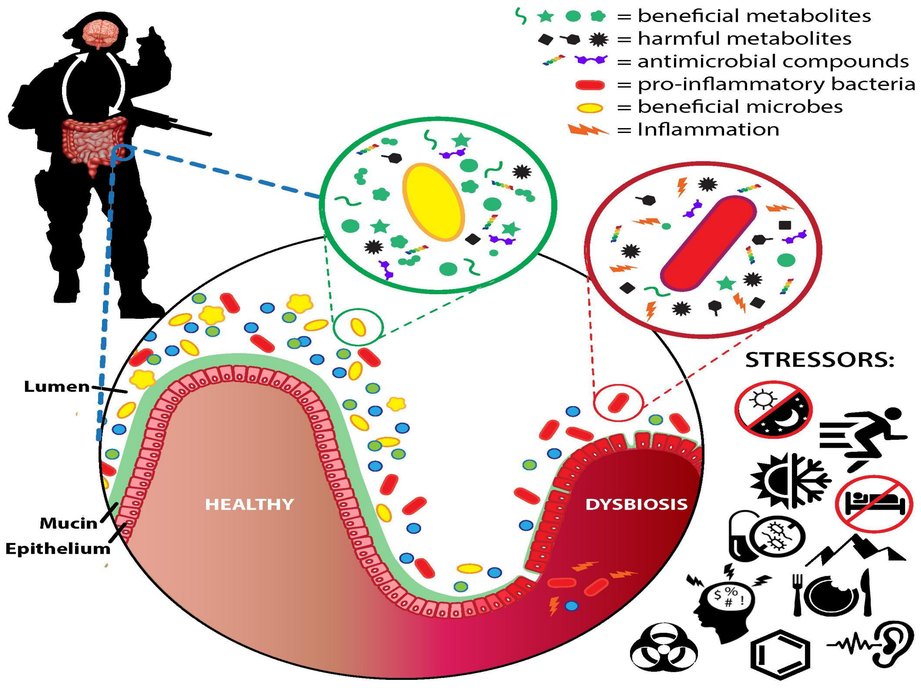
Australian Government
Department of Defence

NEXT GENERATION TECHNOLOGIES FUND

SWINBURNE UNIVERSITY OF TECHNOLOGY

Gut microbiome and the enhancement of Warfighter performance and resilience



Purpose

- Identify the impact of military-relevant stressors on the Warfighter gut microbiota and its link to cognitive performance and readiness
- Develop a predictive tool to identify Warfighters at greater risk from stress-induced gut dysbiosis

Schedule

- FY19-21: Ethics submission and approval; Data collection with new recruits (1RTB)
- FY21-23: Data analysis; Development of predictive tool; Preparation of final report, and dissemination of findings (to Defence and academic communities)

Product

- Improved understanding of the impact of military-relevant stressors on the Warfighter gut microbiota, cognitive performance and readiness
- Provide a predictive tool to enhance current screening procedures to identify warfighters at greater risk of stress-induced changes in gut health during training and/or deployment

Partners

- Swinburne University: Matthew Cooke, Regina Belski, Con Stough, Shakuntla Gondalia (adjunct) and Amirul Islam
- Australian Genome Research Facility Ltd: Christopher Noune
- DST: Katie Tooley, Brad Baker and David Crone

Illustrated figure is taken from: Karl, J. P., Hatch, A. M., Arcidiacono, S. M., Pearce, S. C., Pantoja-Feliciano, I. G., Doherty, L. A., & Soares, J. W. (2018). Effects of Psychological, Environmental and Physical Stressors on the Gut Microbiota. *Frontiers in microbiology*, *9*, 2013. doi:10.3389/fmicb.2018.02013