

Dr Belal Chami

BSc (HONS I) PhD GradCertEdStud (Higher Ed)

Senior Lecturer

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COMMITMENT TO RESEARCH & SERVICE

I have published 33x original research articles (40% as first author; 3x senior author), x2 book chapters, 7x reviews and 3x proceedings to-date, and hold 1x patent. In total my papers have attracted > 500 citations and I have had oral presentations at over 25 conferences (national and international) since 2013. In recognition of my emerging research profile I was the recipient of the **Young Researcher Award** from the *Society of Free Radical Research (SFRR) conference* in 2014. I was also awarded a **\$5K Sydney Medical School Travelling Fellowship** to spend time at the School of Biological Science at the Shanghai Tongji University from December 2010 – February 2011. In 2015, I won the **Inspire Australia Researchers Campaign** and was **featured in the University of Sydney monthly staff newsletter** that also raised funding toward my research. In 2016, I was awarded funding towards a Fellowship through a successful competitive grant from **Medical Advances Without Animals (MAWA) (\$30k)** for my work in Alzheimer's disease research. The impact of one recent manuscript has revealed the exciting potential of cyclic nitroxide as therapeutic agents which in 2016, led to a successful **Sydney Medical School MCR-career accelerator grant award to Witting (CIA) and Chami (CIB) (\$50k)**. In addition, I have successfully been awarded an **equipment (\$17k)** from the Bosch Institute in 2017. Furthermore, I have recently received a SMS ECR Overseas Conference Support 2016 to present my work on nitroxide-mediated myeloperoxidase (MPO) inhibition to an international conference (Society for Redox Biology and Medicine - SRBM). In 2018, I have successfully partnered my research with **Pharmaxis via a Commonwealth Innovation Connect Grant (valued at \$124,860)** to evaluate a new class of inhibitors of myeloperoxidase; a project that is linked to this current application. In 2019, I was awarded the **Sydney Dental School Research Committee award (\$10k)** to initiate a pilot project for stem cell differentiation. In 2020, I was awarded an **infrastructure grant by the Sydney West - Translational Cancer Research Centre (\$12k)** and a nationally competitive grant by the **Australian Dental Research Foundation (\$10.5k)** that both currently fund my independent research. In 2021, I developed and **patented** a rapid faecal myeloperoxidase detection kit for patients with Inflammatory Bowel Disease (Patent Rights Agreement executed – CT31847; provisional patent pending). In 2021, I obtained a competitive US – based grant from the **Crohn's and Colitis Foundation (\$285K)** and a **commercialisation grant (CDIP) (\$74k)** to facilitate a clinical study and commercialisation of the rapid faecal myeloperoxidase system in the setting of inflammatory bowel aetiologies. This is a multi-centre clinical study across various hospitals including the Royal Prince Alfred Hospital, Westmead Hospital, Blacktown hospital and Mount Druitt Hospital. I obtained a competitive award (2021) **by Bridge and BridgeTech Industry Fellowship through the MTPConnect Researcher Exchange and Development (\$10K)** Queensland University of Technology to facilitate a short-term internship with industry partner, ERONKA R&D to enhance skills, experience and build upon opportunities. In 2022, I co-acquired a **major equipment grant (\$90K)** through the department of bioengineering to obtain the light scatterer, Zetasizer Nano ZS for nanoparticle-related research.

I am a committee member to the Research Advisory Group (RAG) where I serve the research interests within the School of Medical Sciences. I act as a regular reviewer in various journals including Redox Report, The International Journal of Molecular Sciences, Antioxidants and Frontiers of Pharmacology – the latter two where I serve on the Reviewer Board. I have also been nominated an external reviewer for NHMRC grant applications

and the health Research Council of New Zealand. I was an invited assessor to 17x undergraduate honours theses, 3x PhD theses, 1x treaties, x4 Summer Research Scholarship (SRS) presentations (invited judge), ASMR NSW scientific meeting, American Association of Pharmaceutical Scientists presentations and x2 Oral Surgery Discipline presentations.

Academic Qualifications / Training

- **Cicada NSW Health CTP Commercialisation** 2022
 - Medtech Foundations
 - Diagnostics Specialisation
 - Customer Discovery
- **MSD Drug Discovery and Development** 2021
- **The Bridge Program** - Academia to Industry 2021
- **Clinical Teaching Fellowship** - The Institute of Teaching and Learning, The University of Sydney 2020
- **Graduate Certificate in Education (Higher Education)** - The Institute of Teaching and Learning, The University of 2016
- **PhD** - Discipline of Pathology, Faculty of Medicine and Health 2013
- **Bachelor of Science (Hons) Class I** - Discipline of Pathology, The University of Sydney 2008

Service, Governance & Engagement

- **Invited external peer reviewer** to 'Health Research Council of New Zealand' 2023 2023
- **Co-guest editor** to journal 'International Journal for Molecular Medicine' Special Edition - 'Role for the Enzyme Myeloperoxidase to Elicit Pathologies 2.0' 2022 Current
- **7-week Industry Internship** at ERONKA R&D 2022 2022
- **Co-guest editor** to journal '*International Journal for Molecular Sciences*' Special Edition – 'Myeloperoxidase and NETS' 2021 2022
- **Drug Discovery Institute Committee** - panelist 2020 2022
- **Research Advisory Group (RAG) - School of Medical Sciences** 2022 Current
- **Grant reviewer** – Drug Discovery Initiative EMCR Seed Funding 2021 2022
- **Invited grant reviewer** – Australian Dental Research Foundation 2021 2021
- **Guest editor** to journal '*Methods and Materials*' - Special issue 'Oxidative damage and tissue damage' 2020 2021
- **SDS Student Professionalism Committee** – Panellist 2020 2021
- **Westmead Research Hub Imaging Scientific Advisory Committee** – Advising microscopy imaging modalities at Westmead Precinct 2020 2022
- **Antioxidant Reviewer Board** 2020 Current
- **Drug Discovery Institute ECR** - Committee Member 2020 2022
- **HDR Milestone** – Invited Chair x 3 invitations 2020 Current
- **Discipline of Oral Surgery Research Judge** – *Invited* x2 invitations 2019 2020
- **Westmead Hub EMCR Committee Member** 2019 2020
- **SDS Research Committee** – Panel Member 2019 2020

● Annual Progress Report x3 chair; x3 panel member	2019	2020
● NHMRC External Reviewer	2018	2018
● Multiple Mini Interviewer (MMI) - Bachelor of Oral Health (BOH), Doctor of Dental Medicine (DMD), Doctor of Medicine (MD, Bachelor of Science/Doctor of Dental Medicine Double Degree Program (DDDP)	2017	2021
● Emergency Warden for The Charles Perkins Centre	2017	2018
● Australian Society of Medical Research - Convenor to events 'Dinner with a Scientist' & 'Gala Dinner'	2016	2018

AWARDS/GRANTS

- 2022: Yogambha Ramaswamy, **Belal Chami**. 'Major equipment grant: Zetasizer Nano ZS. Bioengineering Department. \$90K
- 2021: Paul Witting, **Belal Chami**, Jim Manos, Stefan Oehlers, Kathryn Wright. Sydney ID Seed Fund. 'The active and selective import of anti-cancer agents as a potential antibacterial mechanism'. \$20,000
- 2021: **Belal Chami**, Yogambha Ramaswamy, Paul Witting. Commercial Development and Industry Partnerships (CDIP). 'Rapid faecal myeloperoxidase detection'. \$75,000
- 2021: **Belal Chami**, Paul Witting, Andrew Harman, Scott Byrne, Viraj Kariyawasam, Crispin Corte. Litwin IBD Pioneers Award – Crohn's and Colitis Foundation (*international*). 'Rapid faecal myeloperoxidase detection for patients with IBD' \$275,000.
- 2021: **Belal Chami**. Bridge and BridgeTech Industry Fellowship – Industry Fellowship Placement. \$10,000
- 2021: **Belal Chami**, Elizabeth Cains. Drug Discovery Initiative ECR Award – DDI Team Research Output. \$2,500
- 2020: **Belal Chami**, Paul Witting, Gulfam Ahmad, Elizabeth Cairns. The Lambert Initiative for Cannabinoid Therapeutics. 'Screening cannabinoid compounds for myeloperoxidase/HOCl inhibitory activity using a rapid luminol – based biochemical assay'. \$4,853
- 2020: Gulfam Ahmad, **Belal Chami**, Paul Witting. Charles Perkins Centre Early to Mid-Career Researcher Seed Funding Grant. 'Identifying non-immunomodulating inhibitors of inflammatory bowel disease'. \$5,000
- 2020: **Belal Chami**. SW-TCRC Infrastructure Access Fund Application. 'Fibroblasts within the tumour microenvironment mediates intercellular transfer of organelles to cancer cells via cell projects'. \$11,970
- 2020: **Belal Chami**, Ashely Keyes, Babak Sarrafpour, Hans Zoellner, Stephen Cox. Australian Dental Research Foundation. 'Oral Submucosal Fibrosis (OSF): Investigating the IL-33/IL-13 axis during Arecoline treatment'. \$10,500
- 2019: Juyong Cheong, **Belal Chami**, Paul K. Witting: Catherine Marie Enright Kelly Scholarship. Project title 'The effects of humidified CO₂ during laparotomies in mitigating bowel adhesions. \$12,000.
- 2019: **Belal Chami**, Hans Zoellner, Paul K. Witting: Sydney Dental School Research Committee Funding. Project title 'Stem cell differentiation: A novel mechanism involving Filopodial Pumping'. \$10,000
- 2018: Industry Entity: Pharmaxis. Paul Witting and **Belal Chami**. Commonwealth Innovation Connect Grant (ICG000246). Project title '*The role of dual MPO/SSAO inhibitors in combating experimental colitis*' Pharmaxis. \$124,860
- 2017: [Internal] Paul K Witting, **Belal Chami**. Bosch Institute Small Equipment Grant 2017. Genevac miVac Concentrator, Waters 96-Well SPE manifold and SPE vacuum manifold. The University of Sydney. \$17,000
- 2016: [Internal] **Belal Chami (Project leader)**, Paul K. Witting, Brett Hambly, Murat Kekic, Anthea Matsimannis. DVC Strategic Education Grant. Project title 'Promoting a holistic understanding of pathology – An approach using media resources'. The University of Sydney. \$24,620
 - <https://wordvine.sydney.edu.au/files/1263/15516/#oemmns-b-features-celebrating-our-achievements>

- 2016: [Internal] Paul K. Witting, **Belal Chami (CIB)**: Sydney Medical School MCR-career accelerator grant award. Project title '*Developing a class of drugs to ameliorate colitis*'. The University of Sydney. \$50,000
- 2016: [External] Fellow: **Belal Chami**, Paul K. Witting: Medical Advances Without Animals (MAWA) Grant. Project title '*Assessing protein level and distribution in Alzheimer's disease-affected human brains using matrix assisted laser desorption / ionization (MALDI) imaging mass spectrometry: A methodology to image proteins in tissue without animal-derived antibodies*'. \$30,000
 - <https://wordvine.sydney.edu.au/files/2142/13398/#igw209-a-features->
- 2016: [Internal] Sydney Medical School ECR Overseas Conference Award. The University of Sydney. \$2500
- 2015: [External] Winner of the Inspire Australia Research Competition 2015. Inspire Australia Research. Usyd Staff News feature.
 - [https://intranet.sydney.edu.au/news/all/2015/08/27/young-scientist-awarded-crowd-funding-for-inflammatory-bowel-dis.html 2014](https://intranet.sydney.edu.au/news/all/2015/08/27/young-scientist-awarded-crowd-funding-for-inflammatory-bowel-dis.html)
- 2016: Recipient of the Young Researcher Award from the Society of Free Radical Research (SFRR), National Conference, Melbourne.
- 2011: [Internal] Sydney Medical School Travelling Fellowship to the School of Biological Science at the Shanghai Tongji University. \$5000

ABSTRACTS, CONFERENCES & PROCEEDINGS

Proceedings

- **Belal Chami**, Ahmad G., Schroder A.L., San Gabriel P., Witting P.K. 'The role of myeloperoxidase and neutrophil extracellular traps in the pathogenesis of inflammatory bowel disease Animal Models: Pre Clinical Treatment of Intestinal Inflammation. *Gastroenterology*, 2021, 160(3), SUPPLEMENT , S5-S6.
- **Belal Chami**, Abigail Vallejo, Stephen KumJew, Nina Dickerhof, Anthony J. Kettle, Joanne M. Dennis, Paul Witting. 'Role for neutrophil-derived myeloperoxidase in promoting acute colitis; inhibition of disease progression with 4-Methoxy TEMPO'. Conference: Free Radical Biology and Medicine. Volume 120, Supplement 1, 20 May 2018, Page S38
- Juyong Cheong, Anil Keshava, **Belal Chami**, Paul K. Witting (2017). 'Biochemical assessment of peritoneal inflammation and the impact of heated humidified carbon dioxide (CO₂) during laparotomy for colorectal resection: A randomised controlled trial. Conference: Diseases of the colon & rectum. Volume 60; issue 6; pages E116-E116
- Othman Alghamdi, Nicholas King, Nicholas Andronicos, **Belal Chami**, Graham L. Jones, Paul L. Witting, Pierre Moens (2016). 'The effect of ageing and hypertension on the proton-coupled transporters PEPT1 and PEPT2 in the renal proximal tubule'. Australian Physiological Society.

Oral presentation(s):

- **Belal Chami (2023)**. 'Can myeloperoxidase alone initiate early stages of colitis?'. Society of Free Radical Research Australasia. Society of Redox Biology and Medicine (SFRBM)
- Tamara Ortiz-Cerda, et al., **Belal Chami (2023)**. 'Protective activity of natural products curcumin, Amomum villosum and Hedyotis diffusa in an animal model of Inflammatory Bowel Disease'. Society of Redox Biology and Medicine (SFRBM)
- **Belal Chami (2022)**. 'Can myeloperoxidase alone initiate early stages of colitis?'. Society of Free Radical Research Australasia. Society of Redox Biology and Medicine (SFRBM)
- Invited: Belal Chami (2021). 'Myeloperoxidase in Inflammatory Bowel Disease'. BioDomain - The Charles Perkins Centre.
- Invited: Belal Chami (2021). 'Myeloperoxidase in Inflammatory Bowel Disease'. Westmead Institute for Medical Research Seminar.
- Invited: Belal Chami (2021). 'Identifying cannabinoids and novel cannabinoid derivatives with myeloperoxidase inhibitory activity'. Drug Discovery Initiative Symposium, The University of Sydney
- **Belal Chami**, Jhati Kakanic, Nina Jingyi Zhou, Hans Zoellner (2019). 'Intercellular transfer from fibroblasts to cancer cells'. The Charles Perkins Centre EMCR, The University of Sydney.
- PT San Gabriel, **Belal Chami**, E Glaros, Y Liu, J Tan, G Pinget, G Fong, L Macia, SR Thomas, PK Witting (2019). 'Differences in faecal microbiota from male and female wild type and MPO-deficient mice may affect experimental pathologies'. 9th Joint Meeting of the SFRR (Australasia and Japan), Sydney.
- G Ahmad, X-P Cai, **Belal Chami**, F Hossain, Y Liu, Saul B Freedman, Witting PK (2019). 'Serum Amyloid A Induces Vascular and Renal Dysfunction in Apolipoprotein E-Deficient Mice: Inhibition by Co-supplemented High-Density Lipoprotein'. 9th Joint Meeting of the SFRR (Australasia and Japan), Sydney.
- M El Kazzi, H Shi, BS Rayner, S Vuong, **Belal Chami**, Y Liu, PK Witting (2019). '4-methoxy-Tempo ameliorates neutrophil damage post-experimental myocardial infarct'. 9th Joint Meeting of the SFRR (Australasia and Japan), Sydney.

- Y Liu, G Ahmad, **Belal Chami**, PS Gabriel, G Fong, AL Schroder, PK Witting (2019). 'Supplementation with PXS-5398 in mice improves clinical and histopathological outcomes in dextran sodium salt induced colitis'. 9th Joint Meeting of the SFRR (Australasia and Japan), Sydney.
- G Ahmad, **Belal Chami**, M El Kazzi, X-S Wang, MTS Moreira, N Hamilton, A-M Maw, TW Hambly, PK Witting (2019). 'Catalase-like antioxidant activity is unaltered in hypochlorous acid oxidised horse heart myoglobin'. 9th Joint Meeting of the SFRR (Australasia and Japan), Sydney.
- **Belal Chami**, Abigail Vallejo, Stephen KumJew, Paul Witting (2018). 'Modulation of myeloperoxidase attenuates experimental colitis in mice'. Sydney Dental School Research Seminar. The University of Sydney
- **Belal Chami**, Abigail Vallejo, Stephen KumJew, Paul Witting (2017). 'Role for myeloperoxidase in promoting acute colitis; inhibition of disease progression with 4-Methoxy TEMPO'. Society of Free Radical Research Australasia and Japan, Tokyo, Japan.
- Juyong Cheong, Anil Keshava, Christopher Young, **Belal Chami**, Paul K. Witting (2017). 'Biochemical assessment of peritoneal inflammation and the impact of heated humidified CO₂ during laparotomy for colorectal resection: a randomized controlled trial'. American society of colorectal surgery annual scientific meeting, Seattle, Washington
- Juyong Cheong, Anil Keshava, Christopher Young, **Belal Chami**, Paul K. Witting (2017).. 'Biochemical assessment of peritoneal inflammation and the impact of heated humidified CO₂ during laparotomy for colorectal resection: a randomized controlled trial'. Royal Australasian college of surgeons Annual Scientific Congress, Adelaide
- **Belal Chami**, Abigail Vallejo, Stephen KumJew, Nina Dickerhof, Anthony J. Kettle, Joanne M. Dennis and Paul Witting (2017). 'Role for neutrophil-derived myeloperoxidase in promoting acute colitis; inhibition of disease progression with 4-Methoxy TEMPO'. International Peroxidase Meeting, Colorado
- **(Invited oral) Belal Chami**, Abigail Vallejo, Stephen KumJew, Paul Witting (2017). 'Modulation of myeloperoxidase attenuates experimental colitis in mice'. St George & Sutherland Clinical School: Research in Progress Meetings, Sydney
- **Ju Yong Cheong**, Belal Chami, Anil Keshava, Christopher J. Young, Paul K. Witting (2016) 'Localised peritoneal cytokine activation, recruitment of proinflammatory cells as a result of peritoneal injury from ambient air during open abdominal operations and mitigating its effect through use of humidified carbon dioxide.' Concord Hospital Research Symposium. Concord Repatriation General Hospital Clinical School, Sydney
- **(Invited oral) Belal Chami**, Abigail Vallejo, Stephen KumJew, Paul Witting (2016). '4-Methoxy TEMPO attenuates murine colitis'. Bosch Young Investigator (BYI) Symposium, Sydney Medical School, The University of Sydney
- **(Invited oral) Belal Chami**, Abigail Vallejo, Gloria Jeong, Adriana Varda, **Paul K. Witting** (2016). '4-Methoxy TEMPO attenuates murine experimental colitis'. Anatomy departmental meeting, The University of Sydney.
- **Belal Chami**, Abigail Vallejo, Stephen KumJew, Paul Witting (2015). '4-Methoxy TEMPO attenuates experimental murine colitis'. Society of Free Radical Research Australasia, International Conference, Christchurch New Zealand
- **(Invited oral) Belal Chami**, Abigail Vallejo, Stephen KumJew, Paul Witting (2015). '4-Methoxy TEMPO inhibitions myeloperoxidase activity in experimental murine colitis'. The Charles Perkins Centre Symposium, The University of Sydney

- **(Invited oral) Belal Chami** (2015) 'Pattern-based recognition and quantification of histo-architectural changes during acute colitis in mice - an OPAL approach'. Advanced Microscopy Facility training seminar, The University of Sydney
- **(Invited oral) Belal Chami**, Nicole Barrie, Xiaoping Cai, Paul K. Witting (2015). 'BAY 11 7082 inhibition of Serum Amyloid A activity on carotid endothelial cells'. Biology Domain Series in The Charles Perkins Centre. The University of Sydney
- **Maryam Eghtedari**, Xiaoping Cai, Paul K. Witting, Belal Chami (2015). 'Inhibiting the pro-atherogenic effects of serum amyloid A by pharmaceutical blockade of NF κ B'. Australasian Conference of Undergraduate Research, The University of Western Australia, Perth
- **Belal Chami**, Nicole Barrie, Xiaoping Cai, Paul K. Witting (2014). 'Serum Amyloid A receptor blockade and incorporation into high density lipoprotein modulates its pro-inflammatory and pro-thrombotic activities in vascular endothelial cells'. Bosch Young Investigators symposium, The University of Sydney
- **Belal Chami**, Nicole Barrie, Xiaoping Cai, Paul K. Witting (2014). 'Inhibition of Serum Amyloid A Pro-Atherogenic Activity'. Society of Free Radical Research (SFRR), National Conference, Melbourne
- **Juyong Cheong**, Anil Keshava, Belal Chami, Paul K. Witting (2014). "The effect of laparotomy on the peritoneum and the impact of CO₂ on peritoneal inflammation: a randomized controlled trial." General Surgeons Australia (GSA), National Conference Perth
- **Belal Chami**, Priscilla Youseff, Pamela Sheahan, Greg Sutherland, Paul K. Witting (2013). 'Oxidative damage in the early stages of Alzheimer's Disease'. Australian Society of Medical Research, Ballarat
- **Belal Chami**, Priscilla Youseff, Pamela Sheahan, Greg Sutherland, Paul K. Witting (2013) "Oxidative damage in the early stages of Alzheimer's Disease". Society of Free Radical Research (SFRR), International Conference, Sydney
- **Belal Chami**, Amanda Yeung, Michael Buckland, Hongjun Liu, Genevieve M Fong, Kun Tao, Shisan Bao (2012). 'The role of CXCR3 in salmonellosis'. Pathology PhD seminar, The University of Sydney
- **Belal Chami**, Amanda W. S. Yeung, Caryn van Vreden, Nicholas J. C. King, Shisan Bao (2011). 'The role of CXCR3 in the development of IBD'. Tryptophan Metabolism, Redox Biology and Inflammation Symposia, Sydney

Poster presentation(s):

- **Belal Chami**, Angie Schroder, Paul Witting (2020). 'Neutrophil extracellular traps in patients with Inflammatory Bowel Disease. Crohns and Colitis Congress – Chicago (zoom-based).
- Jhati Kakani, Jingyi Zhou, Hans Zoellner, **Belal Chami** (2019). 'Fibroblasts mediate intercellular transfer of mitochondria to cancer cells'. Westmead Research Showcase, Sydney
- **Belal Chami**, Abigail Vallejo, Paul K. Witting (2016). '4-Methoxy TEMPO attenuates murine experimental colitis'. International Congress of Immunology (ICI), Melbourne
- **Belal Chami**, Abigail Vallejo, Gloria Jeong, Stephen Kum Jew, Adriana Varda, Paul Witting (2016). '4-Methoxy TEMPO attenuates murine experimental colitis'. Bosch Annual Scientific Meeting : Ideas and Technology - Engines of Medical Science, Sydney

- **Belal Chami**, Abigail Vallejo, Gloria Jeong, Stephen Kum Jew, Adriana Varda, Paul Witting (2015). Society of Free Radical Research Australasia (SFRRA), International Conference, Christchurch New Zealand
- **Belal Chami**, Priscilla Youseff, Pamela Sheahan, Greg Sutherland, Paul K. Witting (2013). 'Oxidative damage in the early stages of Alzheimer's Disease'. Australian Society of Medical Research, Ballarat
- Priscilla Youssef, **Belal Chami**, Paul Witting and Greg Sutherland (2013). 'Oxidative damage in the early pathogenesis of Alzheimer's Disease'. Bosch Young Investigators Symposium, Sydney, NSW, December

PUBLICATIONS

Ahmad, G., Chami, B., El Kazzi, M., Wang, X., Moreira, M. T. S., Hamilton, N., . . . Witting, P. K. (2019). Catalase-Like Antioxidant Activity is Unaltered in Hypochlorous Acid Oxidized Horse Heart Myoglobin. *Antioxidants (Basel)*, 8(9). doi:10.3390/antiox8090414

Ahmad, G., Chami, B., Liu, Y., Schroder, A. L., San Gabriel, P. T., Gao, A., . . . Witting, P. K. (2020). The Synthetic Myeloperoxidase Inhibitor AZD3241 Ameliorates Dextran Sodium Sulfate Stimulated Experimental Colitis. *Front Pharmacol*, 11, 556020. doi:10.3389/fphar.2020.556020

Alghamdi, O. A., King, N., Andronicos, N. M., Jones, G. L., Chami, B., Witting, P. K., & Moens, P. D. J. (2019). Molecular changes to the rat renal cotransporters PEPT1 and PEPT2 due to ageing. *Mol Cell Biochem*, 452(1-2), 71-82. doi:10.1007/s11010-018-3413-x

Alghamdi, O. A., King, N., Andronicos, N. M., Jones, G. L., Chami, B., Witting, P. K., & Moens, P. D. J. (2022). Hypertension alters the function and expression profile of the peptide cotransporters PEPT1 and PEPT2 in the rodent renal proximal tubule. *Amino Acids*, 54(7), 1001-1011. doi:10.1007/s00726-022-03154-4

Black, H. D., Xu, W., Hortle, E., Robertson, S. I., Britton, W. J., Kaur, A., . . . Oehlers, S. H. (2019). The cyclic nitroxide antioxidant 4-methoxy-TEMPO decreases mycobacterial burden in vivo through host and bacterial targets. *Free Radic Biol Med*, 135, 157-166. doi:10.1016/j.freeradbiomed.2019.03.010

Chami, B., Barrie, N., Cai, X., Wang, X., Paul, M., Morton-Chandra, R., . . . Witting, P. K. (2015). Serum amyloid A receptor blockade and incorporation into high-density lipoprotein modulates its pro-inflammatory and pro-thrombotic activities on vascular endothelial cells. *Int J Mol Sci*, 16(5), 11101-11124. doi:10.3390/ijms160511101

Chami, B., Hossain, F., Hambly, T. W., Cai, X., Aran, R., Fong, G., . . . Witting, P. K. (2019). Serum Amyloid A Stimulates Vascular and Renal Dysfunction in Apolipoprotein E-Deficient Mice Fed a Normal Chow Diet. *Front Immunol*, 10, 380. doi:10.3389/fimmu.2019.00380

Chami, B., Jeong, G., Varda, A., Maw, A. M., Kim, H. B., Fong, G. M., . . . Witting, P. K. (2017). The nitroxide 4-methoxy TEMPO inhibits neutrophil-stimulated kinase activation in H9c2 cardiomyocytes. *Arch Biochem Biophys*, 629, 19-35. doi:10.1016/j.abb.2017.07.001

Chami, B., Martin, N. J. J., Dennis, J. M., & Witting, P. K. (2018). Myeloperoxidase in the inflamed colon: A novel target for treating inflammatory bowel disease. *Arch Biochem Biophys*, 645, 61-71. doi:10.1016/j.abb.2018.03.012

Chami, B., Milon, N., Fuentes Rojas, J. L., Charlot, S., Marrot, J. C., & Bancaud, A. (2020). Single-step electrohydrodynamic separation of 1-150 kbp in less than 5 min using homogeneous glass/adhesive/glass microchips. *Talanta*, 217, 121013. doi:10.1016/j.talanta.2020.121013

Chami, B., San Gabriel, P. T., Kum-Jew, S., Wang, X., Dickerhof, N., Dennis, J. M., & Witting, P. K. (2020). The nitroxide 4-methoxy-tempo inhibits the pathogenesis of dextran sodium sulfate-stimulated experimental colitis. *Redox Biol*, 28, 101333. doi:10.1016/j.redox.2019.101333

Chami, B., Steel, A. J., De La Monte, S. M., & Sutherland, G. T. (2016). The rise and fall of insulin signaling in Alzheimer's disease. *Metab Brain Dis*, 31(3), 497-515. doi:10.1007/s11011-016-9806-1

Chami, B., & Witting, P. K. (2021). Immunomodulatory effects of intestinal mesenchymal cells in the context of inflammatory bowel disease. *Acta Physiol (Oxf)*, 233(2), e13721. doi:10.1111/apha.13721

Chami, B., Yeung, A., Buckland, M., Liu, H., G, M. F., Tao, K., & Bao, S. (2017). CXCR3 plays a critical role for host protection against Salmonellosis. *Sci Rep*, 7(1), 10181. doi:10.1038/s41598-017-09150-z

Chami, B., Yeung, A. W., van Vreden, C., King, N. J., & Bao, S. (2014). The role of CXCR3 in DSS-induced colitis. *PLoS One*, 9(7), e101622. doi:10.1371/journal.pone.0101622

Cheong, J. Y., Chami, B., Fong, G. M., Wang, X. S., Keshava, A., Young, C. J., & Witting, P. (2020). Randomized clinical trial of the effect of intraoperative humidified carbon dioxide insufflation in open laparotomy for colorectal resection. *BJS Open*, 4(1), 45-58. doi:10.1002/bjs5.50227

Duong, T. T., Chami, B., McMahon, A. C., Fong, G. M., Dennis, J. M., Freedman, S. B., & Witting, P. K. (2014). Pre-treatment with the synthetic antioxidant T-butyl bisphenol protects cerebral tissues from experimental ischemia reperfusion injury. *J Neurochem*, 130(6), 733-747. doi:10.1111/jnc.12747

El Kazzi, M., Rayner, B. S., Chami, B., Dennis, J. M., Thomas, S. R., & Witting, P. K. (2020). Neutrophil-Mediated Cardiac Damage After Acute Myocardial Infarction: Significance of Defining a New Target Cell Type for Developing Cardioprotective Drugs. *Antioxid Redox Signal*, 33(10), 689-712. doi:10.1089/ars.2019.7928

El Kazzi, M., Shi, H., Vuong, S., Wang, X., Chami, B., Liu, Y., . . . Witting, P. K. (2020). Nitroxides Mitigate Neutrophil-Mediated Damage to the Myocardium after Experimental Myocardial Infarction in Rats. *Int J Mol Sci*, 21(20). doi:10.3390/ijms21207650

Floch, A., Barrault, A., De Brevern, A. G., Martret, J., Gaillard, K., Devaux, L., . . . Tournamille, C. (2017). Molecular characterization of 13 new RHD alleles. *Transfusion*, 57(4), 1089-1091. doi:10.1111/trf.14004

Getts, D. R., Terry, R. L., Getts, M. T., Deffrasnes, C., Muller, M., van Vreden, C., . . . King, N. J. (2014). Therapeutic inflammatory monocyte modulation using immune-modifying microparticles. *Sci Transl Med*, 6(219), 219ra217. doi:10.1126/scitranslmed.3007563

Liu, Y., Burton, T., Rayner, B. S., San Gabriel, P. T., Shi, H., El Kazzi, M., . . . Chami, B. (2020). The role of sodium thiocyanate supplementation during dextran sodium sulphate-stimulated experimental colitis. *Arch Biochem Biophys*, 692, 108490. doi:10.1016/j.abb.2020.108490

Mahadevan, S., Cornwell, J. A., Chami, B., Kelly, E., & Zoellner, H. (2021). Cell-Projection Pumping of Fibroblast Contents into Osteosarcoma SAOS-2 Cells Correlates with Increased SAOS-2 Proliferation and Migration, as well as Altered Morphology. *Biomolecules*, 11(12). doi:10.3390/biom11121875

Mahadevan, S., Kwong, K., Lu, M., Kelly, E., Chami, B., Romin, Y., . . . Zoellner, H. (2022). A Novel Cartesian Plot Analysis for Fixed Monolayers That Relates Cell Phenotype to Transfer of Contents between Fibroblasts and Cancer Cells by Cell-Projection Pumping. *Int J Mol Sci*, 23(14). doi:10.3390/ijms23147949

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TEACHING

Teaching summary

I am highly committed and passionate about teaching within the university and have demonstrated this by my active engagement in lecturing, tutoring and supervision students in both the undergraduate and HDR arena. To-date, I have been the primary supervisor to 14x honours student, x2 Masters candidates, 2x PhD candidates, 5x Summer Research Scholarship students, 1x Talented Student Program, 2x DMD2 student, 1x International Internship (University of Connecticut) and 1x High School Internships (Sydney Girls). I also co-supervise 8x honours students, 2x PhD student and 2x Masters Student. Furthermore, over 90% of honours students have completed with H1 outcomes and many have been the recipient of Young Investigator Awards at various conferences. I have assessed 2x PhD theses, 2 x PhD proposal, 15x honours theses and I chaired the discipline of pathology PhD seminar series from 2014-2018. In 2016 I completed the Graduate Certificate in Education (Higher Education) – A program designed to support teaching staff in developing their professional expertise as university teachers to better understand and enhance the learning of their student. In the same year, I have designed new pedagogical approaches for CPATH3202 museum tutorials, whereby students mediated their learning in a peer-to-peer fashion. I also designed a new teaching approach to the microscopy tutorial sessions. I also developed workbooks for students enrolled in The Pathogenesis of Human Diseases (CPAT3201) that encouraged structural scaffolding as a learning approach. From 2019-2020, I organized and chaired weekly Research Seminars in the Sydney Dental School. In 2020, I completed a 'Clinical Teaching Fellowship' made available by the Institute of Teaching and Learning to further my skill set in clinical education where the pedagogical approach shifted to focus groups with an emphasis on developing interpersonal skills to be an effective teacher. I was also able to contribute new content in the form of a team-based learning case study aligned to my research area in the MD program.

In 2017, I have obtained a DVC educational innovation grant (\$24,620) as a project leader to create digital resources (a series of Ainsworth's video bytes -SAVb) for undergraduate and postgraduate students within the discipline of pathology. In addition to my lecturing roles, I have headed PBL sessions in the pathology museum for 3rd year students enrolled in CPAT3202 from 2013-14. I tutored undergraduate Pathogenesis Research Projects (PRP) from 2010-2016. In 2016, I tutored PBL groups for medicine foundation blocks 1 and 2 for the faculty of medicine. I am actively involved in assessment and have formulated exam questions, while participating in marking for many undergraduate units where I have lectured. I was an appointed UsydMP Interviewer (2015-2021) where I participated in the face-to-face Multi-Mini-Interviews (MMI) and contributed to writing and reviewing MMI scenarios in 2017. I have been an examiner in the 2017 Sydney Medical Program – MD Project – Milestone.

In 2021, I have taken the role as Unit of Study Coordinator for Bachelor of Oral Health units' ORHL1104 and ORHL1204, first and second semester respectively and total ~ 750 teaching hours as determined by the University of Sydney Workload Policy. See 'Teaching Load' document (appendix). I initiated the reassignment of teaching material for greater expertise representation, expansion of teaching staff from various disciplines within SOMS and the revaluation and adaption of new learning outcomes in selected lectures following consultation with practitioners to align with clinical expectations. In summary, I have demonstrated a proactive approach to teaching to improve the

learning experience guided by student feedback and aligning with trending pedagogical approaches described in the literature.

RESEARCH STUDENT SUPERVISION

Summer Research Scholarship

Name	Start year	Type of Supervision	Email (uni.sydney.edu.au)
Patrick San Gabriel	2016	Primary	psan7542
Balasubrahmanyum Umashankar	2015	Primary	buma7257
Thomas Hambly	2014	Primary	t.hambly
Maryam Eghtedari	2013	Primary	megh7040
Abigail Vallejo	2014	Primary	aval3972
Lujain Fayad	2012	Mentoring	lalm1691
Michael Edward Tierney	2012	Mentoring	mtie3185

Talented Student Program

Name	Start year	Type of Supervision	Email (uni.sydney.edu.au)
Michael Edward Tierney	2012	Mentoring	mtie3185
Maryam Eghtedari	2013	Primary	megh7040

Honours

Name	Start year	Discipline	Type of Supervision	Email (uni.sydney.edu.au)	Outcomes	Achievements during candidature	Trajectory following candidature
Angeliq e Marie Dunn	2023	Molecular Biomedici ne	Primary	adun4175			
David	2023	Bioengine	Primary	dte2525			

Ramsay Tejcek		ering					
Miguel Campos	2022	Bioengineering	Primary	mcam0414	H1	Sydney Nano Taste Research Award \$2500	
Ingrid Bonney	2021	Bioengineering	Primary	ibon7316	H1		
Jennifer Supple	2022	Molecular Biomedicine	Primary	jensupple05@gmail.com	H1 - Dean's citation list		
Ella Chimzi Verley	2021	Molecular Biomedicine	Primary	ever8749	H1		
Matthew Griffiths	2021	Bioengineering	Primary	mgri5842	H1		
Fatima Abbas Gondalwala	2020 -mid year	Oral Pathology	Auxillary	fgon2939	H1	Winner of the Best Poster Presentation Award – Precision Medicine: A revolution in Patient Care Conference	
Brigitta Sabrina Auwyang	2020	Bioengineering	Primary	yogamba.ra maswamy	H1		
Pan (Dennis) Kit Chan	2020	Applied MED	Primary	pcha4252	H2-1		
Jingyi Nina Zhou	2019	Bioengineering	Primary	jzho4334	H1		Industry
Anglie Schroder	2019	Pathology	Auxiliary	asch7719	H1		Medicine (Usyd)
Jhati Kakani	2019	Applied MED	Primary	jkak2429	H1		Industry
Yuyang Ana Liu	2018	Pathology	Primary	yliu0383	H1	- Oral presentation at international conference at the Society of Free Radical	Medicine (QT)

						Research Australasia: Auckland 2018 -Bursary Award: Young investigator award (first prize) -1 st author: Original research publication (in preparation)	
Harrison Davis Black	2017	Pathology	Primary	hbla4995	H1	-1 st author: Original research publication <i>DOI: 10.1101/464586.</i> -Oral presentation at the Society of Free Radical Research Australasia: Japan 2017 (international)	Medicine (Usyd)
Patrick San Gabriel	2017	Pathology	Primary	psan754	H1	-2 nd author: Original research publication (in preparation) - Poster presentation at the Society of Free Radical Research Australasia: Japan 2017 (international)	PhD (Usyd)
Rebecca Jane Kasalo	2017	Pathology	Mentoring	rkas7584	H1		
Abigail Vallejo	2015	Pathology	Auxiliary	aval3972	H1	-1 st author: Original research publication <i>DOI: 10.3390/ijms20010105.</i> -Poster presentation at the Society for Redox Biology and Medicine: 2016 San Francisco (international)	Medicine (Notre Dame)
Thomas Hamblly	2014	Pathology	Auxiliary	t.hamblly@gmail.com	H1	-Co-author: Original research publication <i>DOI:10.3389/fimmu.2019.00380.</i> -Oral presentation at the Society of Free Radical Research Australasia: Melbourne	Medicine (UNE)

						2014 (national)	
Beverly Manago	2013	Pathology	Mentoring	bman3077	H1		Medicine (Notre Dame)
Nicola Barrie	2013	Pathology	Mentoring	nbar4794			PhD (Usyd)
Adrina Varda	2013	Pathology	Mentoring	avar4896			Medicine (Usyd)
Lujain Fayad	2013	Pathology	Co-supervisor	lalm1691			

PhD

Name	Start year	Type of Supervision	Email (uni.sydney.edu.au)
Guanqing (Milissa) Huang	2023	Primary	ghua5630
Rabia Zafar	2019	Co-supervisor	rzaf9310
Patrick San Gabriel	2018	Primary	psan754
Genevieve Fong	2012	Mentoring	gfon3032
Priscilla Youssef	2012	Mentoring	pyou5676
Martin Simone	2015	Mentoring	msim6013
Xiaoping Cai	2011	Mentoring	xcai4874
Juyong Cheong	2015	Mentoring	santiago-james@hotmail.com

Master

Name	Start year	Type of Supervision	Email (uni.sydney.edu.au)
Anthony Gao	2020	Co-supervisor	agao2399
Anglie Schroder	2020	Co-supervisor	asch7719
Abigail Vallejo	2016	Mentoring	aval3972
Gloria Jeong	2011	Mentoring	Yjeong87

Farjaneh Hossain	2012	Mentoring	farjaneh
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International Students

Name	Start year	Type of Supervision	Duration	Degree type	Country	Type of Supervision	Email (uni.sydney.edu.au), unless otherwise stated
Tiina Pohjankoski	2023	Primary	6 months	Masters	Finland	Primary	tiina.pohjankoski@helsinki.fi
Nicole Rivera Rodriguez	2019	Primary	8 weeks	Assistant Physician	USA - University of Connecticut	Primary	Nicole.rivera_rodriguez@uconn.edu
Maria Tereza Silveira Moreira	2014	Co-supervisor	6 months	Physician	Brazil	Mentoring	msil2279
Stephane Escobar	2015	Co-supervisor	6 months	PhD	Brazil	Mentoring	stephanejme

DMD2

Name	Start year	Type of Supervision	Email (uni.sydney.edu.au)
Ashely	2019	Primary	akey2555

High school Internships

Name	Start year	Type of Supervision	Duration	High school	Type of Supervision	Email
Angelina Arora	2019	Primary	3 months	Sydney Girls	Primary	Angelinaarora23@gmail.com

Note: 'Achievements during candidature' and 'Trajectory' were only recorded in the instance where I was the primary or auxiliary supervisor.

IN THE MEDIA

Public profiles

- <https://www.sydney.edu.au/medicine-health/about/our-people/academic-staff/belal-chami.html>

The University of Sydney

- <https://www.linkedin.com/in/belal-chami-37119493/>

LinkedIn

News stories

- <http://sydney.edu.au/news/staff/2576.html?newsstoryid=15362>
- <https://unisyd.sharepoint.com/sites/ddi/SitePages/Researcher-profile-Dr-Belal-Chami.aspx>

Inspire Research in Australia Competition Award
Crohn's and Colitis Foundation Award

- <https://research.qut.edu.au/bridgetech/2021/07/08/industry-fellows-announced-to-boost-national-medtech-and-pharma-sector/> **Industry Fellowship Award**
- <https://thepulse.org.au/2021/08/03/280000-grant-for-western-sydney-researchers-to-help-detect-debilitating-bowel-disease/> **Western Sydney Clinical Trial**
- <https://intranet.sydney.edu.au/news/all/2021/09/13/cdip-funding-awarded.html> **CDIP Award**
- <https://unisyd.sharepoint.com/sites/ddi/SitePages/Researcher-profile-Dr-Belal-Chami.aspx> **DDI Newsletter**