



5<sup>th</sup> July 2022

### **Report on research activities facilitated by Lions Club donations**

The Rheumatology research team at Monash are once again extremely grateful for the ongoing support of the Lions Club. Rheumatic diseases of all types continue to cause suffering and loss of quality of life in Australians and we remain dedicated to the goal of using science to improve these outcomes.

As a reminder, past donations from the Lions Club funded the purchase of significant laboratory equipment that remains in regular use. More recently, funding from the Lions Rheumatism and Arthritis Medical Research Foundation Australia supported two PhD students in the lab. It is a joy to report that Hasnat and Mehnaz, who are in fact a married couple, have now both passed their PhDs ! It is a privilege for us as their supervisors to see their careers develop through the intense training that a PhD at Monash provides and we wish them well for their future. Meanwhile, two further PhD students, Iolanda Miceli and Katie Treasure, have been working hard on their projects to understand basic mechanisms of inflammation so that we can devise better treatments in the future. Iolanda is a medical student who has taken a break from her medical studies to complete full time research PhD; she will graduate as 'MD PhD', joining the ranks of doctors trained as both clinicians and researchers – we are especially proud of her choice to join us.

Universities in Australia continue to evolve their responses to the pandemic. Through our partnership with Monash Health, we have been able to keep working throughout the difficult times of 2020 and 2021, and of course now are fully back at work. However, many team members have had COVID despite full vaccination and we can see that this trend will continue. We continue to apply our immune system expertise to the COVID questions and, though a difficult period to live through, it is a good time to be an immunologist!

Our work has continued to focus on the biology of the anti-inflammatory molecule GILZ (glucocorticoid-induced leucine zipper) as well as the pro-inflammatory molecule MIF (macrophage migration inhibitory). In both cases we have made progress on the long journey to turn science into treatments, investigating a nutrition-derived compound that inhibits MIF, and working to develop ways to make our own compounds that increase GILZ. In addition, the connections between the lab and clinical teams continue to be strong, allowing us to ensure the highest quality clinically-relevant research.

### **Selected Recent Publications From the Monash Rheumatology Research Group**

1. Hasnat MA, Cheang IL, Dankers W, Lee J, Truong L, Pervin M, Jones SA, **Morand E**, Ooi J, Harris J. Investigating immunoregulatory effects of myeloid cell autophagy in acute and chronic inflammation. *Immunol. Cell Biol.* (in press, accepted 30 May 2022)
2. Raghunath S, Guymer EK, Glikmann-Johnston Y, Golder, Kandane-Rathnayake, **Morand EF**, Stout JC, Hoi A. Fibromyalgia, Mood Disorders, Cognitive Test Results, Cognitive Symptoms and Quality of Life in Systemic Lupus Erythematosus (SLE). *Rheumatology* (in press, accepted 30 March 2022)

**Dr James Harris, PhD.**

Head of Laboratory Research, Rheumatology Research Group

School of Clinical Sciences at Monash Health

Faculty of Medicine, Nursing & Health Sciences

Level 5, Block E, Clayton Victoria 3168 Australia

T: +61 3 9594 5660

Email [jim.harris@monash.edu](mailto:jim.harris@monash.edu)

[www.monash.edu.au](http://www.monash.edu.au)

CRICOS Provider 00008C ABN 12 377 614 012



3. Bruce IN, Furie RA, **Morand EF**, Manzi S, Tanaka Y, Kalunian K, Merrill JT, Puzio P, Maho E, Kleoudis C, Albuлесcu M, Hultquist M, Tummala R. Concordance and Discordance in SLE Clinical Trial Outcome Measures: Analysis of Three Anifrolumab Phase 2/3 Trials. *Ann Rheum Dis* 2022 (in press)
4. Emamikia S, Oon S, Gomez A., Lindblom J, Borg A, Enman Y, **Morand E**, Grannas D, Ronald F. van Vollenhoven RF, Nikpour M, Parodis I. Impact of remission and low disease activity on health-related quality of life in patients with systemic lupus erythematosus *Rheumatology*. (in press, accepted 12 March 2022)
5. Kandane-Rathnayake R, Louthrenoo W, Hoi A, Luo SF, Wu YJJ, Chen YH, Cho JC, Lateef A, Hamijoyo L, Navarra SV, Zamora L, Sockalingam S, An Y, Li ZG; Katsumata Y, Harigai M, Hao YJ, Zhang ZL, Kikuchi K, Takeuchi T, Basnayake BMD, Chan M, Ng KPL, Tugnet N, Kumar S, Oon S, Goldblatt F, O'Neill S, Gibson K, Ohkubo N, Tanaka Y, Bae SC, Lau CS, Nikpour M, Golder V, **Morand EF**. 'Not at target': Prevalence and consequences of inadequate disease control in systemic lupus erythematosus - A multinational observational cohort study. *Arthritis Res Ther*. 2022 Mar 14;24(1):70.
6. **Morand EF**, Furie RA, Bruce IN, Vital EM, Dall'Era M, Maho E, Pineda L, Tummala R. Efficacy of Anifrolumab Across Organ Domains in Patients With Moderate to Severe SLE: Post Hoc Analysis of Pooled Data From the TULIP-1 and TULIP-2 Trials. *Lancet Rheum* 2022.  
DOI:[https://doi.org/10.1016/S2665-9913\(21\)00317-9](https://doi.org/10.1016/S2665-9913(21)00317-9)
7. Northcott M, Jones SA, Koelmeyer R, Bonin J, Vincent F, Kandane-Rathnayake R, Hoi A and **Morand EF**. Type 1 interferon status in systemic lupus erythematosus: a longitudinal analysis. *Lupus Sci Med*. 2022;9:e000625.
8. Tanaka Y, Atsumi T, Okada M, Miyamura T, Ishii T, Nishiyama S, Matsumura R, Hayashi N, Abreu G, Tummala R, **Morand EM**, Takeuchi T. The efficacy and safety of Anifrolumab in Japanese patients with Systemic Lupus Erythematosus: TULIP-2 subanalysis. *Mod Rheumatol*. (in press, accepted 2 February 2022)
9. Souza JAM, Carvalho AFS, Grossi LC, Zaidan I, de Oliveira LC, Vago JP, Cardoso C, Machado MG, Souza GVS, Queiroz-Junior CM, **Morand EF**, Bruscoli S, Riccardi C, Teixeira MM, Tavares LP, Sousa LP. Glucocorticoid-Induced Leucine Zipper Alleviates Lung Inflammation and Enhances Bacterial Clearance during Pneumococcal Pneumonia. *Cells*. 2022 Feb 3;11(3):532.
10. Vital EM, Merrill JT, **Morand EF**, Furie RA, Bruce IN, Tanaka Y, Manzi S, Kalunian KC, Kalyani RN, Streicher K, Abreu G, Tummala R. Anifrolumab Efficacy and Safety by Type I Interferon Gene Signature and Clinical Subgroups in Patients With SLE: Post Hoc Analysis of Pooled Data From 2 Phase 3 Trials. *Ann Rheum Dis*. (in press, accepted 27 January 2022)

Dr James Harris, PhD.

Head of Laboratory Research, Rheumatology Research Group

School of Clinical Sciences at Monash Health

Faculty of Medicine, Nursing & Health Sciences

Level 5, Block E, Clayton Victoria 3168 Australia

T: +61 3 9594 5660

Email [jim.harris@monash.edu](mailto:jim.harris@monash.edu)

[www.monash.edu.au](http://www.monash.edu.au)

CRICOS Provider 00008C ABN 12 377 614 012



11. Chia YL, Tummala R, Mai TH, Rouse T, Streicher K, White WI, **Morand EF**, Furie RA. The Relationship Between Anifrolumab Pharmacokinetics, Pharmacodynamics, and Efficacy in Patients With Moderate to Severe Systemic Lupus Erythematosus. *J. Clin. Pharmacol.* 2021 Sep 16:keab704.
12. Johnson S, Gladman D, Brunner H, Isenberg D, Clarke A, Barber M, Arnaud L, Fortin P, Mosca M, Voskuyl A, Manzi S, Aranow C, Askanase A, Alarcón G, Bae SC, Costedoat-Chalumeau N, English J, Pons-Estel G, Pons-estel B, Gilman R, Ginzler E, Hanly J, Jacobsen S, Kalunian K, Kamen D, Lambalgen C, Legge A, Lim SS, Mak A, **Morand E**, Peschken C, Petri M, Rahman A, Ramsey-Goldman R, Reynolds J, Romero-Díaz J, Ruiz-Irastorza G, Sanchez-Guerrero J, Svenungsson E, Touma Z, Urowitz MB, Vinet E, van Vollenhoven R, Waldhauser H, Wallace D, Zoma A, Bruce I. Evaluating the construct of damage in systemic lupus erythematosus. *Arthritis Care Res* 2021 Dec 28. doi: 10.1002/acr.24849.
13. Ugarte-Gil MF, Mak A, Leong JWY, Dharmadhikari B, Kow NY, Reategui-Sokolova C, Elera-Fitzcarrald C, Aranow C, Arnaud L, Askanase A, Bae SC, Bernatsky S, Bruce IN, Buyon JP, Costedoat-Chalumeau N, Dooley MA, Fortin PR, Ginzler EM, Gladman DD, Hanly JG, Inanc M, Isenberg D, Jacobsen S, James JA, Jonsen A, Kalunian K, Kamen DL, Lim SS, **Morand E**, Mosca M, Peschken CA, Pons-Estel BA, Rahman A, Ramsey-Goldman R, Reynolds JA, Romero-Diaz J, Ruiz-Irastorza G, Sanchez-Guerrero J, Svenungsson E, Urowitz MB, Vinet E, van Vollenhoven RF, Voskuyl A, Wallace DJ, Petri M, Manzi S, Clarke AE, Cheung MWL, Farewell V, Alarcón GS. Impact of glucocorticoids on the incidence of lupus-related major organ damage – a systematic literature review and meta-regression analysis of longitudinal observational studies. *Lupus Sci Med.* 2021 Dec;8(1):e000590.
14. Raghunath S, Glikmann-Johnston Y, **Morand EF**, Stout JC, Hoi A. Evaluation of the Montreal Cognitive Assessment as a Screening Tool for Cognitive Dysfunction in Systemic Lupus Erythematosus. *Lupus Sci Med.* 2021 Dec;8(1):e000580.
15. Strand V, O’Quinn S, Furie RA, **Morand EF**, Kalunian KC, Schwetje EG, Abreu G, Tummala, R. Clinical Meaningfulness of a BICLA Response in Terms of Patient-Reported Outcomes: Post Hoc Analysis of the Phase 3 TULIP-1 and TULIP-2 Trials of Anifrolumab in Patients With Moderate to Severe Systemic Lupus Erythematosus. *Lancet Rheumatology* 2022 3:e198-e207.
16. Ko T, Dendle C, Woolley I, **Morand EF**, Antony A. SARS-COV-2 vaccine acceptance in patients with rheumatic diseases: a cross-sectional study. *Hum Vaccin Immunother* 2021 Nov 2;17(11):4048-4056.
17. Connelly K, **Morand EF**. Filgotinib in cutaneous lupus: is a negative positive? *Rheumatology*, 2022;61(6):2213–2214
18. van Vollenhoven R, Bertsias G, Doria A, Isenberg D, **Morand E**, Petri M, Pons-Estel B, Rahman A, Ugarte-Gil M, Voskuyl A, Arnaud L, Bruce I, Ricard Cervera R, Nathalie Costedoat-Chalumeau N,

Dr James Harris, PhD.

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Faculty of Medicine, Nursing & Health Sciences

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Email jim.harris@monash.edu

CRICOS Provider 00008C ABN 12 377 614 012

www.monash.edu.au



Caroline Gordon C, Houssiau F, Mosca M, Schneider M, Ward M, Alarcón G, Aringer M, Askanase A, Bae SC, Bootsma H, Boumpas D, Brunner H, Clarke A, Coney C, Czirjak L, Dörner T, Faria R, Fischer-Betz R, Fritsch-Stork R, Inanc M, Jacobsen S, Jayne D, Kuhn A, van Leeuw B, Limper M, Mariette X, Navarra S, Nikpour M, Olesinska M, Pons-Estel G, Romero-Diaz J, Rubio B, Shoenfeld Y, Bonfá E, Smolen J, Teng O, Tincani A, Tsang-A-Sjoe M, Vasconcelos C, Voss A, Werth V, Zakharova H, Aranow C. The 2021 DORIS Definition Of Remission In Systemic Lupus Erythematosus – Final Recommendations from an International Task Force. *Lupus Sci Med* 2021 Nov;8(1):e000538

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Faculty of Medicine, Nursing & Health Sciences

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T: +61 3 9594 5660

Email jim.harris@monash.edu

CRICOS Provider 00008C ABN 12 377 614 012

www.monash.edu.au



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28. Connelly K, **Morand EF**. Systemic lupus erythematosus: a clinical update. *Intern Med J.* 2021 Aug;51(8):1219-1228
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### Recent News stories from the lab

#### Janssen-Cilag continues to support Monash Lupus research

Dr Fabien Vincent receives Janssen-Cilag Medical Grant for the 4th consecutive time. Congratulations to Dr Fabien Vincent on receiving a Janssen-Cilag Medical Grant of \$56,6K. This constitutes the fourth Grant from Janssen-Cilag since 2019 to support his research program.



<https://www.monash.edu/medicine/news/latest/2022-articles/janssen-cilag-continues-to-support-monash-lupus-research>

#### Funding grant to help explore childhood onset lupus in adults

Congratulations to Associate Professor Alberta Hoi who has received \$36,000 as part of the Perpetual's 2022 IMPACT Philanthropy Program. "I am very honoured to be the recipient of funding for this grant. Philanthropic support such as this help extend research for rare diseases like childhood onset lupus," A/Prof Hoi said.



<https://www.monash.edu/medicine/news/latest/2022-articles/funding-grant-to-help-explore-childhood-onset-lupus-in-adults>



## Monash PhD candidate to appear on Einstein A-Go-Go to discuss her research

PhD candidate, Ms Iolanda Miceli to appear on Einstein A-Go-Go 29 May to discuss her research on glucocorticoid replacement therapy with GILZ.

A novel drug with the potential to replace commonly prescribed, but harmful, glucocorticoids in the treatment of autoimmune disorders is being investigated by a leading group of researchers from the School of Clinical Sciences at Monash Health, led by [Dr Sarah Jones](#). They have recently discovered a highly promising target which produces the same beneficial effects as glucocorticoids, but without the harmful side effects.

<https://www.monash.edu/medicine/news/latest/2022-articles/monash-phd-candidate-to-appear-on-einstein-a-go-go-to-discuss-her-research>

## Monash launches flagship biological storage facility

Monash University has officially launched Australia's first industry-focused storage facility for biological material to support medical research and commercialisation opportunities.

Biobanking Victoria is a state-of-the-art facility that provides a valuable link between researchers and industry, generously supported by the Victorian Government.

Led by Monash University in partnership with international leader Infinity BiologiX (IBX, USA), the flagship facility is also the first in Australia and one of few in the world to be accredited by the National Association of Testing Authorities (NATA).

Located within the Monash Health Translation Precinct in Clayton, Biobanking Victoria operates at international standards and provides a complete end-to-end solution for any clinical trial or research project that involves biological material.



<https://www.monash.edu/medicine/news/latest/2022-articles/monash-launches-flagship-biological-storage-facility>

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**Head of Laboratory Research, Rheumatology Research Group**

**School of Clinical Sciences at Monash Health**

Faculty of Medicine, Nursing & Health Sciences

Level 5, Block E, Clayton Victoria 3168 Australia

T: +61 3 9594 5660

Email [jim.harris@monash.edu](mailto:jim.harris@monash.edu)

CRICOS Provider 00008C ABN 12 377 614 012

[www.monash.edu.au](http://www.monash.edu.au)



## **Professor Eric Morand inducted into Monash Honour Roll**

Professor Eric Morand's achievements have been recognised for his outstanding commitment to the University with an induction into the Monash Honour Roll 2021.

Professor Morand was first appointed at Monash after his PhD in 1996, to establish a rheumatology research presence that was previously non-existent. This unit is now one of the largest and most successful in the country.

Professor Morand has been Head of the School of Clinical Sciences (SCS) since 2011. The School is Monash's largest site of clinical training in medicine and has also become a major research centre of excellence, at the forefront of basic, clinical, and translational research.

The honour is a great recognition of Professor Morand's numerous achievements to education and research across the Faculty and University.

