

BIOGRAPHICAL SKETCH

NAME		POSITION TITLE	
Wood, Andrew William		Professor, Department of Health Sciences and Biostatistics, Swinburne University of Technology, Melbourne, Australia	
EDUCATION/TRAINING			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
Bristol University, UK	B.Sc.(Hons)	1966	Physics
University of East Anglia, UK	M.Sc.	1967	Biophysics
University of London, UK	Ph.D.	1973	Biophysics

A. Positions.

Positions and Employment

1967 – 1972	Research Assistant, Dept. Medicine, King's College Hospital Medical School, University of London, UK
1972 – 1975	Research Fellow & Hon Lecturer, as above
1976 – 1978	Research Fellow, Depts. of Physiology and Science Education, Chelsea College, University of London, UK
1978 – 1984	Lecturer in Biophysics, Dept. of Physics, Swinburne Institute (now University) of Technology, Melbourne, Australia
1984 – 2002	Senior Lecturer, as above
2003 - 2006	Associate Professor, School of Biophysical Sciences and Electrical Engineering, Swinburne University of Technology, Vic, Australia
2007-	Professor, Faculty of Life & Social Science, Swinburne University of Technology, Vic, Australia (now Department of Health Sciences and Biostatistics)
2013 - 2106	Chair, Department of Health and Medical Sciences, School of Health Sciences, as above
2017 -	Professor and Chief Investigator (Part Time), Department of Health Sciences and Biostatistics, Swinburne University and Adjunct Professor, RMIT University, Vic, Australia

Other Experience and Professional Memberships

1983 -	Member, Institute of Physics, UK, (and formerly Member, Australian Institute of Physics and Fellow, Australasian College of Physical Scientists in Medicine)
1984 – 1991	Co-ordinator, Medical Biophysics, Swinburne University
1985	Visiting Scientist, Environmental Protection Agency, N Carolina, USA
1980 – 1997	Co-ordinator, Biomedical Instrumentation/Engineering Postgraduate programs, Swinburne University
1991	Scientific Consultant, Electricity Supply Association of Australia, Melbourne
1991 – 2002	Director, Swinburne Centre for Biomedical Instrumentation
2000	Visiting Scientist, Australian Radiation Protection and Nuclear Safety Agency, Melbourne
2001	Short-term Consultant, World Health Organisation, Malaysia
2003 – 2010	Research Director, Australian Centre for Radiofrequency Bioeffects Research (NHMRC)
2007 -	Associate Editor, Bioelectromagnetics
2009	Member, NHMRC Grant Review Panel 6E
2010 – 2012	Board Member, Bioelectromagnetics Society
2012	Co-convenor, 34 th Annual Meeting of the Bioelectromagnetics Society, Brisbane, June
2013 – 2015	Treasurer, Bioelectromagnetics Society
2013 – 2018	Chief Investigator, Australian Centre for Electromagnetic Bioeffects Research (NHMRC)
2013 -	Member, Scientific Expert Group, International Commission for Non-ionising Radiation Protection (ICNIRP)
2017- 2019	President, Bioelectromagnetics Society

Honours

1998

Telstra Fellowship

B. Books and Book Chapters

Wood AW and Loughran SP (2018). Behavioral and Cognitive Effects of Electromagnetic Field Exposure. In B Greenebaum and F Barnes (Eds): Biological and Medical Aspects of Electromagnetic Fields, 4th Edition CRC Press (ISBN 9781138735262).

Wood AW and Karipidis K (2017). Non-ionizing Radiation Protection: summary of research & policy options. JW Wiley, Hoboken NJ. (general editorship plus 9 individual chapters) (ISBN 978-0471446811)

Wood, AW (2012). Physiology, Biophysics and Biomedical Engineering. CRC Press/Taylor & Francis, Boca Raton, FL, USA/Oxford UK. (782 pp, general editorship plus 17 individual chapters). (ISBN 9781420065138). <http://www.crcpress.com/product/isbn/9781420065138>

Wood AW (2012): Bioelectromagnetism. In Z Abu-Faraj (Ed): Handbook of Research on Biomedical Engineering Education and Advanced Bioengineering Learning: Interdisciplinary Concepts (Two-Volume Set). IGI-Global, Hershey, PA, USA, pp 152-197 (ISBN 9781466601222)

Wood, A.W. (2006) Non ionising radiation. In Encyclopedia of Medical Devices and Instrumentation (John G Webster, Ed), 6 volume set, 2nd Edn (ISBN: 0-471-26358-3). J Wiley, Hoboken NY. 10pp
<http://www.mrw.interscience.wiley.com/emdi/articles/emd018/frame.html>
doi: 10.1002/0471732877.emd018. Also in Encyclopedia of Biomedical Engineering (Metin Akay, Ed). 6 volume set, (ISBN: 0-471-24967-X) J Wiley, Hoboken NY. 10pp (same article as that above)
<http://www.mrw.interscience.wiley.com/ebe/articles/ebs0847/frame.html>
DOI: 10.1002/9780471740360.ebs0847

C. Selected peer-reviewed publications (in reverse chronological order).

(Publications for last 10 years selected from ~ 100 peer-reviewed publications)

Wood, A., Karipidis, K. 2021. Radiofrequency Fields and Calcium Movements Into and Out of Cells. Radiat Res 195: 101-113. DOI: 10.1667/RADE-20-00101.1

Vilagosh, Z.; Lajevardipour, A.; Appadoo, D.; Ng, S.; Juodkazis, S.; Wood, A. 2020. Characterisation of Biological Materials at THz frequencies by Attenuated Total Reflection: Lard. Appl. Sci. 10(23), 8692; <https://doi.org/10.3390/app10238692>.

Wood, Andrew W. Opportunities and challenges in mHealth: A Swinburne perspective [online]. In: Australian Biomedical Engineering Conference 2019 (ABEC 2019): Technology & Research in Australian Medical Science. Melbourne: Engineers Australia, 2019: 81-84. ISBN: 9781925627435.

Vilagosh, Z., Lajevardipour, A. & Wood, A. Computer simulation study of the penetration of pulsed 30, 60 and 90 GHz radiation into the human ear. *Sci Rep* **10**, 1479 (2020). <https://doi.org/10.1038/s41598-020-58091-7>

Vilagosh Z, Lajevardipour A, Wood AW 2020. Computational absorption and reflection studies of normal human skin at 0.45 THz. *Biomed. Opt. Express* **11**: 417-431

Vilagosh, Z., Lajevardipour, A. & Wood, 2020. A. Computer simulation study of the penetration of pulsed 30, 60 and 90 GHz radiation into the human ear. *Sci Rep* **10**, 1479 <https://doi.org/10.1038/s41598-020-58091-7>

Elwood M, Wood AW 2019. Animal studies of exposures to radiofrequency fields. *N Z Med J.* 132:98-100.

Elwood M, Wood AW 2019. Health effects of radiofrequency electromagnetic energy. *NZ Med J* 132:64-72

- Vilagosh Z, Lajevardipour A, Wood AW. 2019. Computational simulations of the penetration of 0.30 THz radiation into the human ear. *Biomedical Optics Express* 10: 1462-1469
- Vilagosh Z, Lajevardipour A, Wood AW. 2019. Computational phantom study of frozen melanoma at 0.45 Terahertz. *Bioelectromagnetics* 40: 118-127
- Wood AW 2019. Post-normal science and the management of uncertainty in bioelectromagnetic controversies. *Bioelectromagnetics* 40: 201-206
- Vilagosh Z, Lajevardipour A, Wood A. 2019. An empirical formula for temperature adjustment of complex permittivity of human skin in the Terahertz frequencies. *Bioelectromagnetics* 40:74-79. DOI: 10.1002/bem.22156
- Moore SM, McIntosh RL, Iskra S, Lajevardipour A, Wood AW. 2017. Effect of adverse environmental conditions and protective clothing on temperature rise in a human body exposed to radiofrequency electromagnetic fields. *Bioelectromagnetics*. 38: 356-363. 10.1002/bem.22048
- Lajevardipour A, Wood AW, McIntosh RL, Iskra S. 2016. Estimation of dielectric values for tissue water in the Terahertz range. *Bioelectromagnetics*. 37: 563-567. doi: 10.1002/bem.22010
- Loughran SP, Al Hossain MS, Bentvelzen A, Elwood M, Finnie J, Horvat J, Iskra S, Ivanova EP, Manavis J, Mudiyansele CK and others. 2016. Bioelectromagnetics Research within an Australian Context: The Australian Centre for Electromagnetic Bioeffects Research (ACEBR). *International journal of environmental research and public health* 13:967. doi: 10.3390/ijerph13100967
- Wood AW, Lajevardipour A, McIntosh RL. 2016. Lessons and Perspectives from a 25-Year Bioelectromagnetics Research Program. *International journal of environmental research and public health* 13:950. doi: 10.3390/ijerph13100950
- Nguyen, T.H.P., Shamis, Y., Croft, R.J., Wood, A., McIntosh, R.L., Crawford, R.J., Ivanova, E.P. 2015. 18 GHz electromagnetic field induces permeability of Gram positive cocci. *Scientific Reports* 5:10980
- Kumar, G., McIntosh, R.L., Anderson, V., McKenzie, R.J., Wood, A.W. 2015. A genotoxic analysis on hematopoietic system after mobile phone type radiation exposure in rats. *Int J Radiat Biol* 91: 664-672.
- Moore, S.M., McIntosh, R.L., Iskra, S., Wood, A.W. 2015. Modeling the Effect of Adverse Environmental Conditions and Clothing on Temperature Rise in a Human Body Exposed to Radio Frequency Electromagnetic Fields. *IEEE Trans BME* 62: 627-637 DOI: 10.1109/TBME.2014.2362517
- Kurniawan, T., Wood, A.W., McIntosh, R.L. 2015. Simple Closed-Form Formulae to Estimate Near Fields in Living Tissue Layers due to Dipole Antenna Exposure. *IEEE Transactions on Dielectrics and Electrical Insulation*, 22: 619-625. DOI: 10.1109/TDEI.2014.004075
- Birmingham, J.F., Chen, Y.Y., McIntosh, R.L. Wood, A.W. 2014. A measurement and modeling study of temperature in living and fixed tissue during and after radiofrequency exposure. *Bioelectromagnetics* 35: 181-191.
- Vijayalaxmi, Reddy, A.B., McKenzie, R.J., McIntosh, R. L., Prihoda, T.J., Wood, A.W. 2013. Incidence of micronuclei in human peripheral blood lymphocytes exposed to modulated and unmodulated 2450 MHz radiofrequency fields. *Bioelectromagnetics* 34: 542-548.
- Kumar, G, Wood, A.W., Anderson, V., McIntosh, R.L., Chen, Y.Y., McKenzie, R.J. 2011. Evaluation of hematopoietic system effects after in vitro radiofrequency radiation exposure in rats. *Int J Radiat Biol* 87: 231-40.
- Kurniawan, T., Wood, A.W., McIntosh, R.L. 2010. Simplified analysis of near electromagnetic fields from a dipole in lossy dielectric. *IEEE Trans DEI* 17: 1943-49.

D. Research Support (last 10 years)

Research Director/Investigator with Centre for Research Excellence in Radiofrequency Electromagnetic Energy. **NHMRC APP1135076** \$2,499,672 for 5 years (Consortium involving Wollongong, Swinburne, RMIT, Institute for Medical and Veterinary Science, Adelaide & Victor Chang Institute, Sydney (2018 – 2022)). \$ 388,677 of this is for projects under my direct supervision.

Research Director/Investigator with Centre for Research Excellence in Radiofrequency Electromagnetic Energy. **NHMRC APP1042464** \$2,499,200 for 5 years (Consortium involving Wollongong, Swinburne, RMIT, Institute for Medical and Veterinary Science, Adelaide & Victor Chang Institute, Sydney (2012 – 2017)). \$ 448,763 of this is for projects under my direct supervision.

Wood, A., Ueno, S., Finnie, J. Thermal and possible non-thermal effects of radiofrequency radiation on brain tissue. **NHMRC # 559309** Strategic Reserve Fund. \$236,300 for 3 years (2009-2011)

E. Research Supervision

Postdoctoral Research Associates (last 10 years)

Alireza Lajevardipour - **NHMRC APP1135076** Dosimetry Theme (2018 – 2021)

Kasun Thotahewa, Alireza Lajevardipour – **NHMRC # APP1042464** Dosimetry project (2014 – 2017)

Arnulfo Diaz-Trujillo: Project – **NHMRC #559309** Thermal and possible non-thermal effects in brain tissue due to Radiofrequency exposure (2010 - 11)

Jacqueline Bermingham: Project – **NHMRC #559309** Thermal and possible non-thermal effects in brain tissue due to Radiofrequency exposure (2009 - 11)

PhD Student Completions (last 10 years)

Zoltan Vilagosh: *A Practical Computer Simulation Model for Absorption of Energy at Terahertz Frequencies by the Human Skin* (2020)

Alan Herschtal: *Optimising radiation therapy deliverance for cancer patient susing daily image guidance to maximize cure and reduce normal tissue side effects* (2015)

Gaurav Kumar: *Evaluation of the possible in vitro effects of mobile phone-type radiation on the hematopoietic system of rats* (2011).

Membership of Institutional Committees

Researcher member, Swinburne University Human Research Ethics Committee (since 2006, then previously: member of Faculty-based committee): Chair of Ethics sub-committee (resigned 2013).

Member: Swinburne Biosafety Committee (resigned 2013)

Consultancy Work – (Commissioned reports for several government and commercial clients over last 10 years)

12 February 2021