Curriculum vitae - Dr Stefano Mangiola, BSc, MSc, MPhil, PhD

mangiola.s@wehi.edu.edu
+61 (0)450135954

MAJOR RESEARCH INTERESTS

- Tumour microenvironment
- Data analysis, transcriptomics, single-cell
- Biostatistics, Bayesian inference

CURRENT POSITIONS

2019-current Postdoctoral fellow, Papenfuss Laboratory, WEHI
2019-current Honorary fellow Peter MacCallum Cancer Center
2019-current Honorary fellow Biomedical Science, The University of Melbourne

PREVIOUS POSITIONS

2014-2015 Research assistant, Prostate cancer genomics, Hovens Laboratory, Royal Melbourne Hospital

TERTIARY CLASSIFICATION

2015-2019 PhD Royal Melbourne Hospital, The University of Melbourne.
Thesis: Investigation of the prostate tumour microenvironment
2011-2013 MPhil, The University of Melbourne
Thesis: Comparative analyses of key parasitic helminths using bioinformatics
2008-2010 MSc, Milano-Bicocca University.
Thesis: Characterisation of gene evolution through protein clusters
2003-2007 BSc, Milano-Bicocca University. Department of Biotechnology.

HONOURS AND AWARDS

2022 Travel grant from Bioconductor for presenting at Bioc2022 in Seattle
2022-2025 VCA Early Career Research Fellowship
2019-2022 The Lorenzo and Pamela Galli Research Fellowship, WEHI
2021 Best poster presentation - Community choice, Oz Single Cell
2021 PDA Professional Development Award, WEHI
2021 Bioinformatics travel award, WEHI
2018 Poster Presentation Award in the 19th Asia-Pacific Prostate Cancer Conference
2015 Rotary Club Of Williamstown, Rotary Ride For A Cure PhD Scholarship
2015 David Mayor PhD Scholarship
2013 LSU-WAAVP Travel Award
2013 Sir Ian Clunies-Ross Prize
2012 VLSCI Top-Up Scholarship
2011 MIFRS (Melbourne International Fee Remission Scholarship)
2011 MIRS (Melbourne International Research Scholarship)

2007-2009 Undergraduate Scholarship from the University of Milan Bicocca

PROFESSIONAL MEMBERSHIPS

2016-present Australian Bioinformatics and Computational Biology Society Inc

Past

2013-2015 ACS, Australian Computer Society

2011-2013 ISP, Irish Society for Parasitology

PROFESSIONAL ACTIVITIES

Grands Review

2022 Grants Evaluation Committee CZI Single-Cell Biology Data Insights RFA

2022 WEHI internal application review for Victoria Cancer Agency ERC

Editorial

2021-ongoing Review editor in Frontiers in immunology

2021-ongoing Part of the stable review panel for the journal JOSS

2018-2021 Guest reviewer for Bioinformatics, Oxford DATABASE, Biology of reproduction, Scientific Reports, BMC Urology, BMC Cancer, Frontiers in Immunology, Frontiers in Cancer

Thesis examinations

2021 Honours thesis assessment The University of Melbourne

2021 Edwin Sutanto Master thesis The University of Melbourne

Education

2021-2022 Tutor for the Experimental Design and Statistics Course, WEHI

2021-2022 Teaching assistant for the PATH30002 course, The University of Melbourne

2021 Part of WEHI Statistics Education Subcommittee

2019-2020 Coordinated and taught for the InSPIRE program WEHI/China

Conference presentations (selected)

2022 Talk at BioC2022 about sccomp, Seattle Jul 2022 **(Invited to apply)**

2022 Workshop at BioC2022 about tidy transcriptomics, Seattle Jul 2022

2022 Seminar, Padova University, Stats department Apr 2022 **(Invited speaker)**

2022 Workshop at ISCB Academy program, 18th February 2022, Liverpool **(Invited speaker)**

2021 Workshop at BioC2021, 20 July 2021, Washington **(Invited speaker)**

2021 Workshop at Meeting R-ladies Africa, 8 March 2021, Tunis **(Invited speaker)**

2021 Talk at BioC Asia, 1 November 2021, Osaka Japan **(Invited speaker)**

2021 Emerging Research Leaders Series, Peter MacCallum Cancer Center 4 August 2021, Melbourne **(Invited speaker)**

2021 Talk at Seminar Series, The University of Melbourne, Centre for Cancer Research 11 Aug 2021, Melbourne **(Invited speaker)**

2021 Talk at Bioinformatics Seminar Monash University, 4 Apr and 14 November 2021 **(Invited speaker)**

2021 Talk at Cancer Research Seminar Series, Olivia-Newton John Cancer Research Institute, October 2021Melbourne **(Invited speaker)**

2021 Talk at Single-Cell Research User Meetings (SCRUM), Peter MacCallum Cancer Center August 2021, Melbourne **(Invited speaker)**

2021 Workshop at International Society for Computational Biology, ISMB, July 30 2021, Germany

2020 BioC2020 July 2021, Washington

2020 BioC Europe2020, 18 December 2020, Padua Italy

2020 BioC Asia 2020, 15 October 2020, Beijing China

2020 RPharma 2020, October 6 2020, NY **(Invited speaker)**

2019 Asia-Pacific Prostate Cancer Conference, 3 December 2019, Melbourne **(Invited speaker)**

National and International Recognition

2018 Visiting scientist, Gelman Laboratory Department of Statistics, Columbia University, 1 April - 1 May

National and international consortia

2021-ongoing Prostate Cancer International Consortium PPCG (panprostate.org)

Policy

2022 Shiny Server Access Policy and Standard Operating Procedure, WEHI

Competitive funding

2022 CSPP Program AI $96,480, Strategies to overcome immunotherapy resistance in MSS colorectal cancer

Community engagement

2022 Pen pal Program, Monash Biomedicine Discovery Institute (BDI)

Collaborators

2019-current Dr Vijay (Columbia University), one article in review, Science.

2018-current Dr Mantamadiotis (Florey Institute of Neuroscience), shared student, one paper

2017-current Dr Pal (Olivia Newton-John CRI, VIC), shared student, one paper, NHMRC CI grant submission.

2017-2019 Prof. Huntington (Monash University, VIC), one paper

2017-2019 Dr. Guimarães (Diamantina Inst., QLD) one paper

2019-current Dr Barrow (Peter Doherty, VIC), two shared students, two papers

2020-current Dr Doyle (PeterMac, VIC), two papers, 12 workshops

2020-2021 A/Prof. Vehtari (Aalto Uni, SE, EU), one paper

2020-2021 Dr Modrák (ASCR Inst. of Microbiology, CZ, EU), two papers

2021-current Dr Heejung Shim (University of Melbourne, VIC), shared student

SUPERVISION

Research assistant

2020-2021 BSc Besley I. (Unimelb/WEHI, primary supervisor)

Students

2018-2019 MSc Fang Y. (Unimelb, co-supervisor)
2019-2020 MSc Sun Y. (PDI, co-supervisor)
2020-2021 BSc Besley I. (Unimelb/WEHI, primary supervisor)
2020-2021 MSc Wu J. (Unimelb/WEHI, primary supervisor)
2021-2022 MSc Zhao C. (Unimelb/WEHI, primary supervisor)
2021-2022 MSc Oresti E. (WEHI, co-supervisor)
2021-current PhD Sun Y. (PDI, co-supervisor)
2021-current PhD Alkamran A. (PDI, co-supervisor)
2021 Honours Brown R. (ONJCRI, co-supervisor)
2021 Honours Zijie Gao (Unimelb, 2021, primary supervisor)

PUBLICATIONS AND RESEARCH OUTPUT

Total publications: 26 (22 primary publications; 2 reviews)
First/senior author: 14
Total citations: 530 (Scopus)
h-index: 11

Preprints

MANGIOLA S, A Schulze, M Trussart, E Zozaya, M Ma, Z Gao, AF Rubin, TP Speed, H Shim, AT Papenfuss. Robust differential composition and variability analysis for multisample cell omics. bioRxiv 2022.03.04.482758; doi: https://doi.org/10.1101/2022.03.04.482758

MANGIOLA S, Guleria S, Berthelet J, Ostrouska S, Brown R, Wilcox J, Merdas M, Larsen P F, Merino D, Anderson L R, Yeo B, Behren A, Papenfuss T, Pal B. Circulating immunomodulatory features define metastatic breast cancer burden. bioRxiv 2022

Refereed Journal Articles

Sun Y., Sedgwick AJ, Khan MA, Palarasah Y, **MANGIOLA S* (co-last)** and Barrow AD* A transcriptional signature of IL-2 expanded natural killer cells are associated with a more favorable prognosis in bladder cancer. Frontiers in Immunology 2021 (Accepted).

Sun Y., Sedgwick AJ, Palarasah Y, **MANGIOLA S* (co-last)** and Barrow AD* A transcriptional signature of PDGF-DD activated natural killer cells predicts more favorable prognosis in low-grade glioma. Frontiers in Immunology 2021 (Accepted).

MANGIOLA S, Patrick McCoy, Martin Modrak, Fernando Souza-Fonseca-Guimaraes, Daniel Blashki, Ryan Stuchbery, Simon P. Keam, Michael Kerger, Ken Chow, Chayanica Nasa, Melanie Le Page, Natalie Lister, Simon Monard, et al. Transcriptome sequencing and multi-plex imaging of prostate cancer microenvironment reveals a dominant role for monocytic cells in progression. BMC Cancer (2021)

MANGIOLA S, Doyle MA, Papenfuss AT Interfacing Seurat with the R tidy universe. Bioinformatics (2021)

Patrick McCoy, **MANGIOLA S**, Geoff Macintyre, Ryan Hutchinson, Ben Tran, Bernard Pope, Peter Geogeson, Matthew K. H. Hong, Natalie Kurganovs, Sebastian Lunke, Michael J. Clarkson, Marek Cmero, Michael Kerger, Ryan Stuchbery, Ken Chow, Izhak Haviv, An MSH2-deficient prostate tumours have a distinct immune response and clinical outcome compared to MSH2-deficient colorectal or endometrial cancer. Prostate Cancer and Prostatic Diseases (2021)

MANGIOLA S., Thomas E., Modrak M., Vehtari A., Papenfuss A. T. Probabilistic outlier identification for RNA sequencing generalized linear models Nucleic Acid Research. Genomics and Bioinformatics (2021) 3 1

MANGIOLA S., Molania R., Dong R., Doyle A. M., Papenfuss A. T. tidybulk: an R tidy framework for modular transcriptomic data analysis. Genome Biology (2021) 22 1 42

Lelliott, E.J., **MANGIOLA, S**., Ramsbottom, K.M., Zethoven, M., Lim, L., Lau, P.K., Oliver, A.J., Martelotto, L.G., Kirby, L., Martin, C. and Patel, R.P. Combined BRAF, MEK, and CDK4/6 Inhibition Depletes Intratumoral Immune-Potentiating Myeloid Populations in Melanoma. Cancer Immunology Research (2020) 9 2 136-146

MANGIOLA S., Papenfuss A. T. tidyHeatmap: an R package for modular heatmap production based on tidy principles Journal of Open Source Software (2020) 5 52

Lau E., McCoy P., Reeves F., Chow K., Clarkson M., Kwan EM., Packwood K., Northen H., He M., Kingsbury Z., **MANGIOLA S**., Kerger M., Furrer MA., Crowe H., Costello AJ., McBride DJ., Ross MT., Pope B., Hovens CM., Corcoran NM. Detection of ctDNA in plasma of patients with clinically localised prostate cancer is associated with rapid disease progression Genome Medicine (2020) 12 1

Berthelet J, Wimmer VC, Whitfield JH, Serrano A, Boudier T, **MANGIOLA S**, Merdas M, El-Saafin F, Baloyan D, Wilcox J, Wilcox S, Parslow AC, Papenfuss AT, Yeo B, Ernst M, Pal B, Robin L. Anderson RL, Davis MJ, Rogers KL, Hollande F, Merino D The site of breast cancer metastases dictates their clonal composition and reversible transcriptomic profile Science Advances (2021)

Marek Cmero, Natalie J. Kurganovs, Ryan Stuchbery, Patrick McCoy, Corrina Grima, Anne Ngyuen, Ken Chow, **MANGIOLA S**, Geoff Macintyre, Nicholas Howard, Michael Kerger,

Philip Dundee, Paul Ruljancich, David Clarke, Jeremy Grummet, Justin S. Peters, Anthony J. Costello, Sam Norden, Andrew Ryan, Phillip Parente, Christopher M. Hovens, and Niall M. Corcoran Loss of SNAI2 in Prostate Cancer Correlates With Clinical Response to Androgen Deprivation Therapy. JCO Precision Oncology 2021:5, 1048-1059

Owen K.L., Gearing L.J., Zanker D.J., Brockwell N.K., Khoo W.H., Roden D.L., Cmero M., **MANGIOLA S**., Hong M.K., Spurling A.J. and McDonald M., Chan C., Pasam A., Lyons R. J., Duivenvoorden H. M., Ryan A., Butler L. M., Mariadason J. M., Phan T. R., Hayes V. M., Sandhu S., Swarbrick A., Corcoran N. M., Hertzog P. J., Croucher P. I., Hovens C. M., Parker B. S. Prostate cancer cell-intrinsic interferon signaling regulates dormancy and metastatic outgrowth in bone EMBO Reports (2020) 21 6

Atkins, R.J., Stylli, S.S., Kurganovs, N., **MANGIOLA, S**., Nowell, C.J., Ware, T.M., Corcoran, N.M., Brown, D.V., Kaye, A.H., Morokoff, A. and Luwor, R.B Cell quiescence correlates with enhanced glioblastoma cell invasion and cytotoxic resistance Experimental cell research (2019) 374 2 353-364

MANGIOLA, S., Stuchbery, R., McCoy, P., Chow, K., Kurganovs, N., Kerger, M., Papenfuss, A., Hovens, C.M. and Corcoran, N.M. Androgen deprivation therapy promotes an obesity-like microenvironment in periprostatic fat Endocrine connections (2019) 8 5 547-558

Mahon K., Davis I. D., Parente P., Pezaro C., Todenhöfer T., Horvath L. G., Azad A. A., Kwan, E.M., Fettke, H., Docanto, M.M., To, S.Q., Bukczynska, P., Mant, A., Pook, D., Ng, N., Graham, L.J.K., **MANGIOLA, S**. and Segelov, E. Prognostic Utility of a Whole-blood Androgen Receptor-based Gene Signature in Metastatic Castration-resistant Prostate Cancer European urology focus (2019) 7 1 63-70

Flies A. S., Corcoran L. M., Lyons A. B., Woods G. M., Murchison E. P., Papenfuss A. T., Tovar C., Patchett, A.L., Coorens, T.H., Darby, J., Wilson, R., McKay, M.J., Kamath, K.S., Rubin, A., Wakefield, M., Mcintosh, L., **MANGIOLA S**. and Pye, R.J. Two of a kind: transmissible Schwann cell cancers in the endangered Tasmanian devil (Sarcophilus harrisii) Cellular and Molecular Life Sciences (2019) 1-12

Chow, K., **MANGIOLA S**., Vazirani, J., Peters, J.S., Costello, A.J., Hovens, C.M. and Corcoran, N.M. Obesity suppresses tumor attributable PSA, affecting risk categorization Endocrine-related cancer (2018) 25 5 561-568

MANGIOLA S., Stuchbery, R., Macintyre, G., Clarkson, M.J., Peters, J.S., Costello, A.J., Hovens, C.M. and Corcoran, N.M. Periprostatic fat tissue transcriptome reveals a signature diagnostic for high-risk prostate cancer Endocrine-related cancer (2018) ERC-18-0058

MANGIOLA S., Hong, M.K., Cmero, M., Kurganovs, N., Ryan, A., Costello, A.J., Corcoran, N.M., Macintyre, G. and Hovens, C.M. Comparing nodal versus bony metastatic spread using tumour phylogenies Scientific reports (2016) 6 33918

Chin, X. Kerger M, Warren A. Y., Neal D., Gnanapragasam V., Rosenfeld N., Pedersen J. S., Ryan A, Haviv I., Costello A. J., Corcoran N. M., Hovens C. M., Hong M., Macintyre G., Wedge D., Van Loo P., Patel K., Lunke S., Alexandrov L., Sloggett C., Cmero M., Marass F., Tsui D., **MANGIOLA S**., Lonie A., Naeem H., Sapre N., Phal P., Kurganovs Tracking the origins and PUBLICATIONSbclonal metastatic expansion in prostate cancer Nature communications (2015) 6 6605

Campos, T.D., Young, N.D., Korhonen, P.K., Hall, R.S., **MANGIOLA S**., Lonie, A. and Gasser, R.B. Identification of G protein-coupled receptors in Schistosoma haematobium and S. mansoni by comparative genomics Parasites & vectors (2014) 7 1 242

MANGIOLA S., Young, N.D., Sternberg, P.W., Strube, C., Korhonen, P.K., Mitreva, M., Scheerlinck, J.P., Hofmann, A., Jex, A.R. and Gasser, R.B. Analysis of the transcriptome of adult Dictyocaulus filaria and comparison with Dictyocaulus viviparus, with a focus on molecules involved in host-parasite interactions International journal for parasitology (2014) 44 3-4 251-261

Breugelmans, B., Jex, A.R., Korhonen, P.K., **MANGIOLA S**., Young, N.D., Sternberg, P.W., Boag, P.R., Hofmann, A. and Gasser, R.B. Bioinformatic exploration of RIO protein kinases of parasitic and free-living nematodes International journal for parasitology (2014) 44 11 827-836

Ansell, B.R., Schnyder, M., Deplazes, P., Korhonen, P.K., Young, N.D., Hall, R.S., **MANGIOLA S**., Boag, P.R., Hofmann, A., Sternberg, P.W. and Jex, A.R. Insights into the immuno-molecular biology of Angiostrongylus vasorum through transcriptomics—Prospects for new interventions Biotechnology advances (2013) 31 8 1486-1500