

Curriculum Vitae

Hjalte H. Sigmarsson

Gerald Tuma Presidential Professor

The University of Oklahoma
School of Electrical and Computer Engineering
Advanced Radar Research Center

Phone: (405) 325-2971
Email: h.sigmarsson@ou.edu

Education

Purdue University

Ph.D. in Electrical and Computer Engineering May 2010

Purdue University

Master of Science in Electrical and Computer Engineering August 2005

University of Iceland

Bachelor of Science in Electrical and Computer Engineering May 2003

Professional experience

July 2018 – present:

Associate Professor, School of Electrical and Computer Engineering, University of Oklahoma. Current research interests include: Reconfigurable RF and microwave hardware for agile communications, measurement, and radar systems; spectral management schemes for cognitive radio architectures, rapid prototyping and 3D printing of multi-material components and devices; integration of synthetic aperture radar hardware on unmanned aerial systems, and advanced packaging using heterogeneous integration.

Teaching assignments include: ECE3613 Electromagnetic Field Theory, ECE3723 Electrical Circuits II, and ECE4733/5733 RF & Microwave Filter Design.

January 2012 – June 2018:

Assistant Professor, School of Electrical and Computer Engineering, University of Oklahoma.

May 2010 – December 2011:

Post Doctoral Research Associate, IDEAS Microwave Laboratory, Purdue University.

Tunable filter array design and fabrication for reconfigurable radios on the Adaptive Interference-Tolerant Receivers (AITR) program in collaboration with BAE Systems funded by Office of Naval Research (ONR). Advancing the state of the art tunable filter technology on the Purdue Microwave Reconfigurable Evanescent-Mode Cavity Filters Study sponsored by DARPA. Additional responsibilities: In charge of the microwave laboratory safety and maintenance.

Spring 2005 – May 2010:

Graduate Research Assistant, IDEAS Microwave Laboratory, Purdue University. My main focus was design, fabrication, and measurements of widely tunable filters as a lead graduate student on the DARPA Analog Spectral Processors (ASP) program. Prior to the ASP project I worked on filter and antenna design, fabrication, and system integration for the DARPA Technology for Efficient, Agile Mixed-signal Microsystems (TEAM) program.

Fall 2004:

Graduate Teaching Assistant, Purdue University, ENGR 106 Engineering Problem Solving and Computer Tools.

Spring 2003:

Teaching Assistant, University of Iceland, Reykjavik, Iceland, Electronics 1.

Fall 2002 - Spring 2003:

Substitute Teacher, Commercial College of Iceland, Reykjavik, Iceland.

Summer 2002 & Summer 2003:

Electrical Engineer Intern, National Power Company of Iceland, Reykjavik, Iceland.

Summer 2001:

Technical Advisor on DVB Technology, The Icelandic Media Corporation, Reykjavik, Iceland.

Professional memberships

Institute of Electrical and Electronics Engineers (IEEE), IEEE Microwave Theory and Techniques Society (MTT-S), IEEE Antennas and Propagation Society (AP-S), IEEE Electronics Packaging Society (EPS), European Microwave Association (EuMA), International Microelectronics and Packaging Society (IMAPS), and Eta Kappa Nu (HKN).

Service activities

Session chair of the Reconfigurable Filters with Transfer Function and Stopband Reconfiguration Capability session at IEEE International Microwave Symposium (IMS) 2019.

2019 IEEE Wireless and Microwave Technology Conference (WAMICON) General Chair.

Session chair of the Passive Devices 2 session at IEEE WAMICON 2019.

IEEE Microwave and Wireless Component Letters (MWCL) Associate Editor, 2018-present.

Chair of the Technical Program Committee for IEEE WAMICON 2018.

Session chair of the Passive Devices session at IEEE WAMICON 2018.

Co-chair of the Technical Program Committee for IEEE WAMICON 2017.

Session chair of the Passive Devices 1, Passive Devices 2, and Reconfigurable Components and Devices sessions at IEEE WAMICON 2017.

Session chair of the Passives session at the 2017 IEEE SiRF - Topical Meeting on Silicon Monolithic Integrated Circuits in RF Systems.

Technical Program Committee member for EuMA European Microwave Week (EuMW) 2016.

Session chair of the EM and Radar System Modeling session at the 2016 EuMA European Radar Conference (EuRAD).

Session chair of the Passive Components session at the 2016 EuMA European Microwave Conference (EuMC).

Serve on the technical program committee for IEEE Radio Wireless Week (RWW), 2016-present.

Session chair of the Passives session at the 2016 IEEE SiRF.

Chair and organizer of the Advances in Tunable Filter Theory and Technology session at the USNC-URSI National Radio Science Meeting in Boulder Colorado in January 2013.

Journal/Magazine/Conference Reviewer for:

IEEE Trans. on Microw. Theory and Techniques (TMTT), *IEEE Trans. on Circuits and Systems (TCAS)*, *IEEE Microw. and Wireless Component Letters (MWCL)*, *IEEE Antennas and Propagations Wireless Letters (APWL)*, *IEEE Microwave Magazine*, *IEEE Vehicular Tech. Conf. (VTC)*, *IEEE RWW*, *IEEE SiRF*, *EuMA EuMC and EuRAD*, *Journal of Electromagnetic Waves and Applications (JEMWA)*, *Journal of Microelectronics and Electronic Packaging (JMEP)*, *International Microw. and RF Conf. (IMaRC)*.

Graduate Studies Committee, Electrical and Computer Engineering, OU.

Chair of Facilities and Equipment Committee, Advanced Radar Research Center, OU.

Radar Innovations Laboratory Building Committee 2012-2013, OU.
Organizer for the Distinguished Radar Lecturer Series 2012-2017, OU.
Faculty advisor for the ECE Graduate Student Society (ECEGSS), OU.
Advisor for the Honors Engineering Research Experience (HERE) Program, OU.
Advisor for the Freshman Year Research Experience (FYRE) Program, OU.
Green Zone Faculty, OU.
IEEE International Microwave Symposium Connect-Faculty Panel.

Awards

Recognition for outstanding technical contribution to Phase I of the DARPA Analog Spectral Processors (ASP) program (2008).
Best poster presentation at the RF Alliance in Indiana, May 2008.
Best paper of the IMAPS 2008.
Best paper of the Microwave and RF Applications session at the IMAPS 2008.
Outstanding student paper of the IMAPS 2009.
Best paper of the Microwave and RF Applications session at the IMAPS 2009.
Best poster presentation at the RF Alliance Conference at Purdue University, April 2010.
Air Force Office of Scientific Research Young Investigator Program (YIP) award in 2015.
Recipient of the Gerald Tuma Presidential Professorship in 2018 for meeting the highest standards of excellence in scholarship and teaching.

Sigmarsson research group awards

C. Justin Smith was awarded the IEEE Microwave Theory and Techniques Society (MTT-S) undergraduate scholarship in 2013.
C. Justin Smith was selected to receive the Science, Mathematics And Research for Transformation (SMART) fellowship for the duration of his master's degree, June 2014.
S. Saeedi received the Best Poster Presentation Award at the Graduate Student Research Performance Day 2015.
S. Saeedi received the second place award in the student paper competition at the IEEE Radio Wireless Week in 2016.
J. McDaniel received the Best Poster Presentation Award at the Graduate Student Research Performance Day 2017.
S. McClung received the third place award in the student paper competition at the 2017 IEEE Wireless and Microwave Technology Conference (WAMICON 2017).
E. Arroyo-Diaz received the third place award in the student paper competition at the 2019 IEEE Texas Symposium on Wireless and Microwave Circuits and Systems.
E. Arroyo-Diaz received the first place award in the student paper competition at the 2019 IEEE WAMICON.
A. Pham won a Honors College Award for Distinction in Undergraduate Research for his presentation at Undergraduate Research Day at the University of Oklahoma in 2019.
A. Pham received an honorary mention in the Three Minute Thesis Competition at the 2019 IEEE International Microwave Symposium.
A. Pham was awarded the IEEE Microwave Theory and Techniques Society (MTT-S) undergraduate scholarship in 2019.

Publications

Journal papers

- [1] E. Kinzel, **H. H. Sigmarsson**, X. Xu, and W. J. Chappell, "Laser sintering of thick-film conductors for microelectronic applications," *J. Appl. Phys.* 101, no. 6, 063106-063106-9 (2007).
- [2] T. Choi, H. Sharifi, **H. H. Sigmarsson**, W. J. Chappell, S. Mohammadi, and L. P. B. Katehi, "3-D integration of 10-GHz filter and CMOS receiver front-end," *IEEE Transactions on Microwave Theory and Techniques*, vol. 55, no. 11, pp. 2298-2305, Nov. 2007.
- [3] S. Moon, **H. H. Sigmarsson**, Y. Huang, T. Brummer, S. K. Khanna, and W. J. Chappell, "Magnetically aligned anisotropic conductive adhesive for microwave applications," *IEEE Transactions on Microwave Theory and Techniques*, vol. 56, no. 12, pp. 2942-2949, Dec. 2008.
- [4] H. Joshi, **H. H. Sigmarsson**, S. Moon, D. Peroulis, and W. J. Chappell, "High Q fully reconfigurable tunable bandpass filters," *IEEE Transactions on Microwave Theory and Techniques*, vol. 57, no. 12, pp. 3525-3533, Dec. 2009.
- [5] S. Moon, **H. H. Sigmarsson**, H. Joshi, and W. J. Chappell, "Substrate integrated evanescent-mode cavity filter with a 3.5 to 1 tuning ratio," *IEEE Microwave and Wireless Components Letters*, vol. 20, no. 8, pp. 450-452, Aug. 2010.
- [6] J. Lee, E. J. Naglich, **H. H. Sigmarsson**, D. Peroulis, and W. J. Chappell, "Tunable inter-resonator coupling structure with positive and negative values and its application to the field-programmable filter array (FPFA)," *IEEE Transactions on Microwave Theory and Techniques*, vol. 59, no. 12, pp. 3389-3400, Dec. 2011.
- [7] J. Lee, E. J. Naglich, **H. H. Sigmarsson**, D. Peroulis, and W. J. Chappell, "New bandstop filter circuit topology and its application to design of a bandstop-to-bandpass switchable filter," *IEEE Transactions on Microwave Theory and Techniques*, vol. 61, no. 3, pp. 1114-1123, Mar. 2013.
- [8] E. J. Naglich, J. Lee, **H. H. Sigmarsson**, D. Peroulis, and W. J. Chappell, "Intersecting parallel plate waveguide loaded cavities for dual-mode and dual-band filters," *IEEE Transactions on Microwave Theory and Techniques*, vol. 61, no. 5, pp. 1829-1838, May 2013.
- [9] K. Lee, T.-H. Lee, G. C. Park, **H. H. Sigmarsson**, and J. Lee "Frequency-tunable bandstop-bandpass dual-function microwave filter," *IEICE Electronics Express*, vol. 12, no. 11, pp. 20150313, 2015.
- [10] Y.-S. Cho, H. Joshi, X. Liu, **H. H. Sigmarsson**, D. Peroulis, and W. J. Chappell "Development of a 6 GHz–12 GHz tunable bandpass filter using MEMS diaphragm actuators," *Microwave and Optical Technology Letters*, vol. 57, no. 10, pp. 2418-2422, 2015.
- [11] S. Saeedi, J. Lee, and **H. H. Sigmarsson**, "Novel coupling matrix synthesis for single-layer substrate-integrated evanescent-mode cavity tunable bandstop filter design," *IEEE Transactions on Microwave Theory and Techniques*, vol. 63, no. 12, pp. 3929-3938, Dec. 2015.
- [12] S. Saeedi, J. Lee, and **H. H. Sigmarsson**, "Prediction of power handling in tunable, high-Q, substrate-integrated, evanescent-mode cavity bandpass filters," *IET Electronics Letters*, March 2016.

- [13] S. Saeedi, J. Lee, and **H. H. Sigmarsson**, “A new property of the maximally-flat lowpass filter prototype coefficients for dissipative loss calculations,” *Progress In Electromagnetics Research C*, vol. 63, pp. 1-11, Mar. 2016.
- [14] S. Saeedi, J. Lee, and **H. H. Sigmarsson**, “Tunable, high-Q, substrate-integrated, evanescent-mode cavity bandpass-bandstop filter cascade,” *IEEE Microwave and Wireless Components Letters*, vol. 26, no. 4, pp. 240-242, Apr. 2016.
- [15] C. R. Smith and **H. H. Sigmarsson**, “T-junction power divider with exponentially tapered transmission lines,” *IEEE Microwave and Wireless Components Letters*, vol. 26, no. 12, pp. 987-989, Dec. 2016.
- [16] A. S. Horton, S. L. Chilton, **H. H. Sigmarsson**, and J. E. Ruyle, “Tunable microstrip filter element using magnetically-repositioned ferrofluid load,” *IET Electronics Letters*, vol. 53, no. 4, pp. 256-258, Feb. 2017.
- [17] J. McDaniel, M. Yeary, **H. H. Sigmarsson**, J. A. Wolf, S. Garrison, K. Byers, and M. Clewell, “Integration and miniaturization of a Ka-band stepped frequency radar for unmanned aerial vehicle applications,” *Advancing Microelectronics Magazine*, vol. 45, no. 2, pp. 6-10, March/April 2018.
- [18] M. Naimul Hasan, S. Saeedi, Q. J. Gu, **H. H. Sigmarsson**, and X. Liu, “Design methodology of reconfigurable N-path filter with center frequency and bandwidth tuning,” *IEEE Transactions on Microwave Theory and Techniques*, vol. 66, no. 6, pp. 2775-2790, June 2018.
- [19] S. N. McClung, S. Saeedi, and **H. H. Sigmarsson**, “Band-reconfigurable filter with liquid metal actuation,” *IEEE Transactions on Microwave Theory and Techniques*, vol. 66, no. 6, pp. 3073-3080, June 2018.
- [20] D. S. Mitchell, **H. H. Sigmarsson**, and J. E. Ruyle, “Lost-shell casting for rapid prototyping in RF and microwave applications,” *Electronics Letters*, vol. 54, no. 18, pp. 1078-1080, Sept. 2018.
- [21] J. McDaniel, S. Saeedi, M. Yeary, and **H. H. Sigmarsson**, “A low-loss fully board-integrated low-pass filter using suspended integrated strip-line technology,” *IEEE Transactions on Components, Packaging and Manufacturing Technology*, vol. 8, no. 11, pp. 1948-1955, Nov. 2018.
- [22] S. Saeedi, S. Atash-Bahar, J. Lee, and **H. H. Sigmarsson**, “Control system for piezoelectric-actuator-based tunable evanescent-mode cavity microwave filters,” *IEEE Transactions on Components, Packaging and Manufacturing Technology*, vol. 8, no. 11, pp. 1979-1989, Nov. 2018.
- [23] H. Saeidi-Manesh, S. Saeedi, M. Mirmozafari, G. Zhang, and **H. H. Sigmarsson**, “Design and fabrication of orthogonal mode transducer using 3D printing technology,” *IEEE Antennas and Wireless Propagation Letters*, vol. 17, no. 11, pp. 2013-2016, Nov. 2018.
- [24] M. Mirmozafari, S. Saeedi, H. Saeidi-Manesh, G. Zhang, and **H. H. Sigmarsson**, “Direct 3-D printing of non-planar linear dipole phased array antennas,” *IEEE Antennas and Wireless Propagation Letters*, vol. 17, no. 11, pp. 2137-2140, Nov. 2018.

- [25] N. Bathaei and **H. H. Sigmarsson**, “Growth study of GeTe phase change material using pulsed electron-beam deposition,” *Materials Science in Semiconductor Processing*, vol. 96, pp. 73-77, Feb. 2019.
- [26] M. J. Kim, M. A. Cruz, S. Ye, A. L. Gray, G. L. Smith, N. Lazarus, C. J. Walker, **H. H. Sigmarsson**, and B. J. Wiley “One-step electrodeposition of copper on conductive 3D printed objects,” *Additive Manufacturing*, vol. 27, pp. 318-326, May 2019.
- [27] J. McDaniel and **H. H. Sigmarsson**, “Low-loss and ultra-wide passband highpass filter using suspended integrated strip-line technology,” *Electronics Letters*, vol. 55, no. 7, pp. 803-805, July 2019.
- [28] J. L. Salazar-Cerreno, Z. Qamar, S. Saeedi, B. Weng and **H. H. Sigmarsson**, “Frequency agile microstrip patch antenna using an anisotropic artificial dielectric layer (AADL): Modeling and design,” in *IEEE Access*, vol. 8, pp. 6398-6406, Dec. 2019.
- [29] C. Fulton, R. Palmer, M. Yeary, J. L. Salazar-Cerreno, **H. H. Sigmarsson**, M. Weber, and A. Hedden, “Horus: A testbed for fully digital phased array radars,” in *Microwave Journal*, vol. 63, no. 1, pp. 20-36, Jan. 2020.

Conference papers

- [1] **H. H. Sigmarsson**, E. Kinzel, W. J. Chappell, and X. Xu, “Selective laser sintering of patch antennas on FR4,” *Proceedings of IEEE International Symposium on Antennas and Propagation*, July 2005, pp. 280-283.
- [2] **H. H. Sigmarsson**, E. Kinzel, W. J. Chappell, and X. Xu, “Thick film metallization in ambient air using selective laser sintering,” *Proceedings of International Symposium on Microelectronics, International Microelectronics and Packaging Society (IMAPS)*, Sept. 2005, pp. 691-699.
- [3] E. Kinzel, **H. H. Sigmarsson**, X. Xu, and W. J. Chappell, “Selective laser sintering of microwave components,” *Proceedings of European Microwave Conference (EuMC)*, Oct. 2005, pp. 289-292.
- [4] E. Kinzel, X. Xu, **H. H. Sigmarsson**, and W. J. Chappell, “Heat transfer in laser sintering of thick-film microelectronics,” *ASME Conf. Proc. 2005*, Nov. 2005, pp. 895-901.
- [5] **H. H. Sigmarsson**, E. Kinzel, W. J. Chappell, and X. Xu, “Selective laser sintering of multi-layer, multimaterial circuit components,” *IEEE MTT-S International Microwave Symposium Digest*, June 2006, pp. 1788-1791.
- [6] H. Joshi, **H. H. Sigmarsson**, D. Peroulis, and W. J. Chappell, “Highly loaded evanescent cavities for widely tunable high-Q filters,” *IEEE MTT-S International Microwave Symposium Digest*, June 2007, pp. 2133-2136.
- [7] A. Mahmood, **H. H. Sigmarsson**, H. Joshi, W. J. Chappell, and D. Peroulis, “An evanescent-mode cavity resonator based thermal sensor,” *2007 IEEE Sensors*, 28-31 Oct. 2007, pp. 950-953.
- [8] H. Joshi, **H. H. Sigmarsson**, and W. J. Chappell, “Analytical modeling of highly loaded evanescent-mode cavity resonators for widely tunable high-Q filter applications,” *Proceedings of Union Radio Scientifique Internationale (URSI)*, no. D09-6, Aug. 2008.

- [9] **H. H. Sigmarsson**, H. Joshi, D. Peroulis, and W. J. Chappell, “3-6 GHz tunable bandpass filter using heavily loaded evanescent-mode cavity resonators and piezoelectric actuators,” *Proceedings of International Symposium on Microelectronics, International Microelectronics and Packaging Society (IMAPS)*, Nov. 2008, pp. 360-366.
- [10] **H. H. Sigmarsson**, A. Christianson, H. Joshi, S. Moon, D. Peroulis, and W. J. Chappell, “In-situ control of tunable evanescent-mode cavity filters using differential mode monitoring,” *IEEE MTT-S International Microwave Symposium Digest*, June 2009, pp. 633-636.
- [11] H. Joshi, **H. H. Sigmarsson**, S. Moon, D. Peroulis, and W. J. Chappell, “High Q narrow-band tunable filters with controllable bandwidth,” *IEEE MTT-S International Microwave Symposium Digest*, June 2009, pp. 629-632.
- [12] H. Joshi, **H. H. Sigmarsson**, S. Moon, D. Peroulis, and W. J. Chappell, “Tunable high Q narrow-band triplexer,” *IEEE MTT-S International Microwave Symposium Digest*, June 2009, pp. 1477-1480.
- [13] **H. H. Sigmarsson**, H. Joshi, S. Moon, D. Peroulis, and W. J. Chappell, “Substrate integration of widely tunable bandpass filters,” *Proceedings of International Symposium on Microelectronics, International Microelectronics and Packaging Society (IMAPS)*, Nov. 2009, pp. 711-716.
- [14] **H. H. Sigmarsson**, J. Lee, D. Peroulis, and W. J. Chappell, “Reconfigurable-order bandpass filter for frequency agile systems,” *IEEE MTT-S International Microwave Symposium Digest*, May 2010, pp. 1756-1759.
- [15] **H. H. Sigmarsson**, E. Binkerd, J. Maas, J. Lee, D. Peroulis, and W. J. Chappell, “Practical implementation of frequency monitoring for widely tunable bandpass filters,” *Proceedings of International Symposium on Microelectronics, International Microelectronics and Packaging Society (IMAPS)*, Nov. 2010, pp. 874-880.
- [16] E. J. Naglich, **H. H. Sigmarsson**, and W. J. Chappell, “Widely tunable X-band bandstop resonator with tunable external coupling,” *URSI National Radio Science Meeting*, no. B2-2, Jan. 2011.
- [17] J. Lee, E. J. Naglich, **H. H. Sigmarsson**, D. Peroulis, and W. J. Chappell, “Frequency-agile field-programmable filter array (FPFA) with multiple functionalities,” *IEEE MTT-S International Microwave Symposium Digest*, June 2011, pp. 1-4.
- [18] K. Chen, **H. H. Sigmarsson**, and D. Peroulis, “Power handling of high-Q evanescent-mode tunable filter with integrated piezoelectric actuators,” *IEEE MTT-S International Microwave Symposium Digest*, June 2012, pp. 1-3.
- [19] **H. H. Sigmarsson**, E. J. Naglich, J. Lee, D. Peroulis, and W. J. Chappell, “Tunable bandpass and bandstop filter cascade for dynamic pole allocation,” *Proceedings of IEEE International Symposium on Antennas and Propagation*, July 2012, pp. 1-2.
- [20] A. Anand, J. Small, X. Liu, and **H. H. Sigmarsson**, “Tunable RF filters based on radially-loaded evanescent-mode cavity resonators,” *URSI National Radio Science Meeting*, no. D2-4, Jan. 2013.
- [21] A. Lietuvninkas, V. Howe, **H. H. Sigmarsson**, and J. E. Ruyle, “Investigation of conformal antenna design limits,” *Proceedings of the 2013 Antenna Applications Symposium*, Sept. 2013.

- [22] M. D. Bengé, R. C. Huck, and **H. H. Sigmarsson**, “X-band performance of three-dimensional, selectively laser sintered waveguides,” *Proceedings of IEEE International Symposium on Antennas and Propagation*, July 2014, pp. 1-2.
- [23] S. Saeedi, J. Lee, and **H. H. Sigmarsson**, “Broadband implementation of tunable, substrate-integrated, evanescent-mode, cavity bandpass filters,” *Proceedings of European Microwave Conference (EuMC)*, Oct. 2014.
- [24] S. Saeedi, W. S. Wilson, T. R. Ashley, J. Lee, and **H. H. Sigmarsson**, “Capacitive-based, closed-loop frequency control of substrate-integrated cavity tunable filters,” *Proceedings of International Symposium on Microelectronics, International Microelectronics and Packaging Society (IMAPS)*, Oct, 2014, pp. 826-831.
- [25] **H. H. Sigmarsson**, “Miniaturized tunable evanescent-mode cavity filters for adaptive interference mitigation,” *Proceedings of Government Microcircuit Applications and Critical Technology Conference 15 (GOMACTech15)*, Mar. 2015, pp. 683-686.
- [26] S. Atash-Bahar, S. Saeedi, and **H. H. Sigmarsson**, “Active resonator using comb-shaped defected ground structure with negative resistance,” *2015 IEEE Wireless and Microwave Conference Proceedings (WAMICON)*, Apr. 2015.
- [27] C. R. Smith and **H. H. Sigmarsson**, “Dual-band second order microstrip filter using dual-mode perturbed meander loop resonators,” *2015 IEEE Wireless and Microwave Conference Proceedings (WAMICON)*, Apr. 2015.
- [28] S. Saeedi, J. Lee, and **H. H. Sigmarsson**, “Double conversion method for synthesis of inverse filters,” *2015 IEEE MTT-S International Microwave Symposium Digest (MTT)*, May 2015.
- [29] S. Saeedi, S. Atash-bahar, and **H. H. Sigmarsson**, “Active tunable substrate integrated evanescent-mode cavity resonator using negative resistance,” *2016 IEEE Radio and Wireless Week (RWW)*, Jan. 2016.
- [30] J. R. Chen, M. D. Bengé, A. Anand, **H. H. Sigmarsson**, and X. Liu, “An evanescent-mode tunable dual-band filter with independently-controlled center frequencies,” *2016 IEEE MTT-S International Microwave Symposium Digest (MTT)*, May 2016.
- [31] J. McDaniel, S. Saeedi, M. Yearly, and **H. H. Sigmarsson**, “Suspended integrated strip-line transition design for highly Integrated radar systems,” *Proceedings of Government Microcircuit Applications and Critical Technology Conference 17 (GOMACTech17)*, Mar. 2017.
- [32] R. Wyse, J. Lovseth, T. Hoffmann, J. Moran, S. Gilette, A. Geiler, C. Fulton, **H. H. Sigmarsson**, Z. Rush, and N. Peccarelli, “The Swiss army knife of radio front-ends,” *Proceedings of Government Microcircuit Applications and Critical Technology Conference 17 (GOMACTech17)*, Mar. 2017.
- [33] T. E. Collins III, K. S. Bassett, C. A. Maxey, E. Hoppenjans, D. Peroulis, and **H. H. Sigmarsson**, “A DC - 20-GHz reconfigurable multi-channel transceiver for real-time RF mission versatility,” *Proceedings of Government Microcircuit Applications and Critical Technology Conference 17 (GOMACTech17)*, Mar. 2017.
- [34] S. N. McClung, S. Saeedi, and **H. H. Sigmarsson**, “Single-mode-dual-band to dual-mode-single-band bandpass filter with liquid metal,” *2017 IEEE Wireless and Microwave Conference Proceedings (WAMICON)*, Apr. 2017.

- [35] S. Atash-Bahar, **H. H. Sigmarsson**, and D. Thompson, “Implantable neurostimulator lead transfer function based on the transmission line model,” *Proceedings of IEEE International Symposium on Antennas and Propagation*, July 2017, pp. 1-2.
- [36] J. McDaniel, M. Yeary, **H. H. Sigmarsson**, J. A. Wolf, S. Garrison, K. Byers, and M. Clewell “Integration and miniaturization of a Ka-band stepped frequency radar for un-manned aerial vehicle applications,” *Proceedings of International Symposium on Microelectronics, International Microelectronics and Packaging Society (IMAPS)*, Oct. 2017.
- [37] S. Saeedi and **H. H. Sigmarsson**, “Miniaturized evanescent-mode cavity SIW bandpass filter with spurious suppression,” *2018 IEEE Radio and Wireless Week (RWW)*, Jan. 2018.
- [38] J. McDaniel, M. Yeary, and **H. H. Sigmarsson**, “A fully-board integrated Ka-band suspended integrated strip-line thru and low pass filter,” *Proceedings of Government Microcircuit Applications and Critical Technology Conference 18 (GOMACTech18)*, Mar. 2018.
- [39] M. Yeary, C. J. Fulton, R. Palmer, J. Salazar, and **H. H. Sigmarsson**, “Update on the all-digital phased array radar Horus program at the University of Oklahoma’s Advanced Radar Research Center,” *Proceedings of Government Microcircuit Applications and Critical Technology Conference 18 (GOMACTech18)*, Mar. 2018.
- [40] M. L. Perrine, R. Rincon, S. Van Nostrand, H. Nguyen, M. A. Moe, **H. H. Sigmarsson**, and M. Yeary, “Miniaturized P-band beamforming synthetic aperture radar transceiver,” *Proceedings of IEEE Radar Conference 18*, Apr. 2018.
- [41] D. Mirkovic, **H. H. Sigmarsson**, T. Milosevic, and D. S. Zrnic, “Computational electromagnetics in service of polarimetric phased array radar calibration-What causes the differential phase bias?,” *2018 IEEE MTT-S International Conference on Numerical Electromagnetic and Multiphysics Modeling and Optimization (NEMO)*, Aug. 2018.
- [42] A. Schaeffer, J. Kennedy, P. Winniford, S. Saeedi, C. J. Fulton, N. A. Goodman, **H. H. Sigmarsson**, and J. Ruyle, “Investigation of a tunable antenna for high-power phased array applications,” *Proceedings of the 2018 Antenna Applications Symposium*, Sept. 2018.
- [43] R. Palmer, C. Fulton, J. Salazar, **H. H. Sigmarsson**, and M. Yeary, “An overview of phased array weather radar R&D at the Advanced Radar Research Center at the University of Oklahoma,” *Proceedings of the American Meteorological Society Annual Meeting*, Jan. 2019.
- [44] R. Kenney, B. Sun, M. Yeary, **H. H. Sigmarsson**, and J. McDaniel, “Clock incoherence in all-digital radar back ends,” *Proceedings of Government Microcircuit Applications and Critical Technology Conference 19 (GOMACTech19)*, Mar. 2019.
- [45] P. Winniford, A. Schaeffer, J. Kennedy, M. Thibodeau, S. Saeedi, J. Ruyle, and **H. H. Sigmarsson**, “Reconfigurable evanescent-mode cavity loaded slot antenna,” *Proceedings of Government Microcircuit Applications and Critical Technology Conference 19 (GOMACTech19)*, Mar. 2019.
- [46] E. Arroyo-Diaz, S. Saeedi, and **H. H. Sigmarsson**, “3D-printed tunable helical resonators for miniaturized VHF filters,” *2019 IEEE Texas Symposium on Wireless and Microwave Circuits and Systems*, Mar. 2019.

- [47] E. Arroyo-Diaz, S. Saeedi, and **H. H. Sigmarsson**, “Frequency-agile coplanar-waveguide-fed miniaturized helical resonator filters,” *2019 IEEE Wireless and Microwave Conference Proceedings (WAMICON)*, Apr. 2019.
- [48] N. Almuqati and **H. H. Sigmarsson**, “3D microstrip line taper on ultra-low dielectric constant substrate,” *2019 IEEE Wireless and Microwave Conference Proceedings (WAMICON)*, Apr. 2019.
- [49] B. Sun, M. Yeary, **H. H. Sigmarsson**, and J. McDaniel, “Fine resolution position estimation using Kalman filtering,” *2019 IEEE International Instrumentation and Measurement Technology Conference (I2MTC)*, May 2019.
- [50] A. Pham, S. Saeedi, and **H. H. Sigmarsson**, “Continuously-tunable substrate integrated waveguide bandpass filter actuated by liquid metal,” *2019 IEEE MTT-S International Microwave Symposium Digest (MTT)*, June 2019.
- [51] A. Schaeffer, S. F. Bass, S. Saeedi, **H. H. Sigmarsson**, and J. E. Ruyle, “Investigation of control mechanisms for tuning mutual coupling in high-power transmit arrays,” *Proceedings of the 2019 Antenna Applications Symposium*, Sept. 2019.
- [52] M. Thibodeau, S. Saeedi, J. E. Ruyle, and **H. H. Sigmarsson**, “Frequency tunable slot antenna by piezo actuated capacitive loading,” *Proceedings of the 2019 Antenna Applications Symposium*, Sept. 2019.
- [53] A.P. Winniford, S. Saeedi, **H. H. Sigmarsson**, and J. E. Ruyle, “A high-efficiency design for a resonator loaded slot antenna,” *Proceedings of the 2019 Antenna Applications Symposium*, Sept. 2019.
- [54] S. Saeedi, G. Ariturk, and **H. H. Sigmarsson**, “Compact wide-stopband bandpass filter based on highly-loaded substrate integrated cavity resonators,” *2020 IEEE Radio and Wireless Week (RWW)*, pp. 145-147, Jan. 2020.
- [55] R. Summers, M. Yeary, **H. H. Sigmarsson**, and R. Rincon, “Adaptive digital predistortion for radar applications using convex optimization,” *Proceedings of 2020 IEEE Radar Conference*, Apr. 2020.

Patents

- [1] W. J. Chappell, D. Peroulis, J. Lee, E. J. Naglich, and **H. H. Sigmarsson**, “Field-programmable filter arrays,” U.S. Patent 8,665,040, issued Mar. 4, 2014.
- [2] H. Joshi, **H. H. Sigmarsson**, D. Peroulis, W. J. Chappell, and X. Liu, “Tunable evanescent-mode cavity filter,” U.S. Patent 9,024,709, issued June 5, 2015.
- [3] C. J. Fulton, **H. H. Sigmarsson**, C. Piersall, D. Schmidt, M. McCord, R. Kelley, B. McGuire, N. Tahir, N. Aboserwal, S. Karimkashi, and R. Irazoqui, “A low-cost, multi-beam, reflectarray-based radar system,” Disclosure filed, Aug. 2016. Licensed exclusively to Nanowave Technologies Inc.
- [4] J. W. McDaniel, M. Yeary, **H. H. Sigmarsson**, and B. Sun, “Multi-inertial measurement unit fusion for fine-resolution position estimation,” Disclosure filed, May 2020.