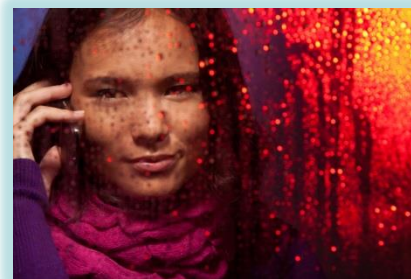


'The New Australian Centre for Electromagnetic Bioeffects Research'



BACKGROUND



- NHMRC Centre of Research Excellence ACEBR is entering a new round: previous funding 2012
- From April 2018: 5-year research agenda addressing high priority aspects of the non-ionising EMF health debate
- Experience of national and international leaders in RF bioeffects research
- 20 highly qualified CIs & AIs involved (e.g., working with ICNIRP, WHO, ARPANSA, BEMS)
- International collaborations
- Platform for supporting junior investigators

PARTNERS (CIs)



- University of Wollongong, Wollongong
- Illawarra Health and Medical Research Institute, Wollongong
- Swinburne University of Technology, Hawthorn
- University of Adelaide, Adelaide
- Victor Chang Cardiac Research Institute, Darlinghurst
- RMIT University, Melbourne



UNIVERSITY
OF WOLLONGONG
AUSTRALIA



RESEARCH AREAS

- Human Studies



- Animal Studies



- Cellular Studies



- Dosimetry



- Risk Communication



Key people involved:

- CI: Rodney Croft (Human Experimental)
- CI: Sarah Loughran (Sleep Research)
- CI: Nigel Taylor (Thermal Physiology)
 - AI: Ron Grunstein (Woolcock Institute)
 - AI: Jane Herbert (University of Wollongong)
 - PhD student: Sheridan Findlay
- **Melatonin, temperature, and the effect of RF on sleep EEG**
Exposure timing, non-RF heat effects, RF heat regulation
- **RF, cognition and neurophysiology in young children**
Effects on cognition as well as cortical function 4-9 year olds (EEG)



Key people involved:

- CI: John Finnie (Comparative Pathology)
- CI: Rodney Croft
- CI: Sarah Loughran
- CI: Irene Yarovsky (Biophysics & Bioengineering)
 - AI: Bruno Bontempi (University of Bordeaux)



- **RF exposure and healthy ageing in mice**
Test RF-induced changes on brain ageing process in mice
- **Does RF ameliorate Alzheimer's disease pathology in mice**
Extending exposure period to 20 months to analyse 'temporal sequence' of amyloid deposition in exposed brains

Key people involved:

- CI: Irene Yarovsky
- CI: Elena Ivanova (Cellular Assay)
- CI: Elena Pirogova (Cellular Assay)
- CI: Boris Martinac (Biophysics)
- CI: Rodney Croft
 - AI: Nevena Todorova (RMIT)
 - AI: Eva Tomaskovic-Crook (University of Wollongong)
- **Determining the RF exposure threshold for CW-electroporation**
High frequency RF & membrane permeation – is there a health risk?
- **Are thermo/mechanoreceptor proteins sensitive to low level RF?**
- **Pilot: Use of iPSC-derived neurons for the test of EHS**
Effects of RF on cells from control and EHS individuals



Key people involved:

- CI: Andrew Wood (Dosimetry)
- CI: Rodney Croft
- CI: Sarah Loughran
 - AI: Robert McIntosh (Swinburne)
 - AI: Steve Iskra (Swinburne)
 - AR: Ray McKenzie (Swinburne/AMTA)
 - Postdoc: Alireza Lajevardipour (Swinburne)
 - PhD student: Zoltan Vilagosh



Dosimetry studies will address several topics, including:

- SAR in RF workers in extreme conditions (including sweating and blood flow changes)
- Public exposure to wireless technologies (using miniature body-worn multi-band monitor)
- Modelling and measurement related to 5G

Key people involved:

- CI: Rodney Croft
- CI: Sarah Loughran
- CI: Peter Wiedemann (Risk Communication)
 - AI: Graeme Edwards (Senior Consulting Physician, Occupational and Environmental Medicine)
 - Postdoc: Frederik Freudenstein (University of Wollongong)
- **Psychosocial determinants of EHS symptoms**
Effects of 'inflammatory' media reports on causing EHS symptoms in healthy participants
- **Improving RF-health literacy within General Practitioners**
Investigating GP's knowledge about EHS and overcoming possible distortions



YOUNG SCIENTISTS

Supporting early career researchers:

- 8 PhD scholarships (4 funded by centre institutions)
- 6 postdoctoral positions
- Successful mentoring history with ACEBR students awarded in the past

TEACHING

MENTORING

TRAINING

ADVISORY BOARD



- Comprised of key Australian stakeholders



- Provides bi-directional benefit to Australian RF health
 - (1) Allows for ACEBR's research expertise and outcomes to be fed directly into key Australian policy making organisations
 - (2) Allows for the interests of the community represented by these stakeholders to influence the direction of ACEBR

CENTRE OUTCOMES



- High quality and high priority health-related research
- Transfer of research outcomes into health policy and/or practice
- Contribute to radiation protection standards
- Providing a platform via media, online presence and implementation by ideally positioned members in the RF domain
- Annual Science and Wireless Event