

Headline: To quote the citation of the 2006 Institute of Physics Paterson Medal, Leighton is “an acknowledged world leader in four fields”.

Summary: Professor Timothy Leighton FEng FRS (<http://tinyurl.com/zjvjkqg>) is the founder and Chair of the Network for AntiMicrobial Resistance and Infection Prevention (NAMRIP - <http://tinyurl.com/h5f8k9b>). He has pioneered fundamental research, and then taken it through to products, including biomedical devices, new sonar and radar, & industrial ultrasonic devices. He received 7 medals & 6 International Prizes from diverse bodies.

Born: 16-10-63

Work: Institute of Sound & Vib. Research, Uni. of Southampton, Highfield, Southampton SO17 1BJ UK.

Publications: <http://tinyurl.com/gnr5ep7> **Email:** tgl@soton.ac.uk **Telephone:** +44 23 80 592291.

Medals and awards:

Year	Award
2015	Royal Society commissioned article to celebrate 350 yrs since its first publications
2014	StarStream awarded ‘Best new product of the year’ by S-lab.
2014	Fellowship of the Royal Society
2014	Rayleigh Medal of the Institute of Acoustics
2014	The 2nd most downloaded paper of 2013 from Proc. Royal Society A: (doi 10.1098/rspa.2013.0512).
2014	Selected for inclusion in Who’s Who for 2014 onwards
2013	The Helmholtz-Rayleigh Interdisciplinary Silver Medal of the Acoustical Society of America
2012	The 2012 Institute of Chemical Engineering Award for “Water Management and Supply”
2012	Fellowship of the Royal Academy of Engineering
2011	The Brian Mercer Award for Innovation (The Royal Society)
2010	Awarded “Excellent Reviewers of 2010” by <i>IEEE Journal of Oceanic Engineering</i>
2009	Awarded “Excellent Reviewers of 2009” by <i>IEEE Journal of Oceanic Engineering</i>
2009	Finalist for National Business Impact Award, organised by Unico.
2009	R W B Stephens Medal of the Institute of Acoustics
2008	The ‘Medical & Healthcare’ award by ‘The Engineer’ (founded 1856)
2007	Finalist for NHS Innovations award for an ultrasonic medical device
2006	Paterson Medal and Prize of the Institute of Physics
2004	<i>Inaugural</i> Early Career Medal and Award of the International Commission of Acoustics
2002	Tyndall Medal of the Institute of Acoustics
2001	<i>Inaugural</i> International Medwin Prize awarded by Acoustical Society of America.
2000	Royal Society Leverhulme Trust Senior Research Fellowship
2000	Fellowship of the Institute of Physics
1999	Fellowship of the Institute of Acoustics
1998	Fellowship of the Acoustical Society of America
1994	AB Wood Medal of the Institute of Acoustics
1987	Kingsley Bye-Fellowship, Magdalene College, University of Cambridge
1986	Fellow, Cambridge Philosophical Society
1985	Leslie Wilson Scholarship, Magdalene College, University of Cambridge
1985	Hart Prize, Magdalene College, Cambridge University
1985	Bundi Scholarship, Magdalene College, Cambridge University
1984	Re-elected to College Scholarship (University of Cambridge)
1983	Magdalene College Scholarship (University of Cambridge)

Career

2015	Founder and Chair, NAMRIP & HEFUA	1999	Professor, Ultrasonics & Underwater Acoustics, Uni Soton
		1997	Reader, ISVR, Uni Soton
		1992	Lecturer, ISVR, Uni Soton
2009	Associate Dean (Research), Faculty of Engineering and the Environment	1991	Senior Research Fellow (Magdalene College, Cambridge Uni) & SERC Advanced Fellowship
2007	Deputy Head of ISVR	1988	Research Fellow (Cambridge Uni) & SERC Postdoctoral Fellowship

Education

Years	University	Degree
85-88	Cambridge	PhD
82-85	Cambridge	BA Hons (Natural Sciences): Double First Class Honours in Physics & Theoretical Physics (highest mark of the year for experimental project)

Mentoring: supervised 25 PhD's to completion (*Average duration: ~ 3½ years*); Lectured undergrad and MSc since 1992 (example lecture at <http://tinyurl.com/ot5pffk>); devised and ran ECR training for 5 years.

Patents granted since 2015 (all 3 claim priority from GB 0914836.2 and PCT/EP2010/062448. From UK Patent Application No. 0914836.2 Uni. Southampton 2009, filed 26 August 2009, published 26 August 2010; filed on 24 February 2012 with an allocated filing date on 26 August 2010)

Leighton, T.G., Birkin, P.R. and Vian, C. (2016) Cleaning Apparatus and Method, and Monitoring Thereof. Chinese Patent Number 2565705 from Application Number RU 2012111316 Uni. Southampton.

Leighton, T.G., Birkin, P.R. and Vian, C. (2016) Cleaning Apparatus and Method, and Monitoring Thereof. European Patent Number EP 2470310 from Application No. 10748081.6 Ultrasonic wave device. University Of Southampton (granted on 06/01/2016) Published 04 July 2012 under 2470310.

Leighton, T.G., Birkin, P.R. and Vian, C. (2016) Cleaning Apparatus and Method, and Monitoring Thereof. Russian Patent Number 2565705 from Application CN 201080045751.5 Uni. Southampton.

Publications since 2015 (a full list of ~400 publications is available at <http://tinyurl.com/gnr5ep7>)

Goodes, L.R., Harvey, T.J., Symonds, N. and Leighton, T. G. (2016) A comparison of ultrasonically activated water stream and ultrasonic bath immersion cleaning of railhead leaf-film contaminant. *Surf. Topogr.: Metrol. Prop.* (in press).

Ainslie, M.A and Leighton T.G. (2016) Sonar equations for planetary exploration. *J.Ac. Soc. Am.* (in press).

Leighton T.G., Banda, N., Berges, B., Joseph P.F. and White, P.R. (2016) Extraterrestrial sound for planetaria: a pedagogical study. *J. Acoust. Soc. Am.* (in press).

Mantouka A., Dogan, H., White P.R. and Leighton T.G. (2016) Modelling acoustic scattering, sound speed, and attenuation in gassy soft marine sediments *J. Acoust. Soc. Am.*, **140**(1), 274-282.

Leighton, T. G. (2016) Are some people suffering as a result of increasing mass exposure of the public to ultrasound in air? *Proc. Roy. Soc. A*, **472**(2185), 20150624 (57 pages).

Solan, M., Hauton, C., Godbold, J.A., Wood, C., Leighton, T.G. and White, P. (2016) Anthropogenic sources of underwater sound can modify how sediment-dwelling invertebrates mediate ecosystems properties. *Scientific Reports (Nature Publishing Group)*, **6**, 20540 (doi:10.1038/srep20540).

Birkin P.R., Offin D.G. and Leighton T.G. (2016) An activated fluid stream - new techniques for cold water cleaning. *Ultrasonics Sonochemistry* **29**, 612-618 [doi:10.1016/j.ultsonch.2015.10.001].

Birkin, P.R., Offin, D.G., Vian, C.J.B. and Leighton, T.G. (2015) Electrochemical "bubble swarm" enhancement of ultrasonic surface cleaning. *Physical Chemistry Chemical Physics*, **17**(33), 21709-21715. (doi:10.1039/c5cp02933c).

Birkin P.R., Offin D.G., Vian C.J.B., Howlin R.P., Dawson J.I., Secker T.J., Herve R.C., Stoodley P., Oreffo R.O.C., Keevil C.W. and Leighton T.G. (2015) Cold water cleaning of brain proteins, biofilm and bone - harnessing an ultrasonically activated stream. *Phys. Chem. Chem. Phys.*, **17**, 20574-20579.

Howlin R.P., Fabbri S., Offin D.G., Symonds N., Kiang K.S., Knee R.J., Yoganantham D.C., Webb J.S., Birkin P.R., Leighton T.G. and Stoodley P. (2015) Removal of dental biofilms with a novel ultrasonically-activated water stream. *Journal of Dental Research*, **94**(9), 1303-1309.

Berges, B. J. P., Leighton, T. G. and White, P. R. (2015) Passive acoustic quantification of gas fluxes during controlled gas release experiments. *International Journal of Greenhouse Gas Control*, **38**, 64-79.

Public service includes: • Founding Chairman, Network on Antimicrobial Resistance and Infection Prevention (NAMRA; <http://tinyurl.com/h5f8k9b>); • Founding Chairman, UK Health Effects of Airborne Ultrasound (HEFUA, <http://tinyurl.com/zrud6nw>); • Government of the United Kingdom's Working Group of the Advisory Committee on Dangerous Pathogens Transmissible Spongiform Encephalopathies Sub Group; • Scientific Expert Group of the International Commission on Non-Ionizing Radiation Protection; • Defence Scientific Advisory Council (DSAC), Ministry of Defence (MoD); • World Federation of Ultrasound in Medicine and Biology Safety Work Group; • Ministry of Defence Brains Trust, under MoD Science and Technology Rapid Assistance to Operations (STRATOS) programme; • Maritime Mine Countermeasures Workgroup, DSAC, MoD; • Scoping Group on Ultrasound and Infrasound Safety, Health Protection Agency; • Work Group 22 of Accredited Standards Committee S1 of Acoustical Society of America; • Member of the Royal Society's Wolfson Research Merit Awards Selection committee; • Member of the Royal Society's Newton Advanced Fellowship assessment panel; • Member, Panels 1 and 6 of Royal Academy of Engineering Membership Committees.