completion; co-supervisor of 1 Ph.D. Student at University of Tsukuba. Supervisor of several internships, including funded by Erasmus and the International Atomic Energy Agency.

Destination of postdoctoral and students

Most of the students and postdocs I supervised went on to academic and research positions, at postdoc, senior postdoc or team leader level in other Departments at the University of Oxford, University of Cambridge, at the ICR London, at the University of Pavia (Italy), at RIKEN Research (Japan) and at Novartis Research (Switzerland). Five of my students also went on to continue their research as part of a medical career within the UK (NHS and private institutions), and institutions abroad (e.g. McGill Medical School, Canada; Cleveland Clinic, USA). Some postdoctoral joined industry (GlaxoSmithKline, Astra Zeneca, and Biotech industry).

Advisor and Mentoring activity

Since 2017   Mentoring of academic staff, Department of Oncology pilot programme
Since 2017   Member of Numerous Thesis Committees

5. University Examining

Since 2019   DPhil and MRes Programmes Admission Panels, Department of Oncology, University of Oxford
Since 2004   Examiner of several Master and Doctoral theses, both internal and external examiner, nationally (e.g. University College London, Kings College London, Cambridge) and internationally (The Netherlands)
Since 2001   Examiner of numerous Transfer Viva (probationary research student to MRes and DPhil status), and Confirmation Viva of DPhil status

6. Commission of Trust and Broader Contribution

National and International Expert Panels

Since 2020   Scientific Advisory Board Member, iCAN Network for Digital Precision Cancer Medicine Flagship, Finland (https://www.digitalprecisioncancermedicine.fi/)
Since 2020   Advisor for the NIHR Urgent Public Health Group COVID-19 Prioritization Panel (Statistics and Research Methodology)
Since 2017   Member of the UK Research Excellence Framework 2021 (REF2021), both for the Criteria Setting and Evaluation Phases. Member of the Biological Science A5 Panel and Interdisciplinary Research Panel.
2016-2018   Cancer Research UK (CR-UK) Experimental Medicine Expert Review Panel
2016   MRC Stratified Medicine Strategic document review
2013-2018   National Institute for Health Research (NIHR) Statistics Group
2013-2015   CR-UK Science Committee, CR-UK Biomarker Expert Review Panel
2013   NCRI Clinical and Translational Radiotherapy Research National Working Group Advisor (2013)
2010   NCRI ONIX Bioinformatics Platform Member, User Group (2010)

National and International Grant Panels (Selected)

Since 2021   Research Council of Norway, 2021 Grant Evaluation Panel
Since 2015   Recurrent member of Horizon2020 EU Grant Panels (1-2 panels per year)
Since 2015   Recurrent member of CRUK, MRC and Breast Cancer Now panels
2018   Swiss Bridge Award Committee
2018   Breast Cancer Now Programme Review Committee

| 2015 | FCT Portugal Scientific Research & Technological Development National Review Panel |

National and International Conference Panels (Selected)

| 2021 | RuleML+RR 2021 Conference Programme Committee |
| 2017-2019 | National Cancer Research Institute (NCRI) Conference Advisory Panel |

Committees and commissions of trust within University of Oxford

Since 2019	Reviewer for the departmental assessment of the Scientific Research Facilities
Since 2019	DPhil and MSc Admissions, including shortlisting, interviewing and admission
Since 2019	Chair of the Bioinformatics Hub Steering Committee
Since 2018	Member of the Training and Development Committee, Department of Oncology
Since 2015	Academic Lead for Bioinformatics, Department of Oncology.
Since 2015	CR-UK Oxford Centre Research Committee Grant Panel
2019	Excellence Review Schema, Department of Oncology
2017-2019	Radiotherapy and Imaging Trial Oversight Committee, Clinical Trial Unit, Dept of Oncology
2015	Academic Steering Group for Bioinformatics, Department of Oncology
2014-2018	Athena Swan SAT, Department of Oncology

Other service activity

Since 2017	F1000 Prime Faculty Member, Genomics and Genetics Faculty
2018	AACR Invited Membership
2016-present	Associate Editor for IEEE Journal of Biomedical and Health Informatics
2007-2009	Member of the Editorial Advisory Board of Physics in Medicine and Biology (2007-2009).

Manuscript Refereeing (selected)

Nature Genetics, Journal of the National Cancer Institute, Cell Systems, Cancer Research, Nature Communications, Scientific Reports, CMB Systems Biology, IEEE journals, PLoS Genetics, Molecular Cancer, BMC Bioinformatics, Nature Clinical Practice Oncology, British Journal of Radiology, Radiation Research, Medical Physics, Physics in Medicine and Biology, Eur. J. Nuclear Medicine and Molecular Imaging

Grant Reviewing (selected)

European Research Council; Horizon 2020 Framework; SwissBridge; UK Research Institute; Medical Research Council; Cancer Research UK; Breast Cancer Research; Research Council of Norway; Health Research Council New Zealand; FCT Portugal Scientific Research & Technological Development; Dutch Cancer Society; Health Research Board Ireland.

| 2015-present | **Public engagement and 'Lay' talks** to Secondary Schools, and Cancer Research UK fundraisers |