

## PUBLICATIONS

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| THESES                 | <p><u>J. Garrett</u>, “A 230 GHz Focal Plane Array Using a Wide IF Bandwidth SIS Receiver,” DPhil thesis, University of Oxford, Oxford, UK, 2018.</p> <p><u>J. Garrett</u>, “Average Dielectric Property Analysis of Non-Uniform Structures: Tissue Phantom Development, Ultra-Wideband Transmission Measurements, and Signal Processing Techniques,” MSc thesis, University of Calgary, Calgary, Canada, 2014.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| JOURNAL PAPERS         | <p>I. Cortzen, <u>J. Garrett</u>, <i>et al.</i>, “Mid-IR Spectroscopy as a Tracer of the Molecular Gas in Star Forming Galaxies,” submitted to <i>Monthly Notices of the Royal Astronomical Society</i>.</p> <p><u>J. Garrett</u>, and E. Fear, “A New Breast Phantom with a Durable Skin Layer for Microwave Breast Imaging,” <i>IEEE Transactions on Antennas and Propagation</i>, vol. 63, no. 4, pp. 1693–1700, Jan. 2015.</p> <p><u>J. Garrett</u>, and E. Fear, “Average Dielectric Property Analysis of Complex Breast Tissue with Microwave Transmission Measurements,” <i>Sensors (MDPI)</i>, vol. 15, no. 1, pp. 1199–1216, Jan. 2015.</p> <p><u>J. Garrett</u>, and E. Fear, “Stable and Flexible Materials to Mimic the Dielectric Properties of Human Soft Tissues,” <i>IEEE Antennas and Wireless Propagation Letters</i>, vol. 13, pp. 599–602, Mar. 2014.</p> <p>J. Bourqui, <u>J. Garrett</u>, and E. Fear, “Measurement and Analysis of Microwave Frequency Signals Transmitted Through the Breast,” <i>International Journal of Biomedical Imaging</i>, vol. 2012, Article ID 562563, 11 pages, 2012.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| CONFERENCE PROCEEDINGS | <p><u>J. Garrett</u>, J. Leech, B. Ellison, and G. Yassin, “A <math>1 \times 4</math> Focal Plane Array Using 230 GHz SIS Mixers,” in <i>The 29<sup>th</sup> International Symposium on Space Terahertz Technology (ISSTT)</i>, Los Angeles, CA, Mar. 2018.</p> <p><u>J. Garrett</u>, H. Rashid, V. Desmaris, V. Belitsky, and G. Yassin, “Spectral Domain Simulation of SIS Frequency Multiplication,” in <i>The 28<sup>th</sup> International Symposium on Space Terahertz Technology (ISSTT)</i>, Cologne, Germany, Mar. 2017.</p> <p><u>J. Garrett</u>, F. Boussaha, C. Chaumont, B.K. Tan, and G. Yassin, “A 230 GHz Finline SIS Receiver with Wide IF Bandwidth,” in <i>The 27<sup>th</sup> International Symposium on Space Terahertz Technology (ISSTT)</i>, Nanjing, China, Apr. 2016.</p> <p><u>J. Garrett</u>, B.K. Tan, F. Boussaha, C. Chaumont, and G. Yassin, “A 220 GHz Finline Mixer with Ultra-Wide Instantaneous Bandwidth,” in <i>The 26<sup>th</sup> International Symposium on Space Terahertz Technology (ISSTT)</i>, Cambridge, MA, Mar. 2015.</p> <p>J. Leech, G. Yassin, B.K. Tan, Y. Zhou, <u>J. Garrett</u>, and P. Grimes, “An SIS Mixer Based Focal-Plane Array at 230 GHz,” in <i>The 26<sup>th</sup> International Symposium on Space Terahertz Technology (ISSTT)</i>, Cambridge, MA, Mar. 2015.</p> <p><u>J. Garrett</u>, and E. Fear, “Average Property Estimation Validation with Realistic Breast Models,” in <i>The 8<sup>th</sup> European Conference on Antennas and Propagation (EuCAP)</i>, The Hague, Netherlands, Apr. 2014, pp. 1279–1280.</p> <p><u>J. Garrett</u>, and E. Fear, “A Time- and Temperature-Stable Complex Breast Phantom for Microwave Breast Imaging,” in <i>The 2013 USNC-URSI Radio Science Meeting (Joint with IEEE AP-S Symposium)</i>, Lake Buena Vista, FL, Jul. 2013, pp. 32.</p> |

J. Garrett, J. Bourqui, and E. Fear, "Average Property Estimation of Breast Tissue: the Use of Time-Gating and Antenna Compensation Techniques," presented at *The 2012 IEEE Antennas and Propagation Symposium*, Chicago, IL, Jul. 2012.

J. Bancroft, G. Lachapelle, T. Williams, and J. Garrett, "GPS Observability and Availability for Various Antenna Locations on the Human Body," in *Proceedings of the 23<sup>rd</sup> International Technical Meeting of the Satellite Division of the Institute of Navigation (ION GNSS 2010)*, Portland, OR, 2010, pp. 2941-2951.

OTHER  
PRESENTATIONS

J. Garrett, B.K. Tan, F. Boussaha, C. Chaumont, and G. Yassin, "Preliminary Measurements of a 220 GHz Finline Mixer with Ultra-Wide Instantaneous Bandwidth," presented at the *National Astronomy Meeting 2015 (Royal Astronomical Society)*, Llandudno, Wales, Jul. 2015.

J. Garrett, and E. Fear, "Improving Microwave Imaging of the Breast with Average Tissue Property Estimates," presented at *The Alberta Advanced Imaging Seminar Series*, Calgary, Canada, Oct. 2012.