

A highly motivated and efficient PhD, I have developed the ability to adapt to changing environments, including placements abroad at some of the world's finest universities. I have demonstrated a high level of independence, high quality of experimental research, a mind for leadership and exceptional communication skills.

EXPERIENCE

02.2015 – current	UNIVERSITY OF CALIFORNIA – BERKELEY, Postdoctoral Fellow (government grant from Luxembourg), BERKELEY ENERGY AND CLIMATE INSTITUTE (BECI) <ul style="list-style-type: none"> • Researching degradation of piezoelectric materials under vibration, wireless energy transfer, motion energy harvesting
03.2014 – 01.2015	UNIVERSITY OF CALIFORNIA – BERKELEY, Postdoctoral Researcher, ADVANCED MANUFACTURING FOR ENERGY (AME) <ul style="list-style-type: none"> • Researched gas pipeline and coal mine safety sensing systems • Co-supervised undergraduate (3) and graduate students (2) • Coordinated research grant proposals (National Science Foundation, postdoctoral grants and others)
01.2014 – 02.2010	IMPERIAL COLLEGE LONDON, EPSRC Doctoral Prize Fellow in Electrical Engineering <ul style="list-style-type: none"> • Researched energy harvesting, piezoelectric materials
07.2010	CERATIZIT S.A., Industrial Internship in Cutting Tool Manufacturing
07.2009 – 10.2009	AUDI AG INGOLSTADT, Industrial Internship in the Car Body Parts Manufacturing Division <ul style="list-style-type: none"> • Developed and patented an FEM simulation-based quality criterion for sheet metal forming • Co-led a training course on forming simulation methods
11.2006 – 05.2009	ETH ZURICH, various teaching and organisational positions <ul style="list-style-type: none"> • Assistant at the Institute for Robotics and Intelligent Systems, the Institute for Machine Tools and Manufacturing and the "Informatik-Support-Group" of the Dep. of Agricultural Sciences • Taught technical drawing and led students through an innovation project by introducing them to product development • Marked presentations and written exams • Programmed and installed an industrial KUKA robot • Provided IT support along with database organisation and maintenance
08.2005 – 09.2005	CFL, machine shop Intern at the Luxembourgish Railway Company

EDUCATION

01.2011 – 10.2013	IMPERIAL COLLEGE LONDON, PhD in Electrical Engineering on Energy Generation From Human Motion for Medical Devices <ul style="list-style-type: none"> • Selected attendee at the International Research Skills Development Course (07. – 08.2011, UNIVERSITY OF HONG KONG) • Self-initiated collaborative study exchange at the UNIVERSITY OF CALIFORNIA, BERKELEY (10. – 12.2012) • External consultant for a major UK based broadcasting network through Imperial Consultants (01. – 02.2013)
09.2008 – 06.2010	ETH ZURICH, MSc in Mechanical Engineering (with distinction) <ul style="list-style-type: none"> • First to organise a six month exchange program at KYOTO UNIVERSITY for joint MSc thesis; program still in operation
10.2005 – 08.2008	ETH ZURICH, BSc in Mechanical Engineering
09.1998 – 07.2005	LYCÉE MICHEL-RODANGE, Secondary School (best in class)

SKILLS

- Native Luxembourgish speaker; fluent in German, French, English; basic knowledge in Spanish; others include Japanese, Latin, Nepalese, Mandarin, Swiss-German
- Software skills include CAD / CAM Unigraphics NX, SolidWorks, FEM Ansys, Matlab, C++, AutoForm, LS-Dyna, Comsol, Infolytica MagNet, LaTeX, UNIX

FURTHER ACTIVITIES, INTERESTS AND ACHIEVEMENTS

- Consulting and designs for improved bicycle/rider fit and frame geometry for Swift Cycles, London, UK
- Volunteer Engineer at WindAid, Peru; crossed the Andean Cordillera Blanca mountain range solo by bicycle and built and installed a wind power generator in a rural community without access to electricity, 11.2013-12.2013
- Treasurer of Imperial College Triathlon Club (TriIC), 2011 – 2012; Multiple IronMan, Half IronMan, marathon and triathlon finisher; represented Luxembourg at ITU Age Group World Championships in Olympic Distance Triathlon 2013 in London, 2nd in 25-29 Age Group Santa Cruz Triathlon 2014, 2nd in 25-29 Age Group Surf City Triathlon 2014
- Volunteer English Teacher in Nepal; organised and coordinated three week Himalayan mountain trekking tour for a group of eight people, 08.2010 – 12.2010
- Trained Youth Camp Leader for the National Youth Service, 2001 – 2006; board member of "Groupe Animateur" (association of youth camp leaders) in Luxembourg, 2004 – 2005
- Building bicycles, cycling, running, swimming, triathlon, photography, R/C aeroplanes, cooking, travelling

RESEARCH OUTCOME

AWARDS, GRANTS AND OTHER

- 12.2014 Awarded the Aides à la Formation Recherche (**AFR**) **postdoc grant** (2 years)
(Degradation of Piezoelectric Materials for Energy Harvesting Applications)
- 10.2014 **IET Travel Award** for conference attendance
- 03.2014 **"Award for Outstanding Oral Presentation"** at the Bay Area Postdoc
Research Symposium in San Francisco
- 01.2014 **Regional finalist** in the FameLab UK **public engagement** competition
- 01.2014 **Short-listed** for the Imperial College **Junior Research Fellowship**
- 10.2013 Awarded the **EPSRC Doctoral Prize Fellowship** providing one year of
funding for independent research (resigned to take up offer from UC, Berkeley)
- 04.2013 Awarded funding and represented Imperial College at the **LERU doctoral
summer school** on leadership skills development for academia
- 04.2013 **IET Travel Award** for conference attendance
- 11.2012 **Finalist** in the **EPSRC ICT UK** Pioneers competition
- 10.2012 **IET Travel Award** for conference attendance
- 08.2012 Featured as one of the inaugural projects on technology transfer site
marblar.com
- 05.2012 **Short-listed** for the IET Postgraduate **Ambition Awards**
- 11.2011 Interview in the *Zoom 1200mm* future students magazine in Luxembourg about
the research experience at Imperial College London
- 11.2011 National Research Fund Luxembourg: **travel grant** for conference attendance
- 11.2011 **Best Poster Paper Award** at PowerMEMS 2011 conference, Seoul, KR
- 08.2011 **"Best collaborative project idea and presentation"** at International
Research Skills Development Course at the University of Hong Kong
- 2009-2010 Dr. Johannes Heidenhain GmbH (Germany) **scholarship** to fund six months
master thesis at Kyoto University

STUDENT SUPERVISION / TUTORING

- 06.2015 – present Brian Lee Xiao, Undergraduate student (Piezoelectric Degradation)
- 09.2014 – present Zhiwei Wu, PhD student (Vibrational Energy Harvesting)
- 03.2014 – present Christine Gregg, PhD student (Vibrational Energy Harvesting)
- 05.2014 – present Jusuf Merukh, Undergraduate student (NIOSH, Coal Mine Safety)
- 05.2014 – present Nathan Shashoua, Undergraduate Student (Piezoelectric Degradation,
CAARS stipend, \$4000)
- 05.2014 – 09.2014 Viswanath Chatterjee, Undergraduate Student (Battery Balancing,
QUEST funding, \$4000)

JOURNALS

- **P. Pillatsch**, E. M. Yeatman, A. S. Holmes, and P.K. Wright, "Wireless Power Transfer System For A Human Motion Energy Harvester," submitted to *Sensors and Actuators A – Physical*, 08/2015
- **P. Pillatsch**, E. M. Yeatman, and A. S. Holmes, "Magnetic Plucking Of Piezoelectric Beams For Frequency Up-Converting Energy Harvesters," *Smart Mat. and Struct.*, 01/2014
- **P. Pillatsch**, E. M. Yeatman, and A. S. Holmes, "A Piezoelectric Frequency Up-Converting Energy Harvester With Rotating Proof Mass For Human Body Applications," *Sensors and Actuators A – Physical*, 10/2013
- L. M. Miller, **P. Pillatsch**, E. Halvorsen, P. K. Wright, E. M. Yeatman, and A. S. Holmes, "Experimental passive self-tuning behavior of a beam resonator with sliding proof mass," *J. of Sound and Vibration*, 09/2013
- **P. Pillatsch**, E. M. Yeatman, and A. S. Holmes, "A Scalable Piezoelectric Impulse-Excited Energy Harvester For Human Body Excitation," *Smart Mat. and Struct.*, 11/2012 (**featured on the "Most Cited Articles of 2012" list**)

PATENTS

- **P. Pillatsch**, E. M. Yeatman, and A. S. Holmes, "Power Generation Device," UK application 1207987.7, filed 04/05/2012
- C. Annen, B. Oberpriller, **P. Pillatsch** and M. Wahl, "Verfahren zur Einrichtung eines Blechumformprozesses als Tiefziehprozess zur Herstellung von Tiefziehteilen, insbesondere von Karosseriebauteilen," Patentanmeldung: 102010027440.2, 2010

GRANT REPORTS

- D.-S. Nguyen, **P. Pillatsch**, S. Wihera, P. Wright, R.M. White, J. Evans, I. Paprotny, T. Peffer, G. Yee, "Low-cost Sensors for Natural Gas Pipeline Monitoring and Inspection," *California Energy Commission: CEC-500-2014-XXX*, 2014

CONFERENCE PAPERS

- D.-S. Nguyen, Y. Zhu, **P. Pillatsch**, I. Paprotny, P. Wright, and R.M. White, "MEMS-based Capacitive Pressure Sensors with Pre-stressed Sensing," in *IEEE Sensors*, 2015
- D.-S. Nguyen, **P. Pillatsch**, I. Paprotny, P. Wright, and R.M. White, "MEMS Flow Sensors with Silicon-Carbide Erosion Resistant Coating," in *IEEE Sensors*, 2015
- O. Mahdavi-pour, T. Mueller-Sim, D. Fahimi, S. Croshere, **P. Pillatsch**, J. Merukh, P. Solomon, P. Wright, R.M. White, L. Gundel, and I. Paprotny, "Distributed Sensors for Automated Control of Total Incombustible Content (TIC) of Dust Deposited in Underground Coal Mines," in *IEEE Sensors*, 2015
- **P. Pillatsch**, P. K. Wright, E.M. Yeatman, and A.S. Holmes, "A Wireless Charging Mechanism For A Rotational Human Motion Energy Harvester," in *Body Sensor Networks*, 2015
- C. Gregg, **P. Pillatsch**, and P. K. Wright, "Passively Self-Tuning Piezoelectric Energy Harvesting System," in *PowerMEMS*, 2014
- **P. Pillatsch**, N. Shashoua, A. S. Holmes, E. M. Yeatman, and P. K. Wright, "Degradation of Piezoelectric Materials for Energy Harvesting Applications," in *PowerMEMS*, 2014
- **P. Pillatsch**, "Wireless Energy Transfer Through Magnetic Reluctance Coupling," in *PowerMEMS*, 2014
- **P. Pillatsch**, E. M. Yeatman, and A. S. Holmes, "Experimental Validation of a Piezoelectric Frequency Up-Converting Rotational Harvester," in *Body Sensor Networks*, 2014
- **P. Pillatsch**, E. M. Yeatman, and A. S. Holmes, "Real World Testing Of A Piezoelectric Rotational Energy Harvester For Human Motion," in *PowerMEMS*, 2013
- **P. Pillatsch**, L.M. Miller, E. Halvorsen, P. K. Wright, E. M. Yeatman and A. S. Holmes "Self-tuning behavior of a clamped-clamped beam with sliding proof mass for broadband energy harvesting," in *PowerMEMS*, 2013
- **P. Pillatsch**, E. M. Yeatman, and A. S. Holmes, "A Model For Magnetic Beam Plucking Of Piezoelectric Beams In Energy Harvesters," in *Transducers*, 2013
- **P. Pillatsch**, E. M. Yeatman, and A. S. Holmes, "A Wearable Piezoelectric Rotational Energy Harvester," in *Body Sensor Networks*, 2013
- **P. Pillatsch**, E. M. Yeatman, and A. S. Holmes, "Magnetic Beam Plucking In A Piezoelectric Energy Harvester With Rotating Proof Mass," in *PowerMEMS*, 2012
- **P. Pillatsch**, E. M. Yeatman, and A. S. Holmes, "Piezoelectric Rotational Energy Harvester For Body Sensors Using An Oscillating Mass," in *Body Sensor Networks*, 2012
- **P. Pillatsch**, E. M. Yeatman, and A. S. Holmes, "A Scalable Piezoelectric Impulse-Excited Generator For Random Low Frequency Excitation," in *IEEE MEMS*, 2012, pp. 1205-1208.
- **P. Pillatsch**, E. M. Yeatman, and A. S. Holmes, "Piezoelectric Impulse-Excited Generator For Low Frequency Non-Harmonic Vibrations," in *PowerMEMS*, 2011, pp. 245-248.
- C. Annen, **P. Pillatsch**, P. Hora, "Metamodelling based Planning and Control of Sheet Metal Forming Processes," in *IDDRG Conference Proceedings*, 2010

OTHER CONTRIBUTIONS

- **P. Pillatsch**, P. K. Wright, E.M. Yeatman, and A.S. Holmes, "A Wireless Charging Mechanism For A Rotational Human Motion Energy Harvester," in *Transducers*, 2015 (poster)
- Berkeley Sensor and Actuator Center, Research Review, March 2015 (2 Posters)
- BECI / i⁴Energy Symposium on Enabling Technologies for the Next Generation of the Intelligent Energy Infrastructure, November 2014 (Invited Talk)
- Berkeley Sensor and Actuator Center, Research Review September 2014 (1 Invited talk and 1 Poster)
- Bay Area Postdoc Research Symposium, March 2014 (Oral Presentation)
- Berkeley Sensor and Actuator Center, Research Review, February 2014 (Poster)
- Energy Harvesting Network – Annual One Day Dissemination Event, March 2013 (Poster)
- Imperial College Graduate School Summer Research Symposium, July 2012 (Poster)
- Energy Harvesting Network – Annual One Day Dissemination Event, March 2012 (Poster)

REVIEWING TASKS

- DATE 2016 conference Technical Programme Committee member
- Applied Physics Letters
- SAGE Journal of Intelligent Material Systems and Structures
- Elsevier Sensors and Actuators A: Physical
- Elsevier Journal of Sound and Vibration
- IEEE Journal of Microelectromechanical Systems
- PowerMEMS Conference (2012, 2013)
- Transducers Conference (2013)