Marco Sciacovelli

ms2122@MRC-CU.cam.ac.uk
+44(0)1223 763240

MRC Cancer Unit
University of Cambridge
Hutchison/MRC Research Centre
Box 197, Biomedical Campus
Cambridge, UK
CB2 0XZ

EDUCATION

2011 — **PhD in Bioscience- Cellular Biology**
Department of Biomedical Sciences-University of Padova, Italy
PhD dissertation: "Cell death regulation by mitochondrial chaperones in tumor cell models".

2007 — **Master's degree in Pharmacy (MPharm)** — 110/110 cum laude
University of Padova, Italy
Thesis Project: "Role of mitochondrial dysfunction in cellular death induced by 6- formyl-7-hydroxy-coumarin (FHC), a Psoralen photolysis product "

WORK EXPERIENCE

2015-to date — **Research Associate**
Hutchison/MRC Research Centre- Dr. Frezza's laboratory- University of Cambridge, Cambridge, UK
Research topic:" The role of metabolic reprogramming in renal cancer development and progression"

2012-2015 — **MRC Career Development Fellow** (CDF, 3 years)
Hutchison/MRC Research Centre- Dr. Frezza's laboratory-University of Cambridge, Cambridge, UK
Research topic: "The role of fumarate as an oncometabolite and epigenetic modifier"

2011-2012 — **Postdoctoral scientist** (1 year and 6 months)
Department of Biomedical Sciences- Prof. Bernardi 's laboratory-University of Padova, Italy
Research topic: "The role of mitochondrial chaperone TRAP1 in tumorigenesis"

2008-2011 — **PhD studentship** (3 years)
Department of Biomedical Sciences- Prof. Bernardi 's laboratory-University of Padova, Italy
Research topic: "The role of mitochondrial chaperone TRAP1 in tumorigenesis"

2007 — **Research assistant** (6 months)
Department of Biomedical Sciences- Prof. Bernardi 's laboratory-University of Padova, Italy
Research topic: "Regulation of the mitochondrial permeability transition pore"

2007 — **Master's degree internship** (10 months)
Department of Biomedical Sciences- Prof. Di Lisa 's laboratory-University of Padova, Italy
Research topic: "Psoralen photolysis products effects on mitochondria and cell death"

RESEARCH SKILLS

Techniques relative to:
Cellular biology
Mitochondrial physiology and pathology
Basic molecular biology
Mass-Spectrometry –Metabolomics
In vitro tumorigenesis
Epigenetics (ChIP-seq, RRBS, HiC)
Gene expression and transcriptomics

Software
Windows and Mac software
R basics
Graphpad Prism
Adobe Illustrator
Endnote
SeqMonk
Office

Other
Training courses:
Project and time management
Effective communication
Supervision of students
Scientific writing/grant writing
Basics of statistical analysis
Introduction to lecturing
Languages: Italian (native speaker)
English

SCIENTIFIC INTERESTS

I am interested in the role of metabolism during cellular transformation and tumour progression. I currently study how metabolites such as fumarate induce transformation in Fumarate Hydratase (FH)-deficient renal cancer. Moreover, I also investigate how metabolic reprogramming affects tumour metastasis in renal clear cell carcinomas.

OTHER INTERESTS

Sports: Football, hiking in the mountains, cross-country skiing, swimming. Other: History, politics.

SELECTED PUBBLICATIONS

- Gonçalves, E.*, **Sciacovelli, M**.*, Costa, A.S.H., Tran, M.G.B. et al. "Post-translational regulation of metabolism in fumarate hydratase deficient cancer cells". (2018) ***Metabolic Engineering***, 45, pp. 149-157.
- Tyrakis, P.A.*, Yurkovich, M.E.*, **Sciacovelli, M**.*, Papachristou, E.K. et al. "Fumarate Hydratase Loss Causes Combined Respiratory Chain Defects". (2017) ***Cell Reports***, 21 (4), pp. 1036-1047.
- **Sciacovelli, M.**, Frezza, C. "Metabolic reprogramming and epithelial-to-mesenchymal transition in cancer". (2017) ***FEBS Journal***, 284 (19), pp. 3132-3144.
- Connor, T.M., Hoer, S., Mallett, A., Gale, D.P., Gomez-Duran, A., Posse, V., Antrobus, R., Moreno, P., **Sciacovelli, M**. et al. "Mutations in mitochondrial DNA causing tubulointerstitial kidney disease". (2017) ***PLoS Genetics***, 13 (3), art. no. e1006620
- **Sciacovelli, M**., Frezza, C. "Oncometabolites: Unconventional triggers of oncogenic signalling cascades". (2016) ***Free Radical Biology and Medicine***, 100, pp. 175-181.
- **Sciacovelli, M**., Gonçalves, E., Johnson, T.I., Zecchini, V.R., Da Costa, A.S.H. et al. "Fumarate is an epigenetic modifier that elicits epithelial-to-mesenchymal transition". (2016) ***Nature***, 537 (7621), pp. 544-547
- Zheng, L., Cardaci, S., Jerby, L., Mackenzie, E.D., **Sciacovelli, M**. et al. "Fumarate induces redox-dependent senescence by modifying glutathione metabolism". (2015) ***Nature Communications***, 6, art. no. 7001
- Guzzo, G., **Sciacovelli, M**., Bernardi, P., Rasola, A. "Inhibition of succinate dehydrogenase by the mitochondrial chaperone TRAP1 has anti-oxidant and anti-apoptotic effects on tumor cells". (2014) ***Oncotarget***, 5 (23), pp. 11897-11908.
- **Sciacovelli, M.,** Gaude, E., Hilvo, M., Frezza, C. "The metabolic alterations of cancer cells". (2014) ***Methods in Enzymology***, 542, pp. 1-23
- Ciscato, F., **Sciacovelli, M**., Villano, G. et al. "SERPINB3 protects from oxidative damage by chemotherapeutics through inhibition of mitochondrial respiratory complex I". (2014) ***Oncotarget***, 5 (9), pp. 2418-2427
- Clark, G.R., **Sciacovelli, M**., Gaude, E., Walsh, D.M. et al. "Germline FH mutations presenting with pheochromocytoma". (2014) ***Journal of Clinical Endocrinology and Metabolism***, 99 (10), pp. E2046-E2050.
- **Sciacovelli, M**.*, Guzzo, G.*, Morello, V., Frezza, C., et al. "The mitochondrial chaperone TRAP1 promotes neoplastic growth by inhibiting succinate dehydrogenase". (2013) ***Cell Metabolism***, 17 (6), pp. 988-999
- Chiara, F., Gambalunga, A., **Sciacovelli, M**. et al. "Chemotherapeutic induction of mitochondrial oxidative stress activates GSK-3α/β and Bax, leading to permeability transition pore opening and tumor cell death". (2012) ***Cell Death and Disease***, 3 (12), art. no. e444
- Azzolin, L., Antolini, N., Calderan, A., Ruzza, P., **Sciacovelli, M** et al. "Antamanide, a derivative of amanita phalloides, is a novel inhibitor of the mitochondrial permeability transition pore". (2011) ***PLoS ONE***, 6 (1), art. no. e16280
- Rasola, A., **Sciacovelli, M**., Pantic, B., Bernardi, P. "Signal transduction to the permeability transition pore". (2010) ***FEBS Letters***, 584 (10), pp. 1989-1996
- Rasola, A., **Sciacovelli, M**., Chiara, F. et al. "Activation of mitochondrial ERK protects cancer cells from death through inhibition of the permeability transition". (2010) ***Proceedings of the National Academy of Sciences of the United States of America***, 107 (2), pp. 726-731

*= co-authorship