

SABIT EKIN

Charlotte and Walter Buchanan Faculty Fellow

Associate Professor, Engineering Technology and Industrial Distribution (ETID)

Affiliated Faculty, Electrical and Computer Engineering

Founding Director, Generative AI Literacy Initiative, Texas A&M Institute of Data Science (TAMIDS)

Director, Texas Wireless • Research Coordination Fellow, TAMIDS

Texas A&M University, College Station, Texas

 Faculty page

 Google Scholar

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AT A GLANCE

Wireless communications and sensing researcher and inventor with nearly 14 years of post-Ph.D. experience in industry and academia. My work turns AI-enabled wireless sensing into deployed products, startups, and patents, and I lead Texas A&M's campus-wide effort in generative AI literacy.

CAREER PATH	2012 ECE, Ph.D. Texas A&M University	→	2013–2016 Senior Engineer, Qualcomm (world leader in wireless comm.)	→	2016–2022 Asst./Assoc. Prof., ECE Oklahoma State University	→	2023–present Assoc. Prof., ETID Texas A&M University
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BY THE NUMBERS	103 published articles including 52 journals	15 Ph.D. students (6 graduates)	2023–2028 DOE Early Career Research Award	2,130+ citations; h-index 19 (Google Scholar, Oct. 2026)
	\$10.9M research funding 30 grants, 16 as PI	29 invited talks & panels (incl. 5 panels)	5 editorial roles (2 current IEEE assoc. editor)	5 patent applications (2 issued U.S. patents)

RESEARCH & FUNDING	30 grant awards, totaling \$10.9M (\$4M direct share): NSF (7), DOE (3), NASA (3), DoD (4), DOT (3), USGS, QNRF, AI4ID, and industry (OpenAI, NVIDIA, Axionis) 130+ publications, including 103 peer-reviewed journal and conference papers in venues such as IEEE JSAC, TCOM, TSP, TMLCN, THMS, TGCN, TVT, TCCN, TTST, and Nature npj Wireless Technology; 12 under review
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MENTORING & TEACHING	15 Ph.D. students: 6 graduates now at Amazon (2), Apple, PhasorLab, UT Southwestern, and Oklahoma State University; 9 current (3 as co-chair) 13 M.Sc./MSET students: 9 graduates, 4 current; 1 postdoc; student co-inventors on 3 patent filings - Launched the first GenAI course at Texas A&M; three new AI courses developed; received very high teaching evaluations
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LEADERSHIP & SERVICE	- Founding Director, Generative AI Literacy Initiative (TAMIDS); Texas A&M is part of OpenAI's \$50M NextGenAI consortium of 15 institutions; featured in Forbes and Inside Higher Ed - Director, Texas Wireless; Founding Director, OKSat (2018–2022), Oklahoma's first CubeSat program - Assoc. Editor, IEEE TGCN & IEEE OJ-COMS; NSF & DOE review panelist; 6 TPCs, 4 session chairs
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INNOVATION & IMPACT	- Invention implemented in Qualcomm modem firmware, shipped in Apple and Android devices - Co-founder of Waylolo (NSF I-Corps award); co-founder of Aura Prism; founder of GrantPanel.AI 2 issued U.S. patents, 3 published applications (1 PCT), 3 invention disclosures
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SELECTED HONORS	DOE Early Career Award (2023–2028) - ETID Teaching, Research & Service Award (2025) - ETID Buchanan Fellow (2026) - Naeter Endowed Professor, OSU (2022) - Graham Endowed Fellow, OSU (2021–2022) - IEEE Senior Member
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RESEARCH INTERESTS

My research focuses on wireless communications and sensing systems, leveraging AI/ML methods to develop intelligent and adaptive engineering solutions.

- **Wireless communications:** RF, mmWave, terahertz, optical, hybrid RF/optical, and satellite comm. systems
- **Wireless sensing:** non-contact optical sensing with gesture recognition and sway detection for human-computer interaction applications; vitals monitoring: respiration, heart rate, and glucose
- **Internet of Things (IoT) applications:** livestock monitoring, soil monitoring, and related applications
- **AI/ML:** supervised, unsupervised, and reinforcement learning; deep learning; large language models (LLMs); GPT (generation, fine-tuning); libraries: scikit-learn, TensorFlow, Keras, and PyTorch

EDUCATION

- 2008–2012 **Ph.D., Electrical and Computer Engineering**, Texas A&M University, College Station, TX
08/2008 – 12/2012. Dissertation: *Random Subcarrier Allocation in OFDMA-Based Cognitive Radio Networks and Hyper Fading Channels*
- 2006–2008 **M.Sc., Electrical Engineering**, New Mexico Institute of Mining and Technology, Socorro, NM
08/2006 – 05/2008. Thesis: *RF-Based Location Determination in Heterogeneous Sensor Networks*
- 2001–2006 **B.Sc., Electrical and Electronics Engineering**, Eskisehir Osmangazi University, Türkiye
09/2001 – 06/2006. Graduated ranked No. 1 in the Department and No. 3 in the College of Engineering.

APPOINTMENTS

Academic

- 2023–present **Associate Professor (tenured)**, Engineering Technology and Industrial Distribution
Affiliated Faculty, Electrical and Computer Engineering
Texas A&M University, College Station, TX (01/2023 – present)
- 2022 **Associate Professor (tenured)**, Electrical and Computer Engineering
Oklahoma State University, Stillwater, OK (07/2022 – 12/2022)
- 2016–2022 **Assistant Professor**, Electrical and Computer Engineering
Oklahoma State University, Stillwater, OK (08/2016 – 06/2022)

Leadership and affiliations

- 2024–present **Founding Director**, Generative AI Literacy Initiative, Texas A&M Institute of Data Science (TAMIDS)
- Founded Texas A&M’s first-of-its-kind Generative AI Literacy Initiative (genai.tamids.tamu.edu). Texas A&M is part of OpenAI’s NextGenAI consortium, a \$50 million collaboration of 15 leading institutions in AI research and education, and the initiative expanded engagement with Google Education, NVIDIA, and MathWorks (MATLAB).
 - Created the **Generative AI Consultancy Hub** (2025–present): one-on-one GenAI consultations for the Texas A&M community, staffed by competitively selected part-time graduate student ambassadors from across the university.
 - Initiated the **Generative AI Research for Education (GAIRE)** grant program (2025), a TAMIDS–Center for Teaching Excellence (CTE) collaboration supported by OpenAI through the NextGenAI Consortium; provides OpenAI API credits and support for up to 20 projects, with a total value of \$100K.
 - Co-organized the **GenAI Foundations Workshop** series for faculty and staff (2025–2026), with CTE.
 - Featured in national media, including Forbes, Inside Higher Ed, and Marketing Brew.

- 2025–present **Research Coordination Fellow**, Texas A&M Institute of Data Science (TAMIDS)
- 2023–present **Director**, Texas Wireless
- 2023–present **Executive Committee Member**, Intelligent Electromagnetic Sensor Laboratories (iEMSL)
- 2024–present **Research collaboration** with Hagler Fellow and NAE member Dr. Theodore S. Rappaport from New York University (NYU)
Two NSF awards; co-advising a Ph.D. student supported by a Hagler Graduate Student Fellowship; joint papers, including in Nature npj Wireless Technology.
- 2025–present **Member**, Texas A&M Institute for Connected Intelligence (TICI)
- 2026–present **Affiliated Faculty**, Center for Applied Communications and Networks (CACN), TAMU System
- 2023–present **Affiliated Faculty**, Department of Electrical and Computer Engineering, Texas A&M University
- 2018–2022 **Founding Director**, Oklahoma CubeSat Initiative (OKSat), Oklahoma State University
Initiated the first CubeSat program in the state of Oklahoma.

Industry

- 2013–2016 **Senior Modem Systems Engineer**, Qualcomm Inc., San Diego, CA
02/2013 – 06/2016. Contributed to the design, simulation, fixed-point implementation, and prototyping of Qualcomm cellular modem chipsets used in high-end mobile devices from Apple, Samsung, Google, Sony, LG, Nokia, and others; recognized with eight Qualstar Hall of Fame Awards.
- 2012 **Engineering Intern**, Qualcomm New Jersey Research Center, Qualcomm Inc., Bridgewater, NJ
06/2012 – 09/2012

Graduate research and teaching

- 2009–2012 Graduate Research Assistant, Telecommunications, Control and Signal Processing Group, Texas A&M University
09/2009 – 12/2012
- 2011 Grader, Department of Electrical and Computer Engineering, Texas A&M University
01/2011 – 05/2011
- 2008–2009 Graduate Research Assistant, Wireless Research Laboratory, Texas A&M University at Qatar
08/2008 – 08/2009
- 2006–2008 Graduate Teaching Assistant, Department of Electrical Engineering, New Mexico Tech
08/2006 – 05/2008

HONORS AND AWARDS

Faculty honors and endowed positions

- 2023–2028 **U.S. Department of Energy (DOE) Early Career Research Program Award** (<1% acceptance rate; selected in 2022 as one of 56 university faculty nationwide; the only DOE Early Career awardee in the Texas A&M College of Engineering)
- 2026 Charlotte and Walter Buchanan Faculty Fellow, ETID, Texas A&M University
- 2026 Nominated for Senior Member, National Academy of Inventors (NAI) (to be announced in 2027)
- 2026 Nominated by the ETID department for the Dean of Engineering Excellence Award at Associate Professor level, Texas A&M University
- 2025 ETID Faculty Teaching, Research and Service Award, Texas A&M University
- 2025 Nominated by the ETID department for the Dean of Engineering Excellence Award at Associate Professor level, Texas A&M University
- 2025–present Research Coordination Fellow, Texas A&M Institute of Data Science

2022 PSO/Albrecht Naeter Endowed Professor of ECE, OSU
 2021–2022 Jack H. Graham Endowed Fellow of Engineering, ECE, OSU
 2017 President’s Cup, First Place Award, Oklahoma State University

Paper awards and highlights

2026 Invited Paper and Featured Article, *Journal of Engineering Technology (JET)*
Artificial Intelligence in Engineering Technology: Opportunities, Challenges, and Future Outlook
 2025 Top 5 Most Popular Papers in Reinforcement Learning, *IEEE Open Journal of the Communications Society*
Optimizing Non-Terrestrial Hybrid RF/FSO Links With Reinforcement Learning: Navigating Through Clouds
 2019 Best Paper Award, 25th Asia-Pacific Conference on Communications (APCC)
 2017 Best Paper Award, International Telecommunications Conference (ITELCON)

Industry recognition

2016 Qualstar Hall of Fame Award (twice), Qualcomm Inc.
 2015 Qualstar Hall of Fame Award (three times), Qualcomm Inc.
 2014 Qualstar Hall of Fame Award (three times), Qualcomm Inc.

Travel grants

2018 NASA Jet Propulsion Laboratory (JPL), Caltech, and OSU ECE
 2017 National Academy of Sciences, for the NSF CubeSats Forum

Honors received as a student

2011 Second Place Award (ECE), 14th Annual Student Research Week, Texas A&M University
 2007 Vice President Extra Stipend for Achievements in the EE Department, New Mexico Tech (\$3,000)
 2007 Graduate Student Association Travel Grant Award, New Mexico Tech
 2006 Best Graduating Student Award, Department of EEE, Eskisehir Osmangazi University
 2006 **Graduated as No. 1 in the Department of Electrical and Electronics Engineering**, Eskisehir Osmangazi University
 2002–2006 High Honor Student (every semester), Department of EEE, Eskisehir Osmangazi University
 2002–2006 Alumni Foundation of EEE Scholarship Recipient, Eskisehir Osmangazi University

RESEARCH FUNDING

\$10.9M total funding • **\$4.0M** direct share • **30** grants • **16** as PI • **27** external
 Since joining Texas A&M (2023): **8** new awards • **\$3.8M** total • **\$1.7M** direct share
 plus **10** awards transferred from OSU

By sponsor: NSF 7 • DOE 3 • NASA 3 • DOD 4 • DOT 3 • DOI 1
 QNRF 1 • Industry and consortia 5 • OSU internal 3

SPONSOR AND PROGRAM	YEARS	ROLE	TOTAL	SHARE
TEXAS A&M UNIVERSITY				
DOE Early Career	2023–2028	PI	\$786,742	\$786,742
NSF & Research Council of Finland	2026–2029	PI	\$1,570,000	\$300,000
DOE NETL	2025–2027	Co-PI	\$486,504	\$106,700
DOE OESI	2025–2026	Co-PI	\$405,280	\$135,000
NSF CNS	2025–2027	PI	\$285,000	\$225,000
AI4ID Consortium	2025–2026	Co-PI	\$75,000	\$15,000
NVIDIA (donation, GPU hours)	2025	PI	\$38,000	\$38,000
OpenAI NextGenAI	2024–2026	Co-PI	\$150,000	\$50,000
TRANSFERRED TO TEXAS A&M FROM OKLAHOMA STATE				
DOT FRA	2023–2025	Co-PI	\$799,493	\$200,000
NASA	2022–2024	Co-PI	\$1,000,000	\$250,000
DOT FAA	2022–2026	Co-PI	\$155,000	\$77,500
Qatar National Research Fund (QNRF)	2021–2024	PI	\$509,904	\$45,891
NSF CNS-SCC	2021–2023	Co-PI	\$150,000	\$60,000
NSF IIP	2021–2025	PI	\$50,000	\$50,000
NASA	2020–2023	PI	\$1,141,391	\$684,834
NSF MRI	2020–2023	Co-PI	\$877,453	\$175,490
NSF CNS	2020–2024	PI	\$156,000	\$93,600
NSF ECCS	2019–2025	PI	\$765,937	\$265,858
OKLAHOMA STATE UNIVERSITY				
DOD DARPA	2022–2023	Co-PI	\$292,239	\$87,671
DOD AFOSR DURIP	2020–2021	Co-PI	\$95,840	\$31,914
DOI USGS	2020–2022	PI	\$75,000	\$52,500
Jump Aero Inc. (for AFRL)	2020–2021	Co-PI	\$73,707	\$14,741
OSU VPR Tier 1 (internal)	2019–2021	PI	\$620,000	\$68,200
DOD SERC	2019–2020	Co-PI	\$5,000	\$2,500
DOT UTC Tran-SET	2018–2019	PI	\$141,400	\$106,050
DOD USSOCOM	2018–2019	Co-PI	\$75,153	\$7,515
Axeonis LLC (donation)	2018–2019	PI	\$50,000	\$30,000
NASA EPSCoR	2017–2018	PI	\$33,438	\$33,438
OSU President's Cup (internal)	2017	PI	\$5,000	\$5,000
NSF I-Corps Site (internal)	2017–2018	PI	\$3,000	\$3,000
Total (30 awards)			\$10,871,481	\$4,002,144

Amounts are total award value; direct share is estimated. For awards transferred from Oklahoma State, amounts are the full award value; only the unspent balance was transferred to Texas A&M.

PUBLICATIONS

52 journal articles • **51** conference papers • **8** patents & disclosures • **2** books & chapters

2,134 citations • **19** h-index • **36** i10-index (Google Scholar, Oct. 2026)

Highlights: 2 Best Paper Awards • 1 invited featured article • 1 Top-5 most popular paper

Journals: 52 published or accepted, 6 under review (42 IEEE, 2 Nature Portfolio) • Conferences: 51 published, 6 under review • 6 non-peer-reviewed papers • 6 theses and other works

Supervised student co-authors: Ph.D.* , M.Sc./MSET** , B.Sc.*** .

Journal articles in preparation (Not yet submitted; not counted in totals)

- JP1. N. Sevim*, M. Ibrahim, **S. Ekin**, and T. S. Rappaport, “Waste Factor as a Graph Optimization Metric: Theory and Bellman–Ford-Aligned Neural Execution for Energy-Optimal Multi-Hop Routing,” to be submitted to *IEEE Transactions on Green Communications and Networking*, 2026. [IF 6.9 (2025)]
- JP2. N. Sevim*, M. Ibrahim, **S. Ekin**, and T. S. Rappaport, “Waste-Factor Energy per Bit as a Routing Cost for mmWave UAV Relays: Planner Gains, Local Forwarding, and the Value of Channel Information,” to be submitted to *IEEE Transactions on Green Communications and Networking*, 2026. [IF 6.9 (2025)]
- JP3. K. Nakhleh*, S. Aydin, C. Eksin, and **S. Ekin**, “Simulation-Based Optimistic Policy Iteration in Multi-Agent MDPs with Kullback-Leibler Control Cost,” to be submitted to *IEEE Transactions on Automatic Control*, 2026. [IF 7.0 (2025)]
- JP4. **S. Ekin**, “Integrated Sensing and Communications: A Tutorial on Mathematical Foundations, Signal Processing and System Design for 6G,” arXiv:2609.22314, Sept. 2026; to be submitted to *IEEE Communications Surveys & Tutorials*. [IF 50.6 (2025)]
- JP5. **S. Ekin**, M. Ibrahim, M. Saadat*, A. Sprintson, and T. S. Rappaport, “Prime Spectrum, Better Use: A National Proposal for Selective Migration of Line-of-Sight Services from Below to Above 10 GHz,” arXiv preprint, 2026; to be submitted to *IEEE Communications Magazine*. [IF 8.3 (2025)]
- JP6. M. Ibrahim, **S. Ekin**, Y. Tsai, and R. Pragada, “Block Phase Tracking Reference Signal (PTRS) Allocation for DFT-s-OFDM,” to be submitted to *IEEE Open Journal of the Communications Society*, 2026. [IF 6.2 (2025)]

Journal articles under review (Submitted manuscripts; not counted in totals)

- JR1. A. Tag*, **S. Ekin**, M. S. Anzum, A. Menon, H. Al Nuweiri, and M. F. Karim, “An Ultra-Wideband Power Divider Based on a Ground-Backed Aperture Spoof Surface Plasmon Polariton Line,” submitted to *IEEE Microwave and Wireless Technology Letters*, 2026. [IF 3.4 (2025)]
- JR2. A. Tag*, **S. Ekin**, M. S. Anzum, A. Menon, H. Al Nuweiri, and M. F. Karim, “Broadband Ka-Band Six-Port Junction Using Double-Sided Spoof Surface Plasmon Polariton,” submitted to *IEEE Transactions on Microwave Theory and Techniques*, 2026. [IF 5.2 (2025)]
- JR3. S. Kim*, **S. Ekin**, and M. F. Karim, “An Array Antenna Approach to Near Field SAR: Theory, Design and Validation,” submitted to *IEEE Transactions on Antennas and Propagation*, 2026. [IF 5.9 (2025)]
- JR4. N. Sevim*, M. Ibrahim, **S. Ekin**, and T. S. Rappaport, “Minimizing Energy Consumption Based on Waste Factor in Multi-User Multi-Relay Systems,” submitted to *IEEE Transactions on Green Communications and Networking*, 2026. [IF 6.9 (2025)]
- JR5. H. Le*, M. Ibrahim, O. Bedir*, J. Tao, and **S. Ekin**, “Learning to Reflect: Hierarchical Multi-Agent Reinforcement Learning for CSI-Free mmWave Beam-Focusing,” submitted to *IEEE Transactions on*

Machine Learning in Communications and Networking, 2026. [IF 4.9 (2025)]

- JR6. H. Le*, M. Ibrahim, J. Tao, and **S. Ekin**, “Can a Passive Reflector Replace an Access Point? Joint Indoor Placement of Access Points and Reflectors via Differentiable Ray Tracing,” submitted to *IEEE Open Journal of the Communications Society*, 2026. [IF 6.2 (2025)]

Preprints (Not peer-reviewed; not counted in totals)

- PR1. **S. Ekin**, “If AI Is the Calculator of Our Era, What Is the New “Math”?,” *TechRxiv Preprints*, 2025, doi:10.36227/techrxiv.176110156.66839593/v1.
- PR2. M. Ibrahim*, H. Celebi, and **S. Ekin**, “The Subtle Hand of AI: How AI Agents May Coordinate and Influence Human Actions,” *TechRxiv Preprints*, 2025, doi:10.36227/techrxiv.174441154.47014958/v2.

Journal articles (Peer-reviewed, published or accepted)

2026

- J52. L. Belostotski, A. Madanayake, J. Nielsen, M. Abdelhadi, X. Liu, X. Wang, G. Qian, **S. Ekin**, and T. S. Rappaport, “The Anatomy of RF Chains: Metrics, Measures, and Operating Efficiency,” *IEEE Microwave Magazine*, early access, pp. 2–16, 2026, doi:10.1109/MMM.2026.3706013. [IF 3.0 (2025)]
- J51. **S. Ekin**, F. El Breidi, M. Saadat*, and M. Metwaly, “Artificial Intelligence in Engineering Technology: Opportunities, Challenges, and Future Outlook,” *Journal of Engineering Technology (JET)*, accepted, Fall 2026. INVITED PAPER; FEATURED ARTICLE [IF 3.5 (2025)]
- J50. A. Tag*, **S. Ekin**, H. Al Nuweiri, A. E. Patterson, M. P. Mohan, A. Alphones, H. T. S. Henry, and M. F. Karim, “3D-Printed mmWave Quasi-Holographic Antenna for 2D Beamforming,” *IEEE Open Journal of Antennas and Propagation*, vol. 7, no. 2, pp. 417–426, 2026, doi:10.1109/OJAP.2025.3648013. [IF 3.4 (2025)]
- J49. **S. Ekin**, “Prompt Engineering for ChatGPT: A Quick Guide to Techniques, Tips, and Best Practices,” *Journal of Engineering Technology (JET)*, vol. 43, no. 1, pp. 52–68, 2026. AS OF OCT. 2026: 122,052 VIEWS, 17,879 DOWNLOADS, AND 665 GOOGLE SCHOLAR CITATIONS [IF 3.5 (2025)]
- J48. G. Gannon**, M. Macorol, A. Garcia, I. Godage, B. Zoghi, **S. Ekin**, and M. F. Karim, “Enhanced Efficiency and Accuracy for Synthetic Aperture Radar Image Reconstruction Based on Hybrid Range Migration and Back Projection Algorithm,” *International Journal of Microwave and Wireless Technologies*, vol. 18, no. 2, pp. 173–182, 2026, doi:10.1017/S1759078726103031. [IF 1.3 (2025)]
- J47. C. Chadha, G. Crosby, **S. Ekin**, M. Gharib, E. Hammad, C. Jin, A. A. Malik, N. M. Diaz, C. Mollan, G. Nzebuka, V. Pandey, J. Park, M. Ramoni, D. Song, B. Vajipeyajula, and A. E. Patterson, “Artificial intelligence and additive manufacturing as a coupled design system: Rethinking inference, manufacturability, and design education,” *International Journal of AI for Materials and Design*, vol. 3, no. 1, art. 34, 2026, doi:10.36922/IJAMD025510054. [IF not applicable (not indexed in JCR)]
- J46. H. Le*, O. Bedir*, M. Ibrahim, J. Tao, and **S. Ekin**, “Signal Whisperers: Enhancing Wireless Reception Using DRL-Guided Reflector Arrays,” *IEEE Transactions on Machine Learning in Communications and Networking*, vol. 4, pp. 265–281, 2026, doi:10.1109/TMLCN.2025.3650440. [IF 4.9 (2025)]

2025

- J45. K. Strecker*, **S. Ekin**, and J. F. O’Hara, “A Perspective on the Impact of Group Delay Dispersion in Future Terahertz Wireless Networks,” *IEEE Communications Magazine*, vol. 63, no. 3, pp. 190–196, Mar. 2025, doi:10.1109/MCOM.002.2400040. [IF 8.3 (2025)]

- J44. M. W. Rutherford, B. E. Whitacre, L. Captain^{***}, **S. Ekin**, J. Angle, T. Hensley, and J. F. O'Hara, "Promoting Rural Entrepreneurship through Technology: A Case Study Using Productivity Enhancing Technology Experience Kits (PETE-Kits)," *IEEE Transactions on Education*, vol. 68, no. 3, pp. 281–292, June 2025, doi:10.1109/TE.2025.3557023. [IF 2.5 (2025)]
- J43. N. Sevim^{*}, M. Ibrahim, **S. Ekin**, and T. S. Rappaport, "Theoretical foundations of waste factor and waste figure with applications to fixed wireless access and relay systems," *npj Wireless Technology (Nature Portfolio)*, vol. 1, no. 1, art. 2, 2025, doi:10.1038/s44459-025-00001-2. [IF not yet assigned (new journal, 2025)]
- J42. Md Z. Islam^{*}, E. Abele^{*}, F. F. Hossain, A. Ahmad, **S. Ekin**, and J. F. O'Hara, "Free-Space Optical Channel Turbulence Prediction: A Machine Learning Approach," *IEEE Communications Letters*, vol. 29, no. 5, pp. 1126–1130, May 2025, doi:10.1109/LCOMM.2025.3555162. [IF 4.5 (2025)]
- J41. S. K. Kasi^{*}, F. A. Khan, **S. Ekin**, and A. Imran, "Risk-Aware Reinforcement Learning Framework for User-Centric O-RAN," *IEEE Transactions on Machine Learning in Communications and Networking*, vol. 3, pp. 195–214, 2025, doi:10.1109/TMLCN.2025.3534139. [IF 4.9 (2025)]
- J40. A. Almohamad^{*}, M. Ibrahim^{*}, **S. Ekin**, M. Hasna, S. Althunibat, and K. Qaraqe, "Optimizing Non-Terrestrial Hybrid RF/FSO Links With Reinforcement Learning: Navigating Through Clouds," *IEEE Open Journal of the Communications Society*, vol. 6, pp. 793–806, 2025, doi:10.1109/OJCOMS.2025.3527878. TOP 5 MOST POPULAR PAPERS IN REINFORCEMENT LEARNING IN IEEE OPEN JOURNAL OF THE COMMUNICATIONS SOCIETY [IF 6.2 (2025)]
- J39. S. K. Kasi^{*}, F. A. Khan, **S. Ekin**, and A. Imran, "User-Centric Communication With Aerial Network for 6G: A Reinforcement Learning Approach," *IEEE Transactions on Aerospace and Electronic Systems*, vol. 61, no. 2, pp. 3137–3151, April 2025, doi:10.1109/TAES.2024.3485016. [IF 7.0 (2025)]

2024

- J38. M. Ibrahim^{*}, A. Ahmad, **S. Ekin**, P. LoPresti, S. Altunc, O. Kegege, and J. F. O'Hara, "Anticipating Optical Availability in Hybrid RF/FSO Links Using RF Beacons and Deep Learning," *IEEE Transactions on Machine Learning in Communications and Networking*, vol. 2, pp. 1369–1388, 2024, doi:10.1109/TMLCN.2024.3457490. [IF 4.9 (2025)]
- J37. Md Z. Islam^{*}, B. Martin^{***}, C. Gotcher^{***}, T. Martinez^{***}, J. F. O'Hara, and **S. Ekin**, "Noncontact Respiratory Anomaly Detection Using Infrared Light-Wave Sensing," *IEEE Transactions on Human-Machine Systems*, vol. 54, no. 3, pp. 292–303, June 2024, doi:10.1109/THMS.2024.3381574. [IF 4.4 (2025)]
- J36. M. Ibrahim^{*}, **S. Ekin**, and A. Imran, "Buyers Collusion in Incentivized Forwarding Networks: A Multi-Agent Reinforcement Learning Study," *IEEE Transactions on Machine Learning in Communications and Networking*, vol. 2, pp. 240–260, 2024, doi:10.1109/TMLCN.2024.3365420. [IF 4.9 (2025)]
- J35. B. Martin^{*}, Md Z. Islam^{*}, C. Gotcher^{***}, T. Martinez^{***}, **S. Ekin**, and J. F. O'Hara, "Fundamental limits of light-wave sensing for non-contact respiration monitoring," *Biomedical Optics Express*, vol. 15, no. 11, pp. 6449–6468, 2024, doi:10.1364/BOE.514776. [IF 3.2 (2025)]

2023

- J34. R. Messenger^{*}, Md Z. Islam^{*}, M. Whitlock^{***}, E. Spong^{***}, N. Morton^{***}, L. Claggett^{***}, C. Matthews^{***}, et al., and **S. Ekin**, "Real-Time Traffic End-of-Queue Detection and Tracking in UAV Video," *International Journal of Intelligent Transportation Systems Research*, vol. 21, no. 3, pp. 493–505, 2023, doi:10.1007/s13177-023-00374-0. [IF 1.9 (2025)]
- J33. M. Ibrahim^{*}, H. Arslan, H. A. Cirpan, and **S. Ekin**, "Time-Frequency Warped Waveforms for Well-Contained Massive Machine Type Communications," *IEEE Journal on Selected Areas in*

Communications, vol. 41, no. 6, pp. 1900–1917, June 2023, doi:10.1109/JSAC.2023.3275622. [IF 16.8 (2025)]

- J32. S. K. Kasi*, U. S. Hashmi, **S. Ekin**, A. Abu-Dayya, and A. Imran, “D-RAN: A DRL-Based Demand-Driven Elastic User-Centric RAN Optimization for 6G & Beyond,” *IEEE Transactions on Cognitive Communications and Networking*, vol. 9, no. 1, pp. 130–145, Feb. 2023, doi:10.1109/TCCN.2022.3217785. [IF 8.0 (2025)]

2022

- J31. F. F. Hossain*, R. Messenger**, G. L. Captain***, **S. Ekin**, J. D. Jacob, S. Taghvaeian, and J. F. O’Hara, “Soil Moisture Monitoring Through UAS-Assisted Internet of Things LoRaWAN Wireless Underground Sensors,” *IEEE Access*, vol. 10, pp. 102107–102118, 2022, doi:10.1109/ACCESS.2022.3208109. [IF 4.2 (2025)]
- J30. W. Raza*, E. Abele*, J. F. O’Hara, A. Imran, W. Choi, I. Song, P. LoPresti, S. Altunc, O. Kegege, and **S. Ekin**, “Toward a Hybrid RF/Optical Lunar Communication System (LunarComm),” *IEEE Network*, vol. 36, no. 6, pp. 76–83, 2022, doi:10.1109/MNET.103.2100419. [IF 8.8 (2025)]
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Conference papers under review (Submitted manuscripts; not counted in totals)

- CR1. A. Tag*, **S. Ekin**, H. Al Nuweiri, and M. F. Karim, "An Optically Transparent Leaky-Wave Antenna," submitted to *International Symposium on Microwave, Antenna, and Propagation (SMAP 2027)*, 2026. [acceptance rate: under review]
- CR2. M. Ibrahim, **S. Ekin**, and A. R. Ekti, "Inter-Numerology Interference Reduction via Adjacent Symbol Mid-Zeros," submitted to *IEEE International Conference on Communications (ICC 2027)*, 2026. [acceptance rate: under review; top conference in wireless communications]
- CR3. H. Le*, M. Ibrahim, O. Bedir*, J. Tao, and **S. Ekin**, "Bypassing the CSI Bottleneck: MARL-Driven Spatial Control for Reflector Arrays," submitted to *IEEE International Conference on Communications (ICC 2027)*, 2026. [acceptance rate: under review; top conference in wireless communications]
- CR4. O. Bedir*, M.-C. Lee, Y.-C. Huang, and **S. Ekin**, "Deep Unfolding Learning-Based Digital Precoding and RF Chain Selection Design for Energy-Efficient Multi-User MIMO-OFDM ISAC Systems," submitted to

IEEE International Conference on Communications (ICC 2027), 2026. [acceptance rate: under review; top conference in wireless communications]

- CR5. N. Sevim*, M. Ibrahim, **S. Ekin**, and T. S. Rappaport, “Waste-Factor-Aware Multi-Relay Assignment: Admission and Energy Tradeoffs,” submitted to *IEEE International Conference on Communications (ICC 2027)*, 2026. [acceptance rate: under review; top conference in wireless communications]
- CR6. M. Saadat*, **S. Ekin**, M. Ibrahim, A. Sprintson, and T. S. Rappaport, “Service-Preserving Migration of C-Band Satellite Distribution Links to Ku and Ka Bands,” submitted to *IEEE International Conference on Communications (ICC 2027)*, 2026. [acceptance rate: under review; top conference in wireless communications]

Conference papers (Peer-reviewed)

2026

- C51. H. Le*, M. Ibrahim, O. Bedir*, J. Tao, and **S. Ekin**, “Learning to Focus: CSI-Free Hierarchical MARL for Reconfigurable Reflectors,” *IEEE Global Communications Conference (GLOBECOM)*, Macau, China, Dec. 2026 (accepted). [acceptance rate not available; top conference in wireless communications]
- C50. A. Almohamad*, M. Ibrahim, **S. Ekin**, and K. A. Qaraqe, “Quantifying the Reality Gap for RL-Based UAV Placement at mmWave and Sub-THz,” *IEEE Global Communications Conference (GLOBECOM)*, Macau, China, Dec. 2026 (accepted). [acceptance rate not available; top conference in wireless communications]
- C49. S. Mostafa, P. Radhakrishnan, M. Ibrahim, **S. Ekin**, and S. S. Jehangir, “Experimental Study of ILS Recovery Under Propeller Modulation Using a Reference Tone,” *IEEE International Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting (AP-S/URSI)*, Detroit, MI, USA, July 12–17, 2026. [acceptance rate not available]

2025

- C48. O. Bedir*, N. Sevim*, M. Ibrahim, and **S. Ekin**, “Masked Symbol Modeling for Demodulation of Oversampled Baseband Communication Signals in Impulsive Noise-Dominated Channels,” *NeurIPS 2025 Workshop: AI and ML for Next-Generation Wireless Communications and Networking*, San Diego, CA, USA, Dec. 2–7, 2025. [acceptance rate not available (workshop)]
- C47. K. Nakhleh*, S. Aydin, C. Eksin, and **S. Ekin**, “Fictitious Play in Product Markov Games with Kullback-Leibler Control Cost,” *IEEE 59th Asilomar Conference on Signals, Systems, and Computers*, Pacific Grove, CA, Oct. 26–29, 2025. [acceptance rate not available]
- C46. K. Nakhleh*, S. Aydin, C. Eksin, and **S. Ekin**, “Fictitious Play in Product Markov Games with Kullback-Leibler Control Cost,” *Dynamics at the Frontiers of Optimization, Sampling, and Games Workshop at NeurIPS*, San Diego, CA, Dec. 2025. [acceptance rate not available (workshop)]
- C45. A. Tag*, **S. Ekin**, H. Al Nuweiri, M. P. Mohan, A. Alphones, T. S. Herng, and M. F. Karim, “3D-Printed Hexagonal Cylinder Leaky-Wave Antenna for Omnidirectional Coverage,” *IEEE International Symposium on Antennas and Propagation and North American Radio Science Meeting*, Ottawa, ON, Canada, 2025, pp. 2692–2695, doi:10.1109/AP-S/CNC-USNC-URSI55537.2025.11266836. [acceptance rate not available]

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- C44. H. Le*, O. Bedir*, M. Ibrahim, J. Tao, and **S. Ekin**, “Guiding Wireless Signals with Arrays of Metallic Linear Fresnel Reflectors: A Low-cost, Frequency-versatile, and Practical Approach,” *IEEE 100th Vehicular Technology Conference (VTC2024-Fall)*, Washington, DC, USA, 2024, pp. 1–7, doi:10.1109/VTC2024-Fall63153.2024.10757704. [acceptance rate $\approx$ 50% (2024)]

- C43. N. Sevim*, M. Ibrahim, and **S. Ekin**, “Large Language Models (LLMs) Assisted Wireless Network Deployment in Urban Settings,” *IEEE 100th Vehicular Technology Conference (VTC2024-Fall)*, Washington, DC, USA, 2024, pp. 1–7, doi:10.1109/VTC2024-Fall63153.2024.10757657. [acceptance rate $\approx$ 50% (2024)]
- C42. M. Ahsan, A. Ahmed, **S. Ekin**, J. F. O’Hara, and A. Ahmad, “Traffic-Aware Network Slicing for 5G Networks in Cloud Fog-RAN over WDM Architecture,” *International Conference on Smart Applications, Communications and Networking (SmartNets)*, Harrisonburg, VA, USA, 2024, pp. 1–6, doi:10.1109/SmartNets61466.2024.10577646. [acceptance rate 46% (2024)]
- C41. A. Tag*, **S. Ekin**, H. Al Nuweiri, M. Prabhakaran, A. Alphones, and M. F. Karim, “Wide-Band mmWave Rotman Lens-AVA for Beamforming Applications,” *IEEE International Symposium on Antennas and Propagation and ITNC-USNC-URSI Radio Science Meeting*, Florence, Italy, July 14–19, 2024. [acceptance rate not available]
- C40. Md Z. Islam*, **S. Ekin**, J. F. O’Hara, and G. G. Yen, “Optimization of 1D-CNN for Non-Contact Respiration Pattern Classification,” *NAFIPS International Conference on Fuzzy Systems, Soft Computing, and Explainable AI*, South Padre Island, TX, May 27–29, 2024. [acceptance rate not available]
- C39. M. Ibrahim* and **S. Ekin**, “Propeller Modulation Equalization via Reference Tones,” *IEEE Military Communications Conference (MILCOM)*, Washington, DC, USA, 2024, pp. 1–5, doi:10.1109/MILCOM61039.2024.10774041. [acceptance rate not available]
- C38. Md Z. Islam*, B. Martin*, C. Gotcher***, T. Martinez***, J. F. O’Hara, and **S. Ekin**, “Respiratory Anomaly Detection Using Reflected Infrared Light-Wave Signals,” *Wireless Telecommunications Symposium (WTS)*, Oakland, CA, Apr. 2024. [acceptance rate not available]
- C37. H. Abuella*, Md Z. Islam*, R. Messenger***, J. F. O’Hara, and **S. Ekin**, “Analysis and Empirical Validation of Visible Light Path Loss Model for Vehicular Sensing and Communication,” *International Conference on Computing, Networking and Communications (ICNC)*, Big Island, HI, Feb. 19, 2024. [acceptance rate 24% (2024)]
- 2023**
- C36. E. Abele*, S. Altunc, O. Kegege, K. Ryder, B. Azimi, M. Campola, K. Lynaugh, G. Barnaba, P.G. LoPresti, **S. Ekin**, and J. F. O’Hara, “Channel Measurements for Switching Strategies in Hybrid RF/Optical Communications,” *IEEE Aerospace Conference*, 2023, pp. 1–11, doi:10.1109/AERO55745.2023.10115691. [acceptance rate not available]
- C35. M. Ibrahim*, **S. Ekin**, and A. R. Ekti, “Warping Functions Design for Long Warped ZT-DFT-s-OFDM,” *IEEE Military Communications Conference (MILCOM)*, Boston, MA, USA, 2023, pp. 280–285, doi:10.1109/MILCOM58377.2023.10356370. [acceptance rate $\approx$ 53% (2023)]
- C34. W. Raza*, F. A. Khan, M. U. B. Farooq, **S. Ekin**, and A. Imran, “Positioning Error Impact Compensation through Data-Driven Optimization in User-Centric Networks,” *IEEE Global Communications Conference (GLOBECOM)*, Kuala Lumpur, Malaysia, Dec. 4–8, 2023. [acceptance rate 39% (2023); top conference in wireless communications]
- C33. S. Azmeen-ur-Rahman, M. O. Hasna, **S. Ekin**, and W. Choi, “Two-Port Characterization of Symmetric Varactors in 65-nm CMOS Process for Mixer Applications,” *IEEE Texas Symposium on Wireless and Microwave Circuits and Systems (WMCS)*, Waco, TX, USA, 2023, pp. 1–4, doi:10.1109/WMCS58822.2023.10194281. [acceptance rate not available]
- C32. A. Almohamad*, **S. Ekin**, M. Hasna, and K. A. Qaraqe, “Enhancing Performance in Hybrid RF/FSO Systems: Leveraging Level Crossing Rate for Seamless Switching,” *IEEE International Black Sea Conference on Communications and Networking (BlackSeaCom)*, Istanbul, Türkiye, 2023, pp. 289–293, doi:10.1109/BlackSeaCom58138.2023.10299753. [acceptance rate not available]

- C31. S. K. Kasi*, U. S. Hashmi, **S. Ekin**, and A. Imran, "Learning-Aided Demand-Driven Elastic Architecture for 6G & Beyond," *IEEE 97th Vehicular Technology Conference (VTC2023-Spring)*, Florence, Italy, June 19–23, 2023. [acceptance rate $\approx$ 64% (2023)]
- C30. L. Yu**, H. Abuella*, Md Z. Islam*, J. F. O'Hara, C. Crick, and **S. Ekin**, "Hand Gesture Recognition through Reflected Infrared Light Wave Signals," *10th International Conference on Electrical and Electronics Engineering (ICEEE)*, Istanbul, Türkiye, May 8–10, 2023. [acceptance rate not available]

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- C29. E. Abele*, S. Altunc, O. Kegege, K. Ryder, B. Azimi, M. Campola, K. Lynaugh, G. Barnaba, **S. Ekin**, and J. F. O'Hara, "Flight and Direct to Earth/Space Relay Communication System Architecture for GSFC CubeSat Missions," *36th Annual Small Satellite Conference*, Logan, UT, 2022. [acceptance rate not applicable]
- C28. M. Abdelhadi*, U. S. Hashmi, M. Nabeel, A. Imran, and **S. Ekin**, "Complex Agent-based Modeling for HetNets Design and Optimization," *International Conference on 6G Networking (6GNet)*, Paris, France, July 6–8, 2022. [acceptance rate not available]
- C27. S. K. Kasi*, U. S. Hashmi, M. Nabeel, **S. Ekin**, and A. Imran, "Is CoMP Beneficial In User-Centric Cloud RAN?," *International Conference on 6G Networking (6GNet)*, Paris, France, July 6–8, 2022. [acceptance rate not available]
- C26. H. S. Cankurtaran, A. Kachroo*, W. Choi, J. F. O'Hara, S. Yarkan, K. Qaraqe, M. Hasna, and **S. Ekin**, "Propeller Effects on mmWave UAV Channels: A Statistical and Empirical Modeling Study," *IEEE International Black Sea Conference on Communications and Networking (BlackSeaCom)*, Sofia, Bulgaria, June 6–9, 2022. [acceptance rate not available]
- C25. W. Raza*, U. S. Hashmi, A. Imran, and **S. Ekin**, "Towards Positioning Error Impact Characterization and Minimization in User-Centric RAN," *IEEE Wireless Communications and Networking Conference (WCNC)*, Austin, TX, Apr. 10–13, 2022. [acceptance rate 49% (2022)]
- C24. E. Abele*, S. Altunc, O. Kegege, B. Azimi, **S. Ekin**, and J. F. O'Hara, "S-band Network Analysis and Strategies for LEO Multi-CubeSat Science Missions," *IEEE Aerospace Conference*, Big Sky, MT, Mar. 5–12, 2022. [acceptance rate not available]
- C23. T. Mitchell, **S. Ekin**, J. West, M. Ibrahim*, J. Jacob, D. Johnson, and K. Roth, "Unmanned Measurement of an ILS System Using a Software Defined Radio," *American Institute of Aeronautics and Astronautics (AIAA) SciTech Forum*, San Diego, CA, Jan. 3–7, 2022. [acceptance rate not applicable]

2021

- C22. E. Abele*, W. Raza*, J. F. O'Hara, A. Imran, W. Choi, I. Song, P. LoPresti, S. Altunc, O. Kegege, and **S. Ekin**, "Towards High Data Rate Hybrid RF/Optical Lunar Communication Architecture," *Small Satellite Conference*, Logan, UT, Aug. 2021. [acceptance rate not applicable]
- C21. C. Thornton***, A. Kachroo*, H. Bai, **S. Ekin**, and W. Choi, "De-embedding Motion Artifacts from Robotic Arm Assisted Propagation Measurements," *IEEE Texas Symposium on Wireless and Microwave Circuits and Systems*, Virtual, May 18–20, 2021. [acceptance rate not available]

2020

- C20. H. Abuella* and **S. Ekin**, "Non-Contact Vital Signs Monitoring Through Visible Light Sensing," *IEEE Sensors Conference*, Virtual, Oct. 25–28, 2020. [acceptance rate not available]

2019

- C19. Q. Gao, **S. Ekin**, K. A. Qaraqe, and E. Serpedin, "Bias Allocation and Precoding for Tricolor Visible Light Communications with Signal-dependent Noise," *25th Asia-Pacific Conference on Communications (APCC)*, Ho Chi Minh City, Vietnam, Nov. 6–8, 2019. **BEST PAPER AWARD** [acceptance rate not available]
- C18. Q. Gao, **S. Ekin**, K. A. Qaraqe, and E. Serpedin, "Capacity Maximizing Power Allocation for Multi-Channel Visible Light Communications," *IEEE International Smart Cities Conference (ISC2): Africa Smart Sustainable Cities & Communities Workshop*, Casablanca, Morocco, Oct. 14–17, 2019. [acceptance rate not available (workshop)]
- C17. H. Abuella* and **S. Ekin**, "A New Paradigm for Non-contact Vitals Monitoring using Visible Light Sensing," *IEEE International Conference on Sensing, Communication and Networking (SECON)*, Boston, MA, USA, June 10–13, 2019. [acceptance rate 28.6% (2019)]
- C16. H. Abuella*, O. Khandel, M. Soliman, and **S. Ekin**, "An Innovative Implementation of Visible Light Sensing for Quantifying the Dynamic Response of Bridge Girders," *9th International Conference on Structural Health Monitoring of Intelligent Infrastructure (SHMII-9)*, St. Louis, MO, Aug. 4–7, 2019. [acceptance rate not applicable]
- C15. H. Abuella*, **S. Ekin**, S. Ahmed, F. Miramirkhani, B. Kebapci, and M. Uysal, "Wireless Sensing using Vehicle Headlamps for Intelligent Transportation Systems: Proof of Concept," *Tran-SET Annual Conference*, San Antonio, TX, April 11–12, 2019; MATEC Web of Conferences, vol. 271, p. 06004, EDP Sciences, 2019. [acceptance rate not available]

2018

- C14. A. Kachroo* and **S. Ekin**, "Impact of Secondary User Interference on Primary Network in Cognitive Radio Systems," *IEEE 88th Vehicular Technology Conference (VTC2018-Fall)*, Chicago, IL, Aug. 27–30, 2018. [acceptance rate not available]
- C13. M. A. Mestiraihi**, H. Abuella*, and **S. Ekin**, "Indoor Occupancy Estimation using Visible Light Sensing (VLS) System," *IEEE 88th Vehicular Technology Conference (VTC2018-Fall)*, Chicago, IL, Aug. 27–30, 2018. [acceptance rate not available]
- C12. X. Wang, **S. Ekin**, and E. Serpedin, "Joint Decision of Sensing Threshold and Power Allocation in OFDM Cognitive Radio Networks," *IEEE International Conference on Communications (ICC)*, Kansas City, MO, May 20–24, 2018. [acceptance rate 39.9% (2018); top conference in wireless communications]

2017

- C11. T. S. Dervish***, C. G. Teague***, F. Liu***, A. Coffey***, A. Kachroo*, **S. Ekin**, and J. S. Krasinski, "Position at Response: A Novel Highly Accurate and Low Cost Laser Positioning System," *International Telecommunications Conference (ITELCON)*, Istanbul, Türkiye, Dec. 28–29, 2017. **BEST PAPER AWARD** [acceptance rate not available]
- C10. H. Abuella*, **S. Ekin**, and M. Uysal, "ViLDAR: A Novel Speed Estimation System using Visible Light in Vehicles," *IEEE 38th Sarnoff Symposium*, Newark, NJ, Sept. 18–20, 2017. [acceptance rate not available]
- C9. X. Wang, **S. Ekin**, K. A. Qaraqe, and E. Serpedin, "Fair resource Allocation in Downlink OFDM-based Cognitive Radio Networks," *International Symposium on Signals, Circuits and Systems (ISSCS)*, Iasi, Romania, July 2017. [acceptance rate not available]
- C8. X. Wang, **S. Ekin**, and E. Serpedin, "Optimal resource Allocation for Downlink OFDM-based Cognitive Radio Networks," *International Symposium on Networks, Computers and Communications (ISNCC)*, Marrakech, Morocco, May 16–18, 2017. [acceptance rate 36% (2017)]

2013

- C7. **S. Ekin**, M. Abdallah, K. A. Qaraqe, and E. Serpedin, "An Investigation of Inter-cell Subcarrier Collisions in OFDM-Based Cognitive Radio Networks," *IEEE 14th Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, Darmstadt, Germany, June 2013. [acceptance rate not available (workshop)]
- C6. **S. Ekin**, M. Abdallah, K. A. Qaraqe, and E. Serpedin, "On the Capacity of a Cognitive User with Subcarrier Collisions over Rayleigh Fading Channels," *9th Advanced International Conference on Telecommunications (AICT)*, Rome, Italy, June 2013. [acceptance rate 29% (2013)]

2012

- C5. **S. Ekin**, M. Abdallah, K. A. Qaraqe, and E. Serpedin, "On OFDM-Based Cognitive Radio Spectrum Sharing Systems with Random Access," *IEEE Wireless Advanced (WLAD)*, London, UK, June 2012. [acceptance rate not available]

2011

- C4. **S. Ekin**, S. Yarkan, K. A. Qaraqe, and E. Serpedin, "On the Statistics of Sub-carrier Collisions for Cell-edge Users and Air Interface Capacity in OFDMA Systems," *International Symposium on Signals, Circuits and Systems (ISSCS)*, Iasi, Romania, July 2011. [acceptance rate not available]
- C3. **S. Ekin**, T. Agarwal, K. A. Qaraqe, and E. Serpedin, "Ergodic Sum Capacity of Multiple-Access Cognitive Radio Spectrum Sharing Systems in Hyper Fading Environments," *International Symposium on Signals, Circuits and Systems (ISSCS)*, Iasi, Romania, July 2011. [acceptance rate not available]

2009

- C2. **S. Ekin**, F. Yilmaz, H. Celebi, K. A. Qaraqe, M.-S. Alouini, and E. Serpedin, "Achievable Capacity of a Spectrum Sharing System over Hyper Fading Channels," *IEEE Global Communications Conference (GLOBECOM)*, Honolulu, HI, Dec. 2009. [acceptance rate $\approx 37\%$ (2009); top conference in wireless communications]

2008

- C1. **S. Ekin**, A. I. El-Osery, and W. Abd-Elmageed, "RF-Based Location Determination in Heterogeneous Sensor Networks Using Rayleigh Fading Channel," *IEEE International Conference on Computer Communications (INFOCOM), 2nd Workshop on MCN*, Phoenix, AZ, Apr. 2008. [acceptance rate 28% (2008)]

Books and book chapters

- B2. A. Kachroo*, S. Vishwakarma**, J. N. Dixon**, H. Abuella*, A. Popuri**, Q. H. Abbasi, C. F. Bunting, J. D. Jacob, and **S. Ekin**, "Ultra-Wide Band Channel Measurements and Modelling for Unmanned Aerial Vehicle-to-Wearables (UAV2W) Systems," *Autonomous Airborne Wireless Networks*, Wiley, 2021.
- B1. **S. Ekin** and A. I. El-Osery, "RF-Based Location Determination In Heterogeneous Sensor Networks: Localization In Wireless Sensor Networks Using Particle Filters Over Rayleigh Fading Channels," *VDM Verlag*, Dec. 2009 (research monograph).

Patents and invention disclosures

ISSUED U.S. PATENTS

- P8. **S. Ekin**, D. Piao, and J. F. O'Hara, "System and Method of Non-Contact Glucose Sensing," U.S. Patent 11,796,466, Oct. 2023. Assignee: Oklahoma State University; status: active.

- P7. H. Abuella*, **S. Ekin**, and M. Uysal, “System and Method for Speed Estimation, Detection and Ranging Using Visible Light in Vehicles,” U.S. Patent 10,768,194, Sept. 2020. Assignees: Oklahoma State University and Özyeğin University; status: active.

PUBLISHED PATENT APPLICATIONS

- P6. **S. Ekin**, M. F. Karim, and A. Tag*, “Non-Invasive Multi-Target Blood Pressure Monitoring using Passive Beamforming mmWave FMCW Radar,” International (PCT) Patent Application Publication WO 2025/221680 A1 (Appl. PCT/US2025/024567), filed Apr. 2025. Assignee: Texas A&M University System; status: pending.
- P5. **S. Ekin** and H. Abuella*, “System and Method of Noncontact Vital Signs Monitoring Through Light Sensing,” U.S. Patent Application Publication US 2019/0274547 A1 (Appl. 16/295,603), filed Mar. 2019. Assignee: Oklahoma State University; status: abandoned.
- P4. R. He, **S. Ekin**, V. B. Vijayakumar, P. Krishnamoorthy, T. Asthana, G. A. M. Mohammed, R. A. A. Attar, P. Kaivaram, and D. Chen, “Adaptive Control Channel Detection in Wireless Communications,” U.S. Patent Application Publication US 2016/0119804 A1 (Appl. 14/526,273), filed Oct. 2014.

INVENTION DISCLOSURES

- P3. **S. Ekin** and M. Soliman, “Structural Health Monitoring using Light-wave Sensing,” invention disclosure submitted to OSU Patent Office, Aug. 2019.
- P2. H. Abuella*, **S. Ekin**, and M. A. Mestiraihi**, “A System for Indoor Occupancy Estimation using Visible Light Sensing (VLS),” invention disclosure submitted to OSU Patent Office, Feb. 2018.
- P1. **S. Ekin**, J. Hu, and R. Reuter, “Narrowband Internet of Things based Livestock Monitoring and Anomaly Detection Algorithms,” invention disclosure submitted to OSU Patent Office, Apr. 2017.

Other conference papers and technical reports (Not peer-reviewed)

- N6. S. K. Kasi, U. S. Hashmi, M. Nabeel, **S. Ekin**, and A. Imran, “A DRL-based Demand-Driven Elastic User-Centric RAN Optimization for 6G & Beyond,” *RF 2022 Research Forum, University of Oklahoma*, Tulsa, OK, 2022.
- N5. R. Messenger**, K. Strecker*, J. F. O’Hara, and **S. Ekin**, “Improved surface reflectivity and dispersion using metal doped paints in terahertz band,” *Next-Generation Spectroscopic Technologies XIV*, vol. 11725, p. 1172507, International Society for Optics and Photonics (virtual conference), 2021.
- N4. K. Strecker*, J. F. O’Hara, and **S. Ekin**, “Deterministic and stochastic effects in broadband terahertz links affected by atmospheric temporal dispersion,” *Next-Generation Spectroscopic Technologies XIV*, vol. 11725, International Society for Optics and Photonics (virtual conference), 2021.
- N3. K. Strecker**, **S. Ekin**, and J. F. O’Hara, “Correction of Channel Dispersion in Terahertz Wireless Communications,” *SPIE Next-Generation Spectroscopic Technologies XIII*, vol. 11390, p. 113900N, 2020.
- N2. **S. Ekin**, R. He, J. N. Paul, and S. Apte, “Rx AGC Accumulator Timing Offset Impacts,” *Qualcomm Tech (Qtech)*, San Diego, CA, June 2014.
- N1. S. Celebi, N. K. Vinay, J. Luo, and **S. Ekin**, “Power Activity Indicator Based Interference Control in UMTS HetNets,” *Qualcomm Tech (Qtech)*, San Diego, CA, June 2013.

Theses, posters, and other works

- 6. **S. Ekin**, N. Duffield, K. Narayanan, and D. Casey, “Transforming AI Research and Education: Texas A&M’s Generative AI Literacy Initiative,” *Poster, Artificial Intelligence Research & Innovation Meeting, Texas A&M University System, Faculty AI Research Discovery Gallery (AI for Scientific Reasoning & Discovery)*, Oct. 5–6, 2026, College Station, TX.
- 5. **S. Ekin**, “Random Subcarrier Allocation in OFDMA-based Cognitive Radio Networks and Hyper Fading Channels,” *Ph.D. dissertation, Electrical and Computer Engineering, Texas A&M University*, Dec. 2012.
- 4. **S. Ekin**, “Capacity of Dynamic Fading Cognitive Radio Multiple-Access Channels,” *Poster, 2011 School of Information Theory*, May 27–30, 2011, Univ. of Texas at Austin, Austin, TX.
- 3. **S. Ekin**, “Capacity of Cognitive Radio Systems over Hyper Fading Channels,” *Poster, 14th Annual Student Research Week, Texas A&M University*, Mar. 2011. **SECOND PLACE AWARD (ECE)**
- 2. **S. Ekin**, “Solutions Manual for the Chapter on Majorization Theory with Applications in Signal Processing and Communication Systems,” *Mathematical Foundations for Signal Processing, Communications, and Networking*, Chapter by J. Wang and D. P. Palomar; Eds. E. Serpedin, T. Chen, and D. Rajan, Cambridge University Press, 2011.
- 1. **S. Ekin**, “RF-Based Location Determination in Heterogeneous Sensor Networks,” *M.Sc. thesis, Department of Electrical Engineering, New Mexico Institute of Mining and Technology*, May 2008.

TEACHING

8 courses taught • **3** new AI courses developed • **5** full curriculum designs

Including a College of Engineering Sprint Course, AI modules for Hullabaloo U, and PE exam preparation for LANL

Texas A&M University

- 2027 **ESET 489: Artificial Intelligence: Introduction and Applications**
Developed as a new undergraduate course (full curriculum design); first offering Fall 2027.
- 2027 **ENTC 689: From Machine Learning to Modern AI: Fundamentals, Tools, and Applications**
Spring 2027 (scheduled).
- 2026 **ENGR 689: AI/ML Fundamentals, Tools, and Applications**
Fall 2026. College of Engineering Sprint Course (one-week mini-semester course, 15 hours); developed and launched as a new course.
- 2025–2026 **ENTC 689: Generative AI: Introduction and Applications**
Spring 2025, 2026. Developed and launched as a new course; full curriculum design. First GenAI course at TAMU.
- 2023–2026 **ESET 455: Wireless Transmission Systems**
Fall/Spring 2023, 2024, 2025, 2026. Developed new labs.
- 2023 **PE Exam Preparation: Communications Topics**, Los Alamos National Laboratory (LANL)
Developed and taught the communications topics for LANL staff and engineers.
- 2026 **Hullabaloo U** (university-wide first-year course): AI course modules
Developed AI course modules with the Center for Teaching Excellence (CTE).

Oklahoma State University

- 2020–2021 **ECEN 3513: Signals Analysis**
Fall 2020, 2021

2020	ECEN 4523: Communication Theory Spring 2020
2018–2019	ECEN/MAE 5513: Stochastic Systems Fall 2018, 2019. Full curriculum design.
2017–2022	ECEN 5573: Wireless Communications Spring 2017, 2018, 2019, 2021, 2022. Full curriculum design.
2016–2021	ECEN 4533: Data Communications Fall 2016, 2017, 2018, 2019, 2020, 2021. Designed and developed new labs; full curriculum design.

INVITED TALKS AND PANELS

24 invited talks and seminars • **5** invited panels • **12** since joining Texas A&M (2023)

Including DOE Oak Ridge National Laboratory, NASA JPL/Caltech, NSF, Qualcomm, Boeing, and universities in the U.S., Norway, and Türkiye

Invited talks and seminars

2027	Workshop on the Energy Consequences of Information Processing (ECI 2027) (DOE Office of Science ASCR, AFOSR, AFRL, NIH, and Sandia National Laboratories), Santa Fe, NM, Jan. 25–28, 2027 (scheduled) <i>Internet of Things Applications – Hybrid RF/Optical Wireless Communication System Design</i>
2026	Texas A&M University System Artificial Intelligence Research & Innovation Meeting , Faculty AI Research Discovery Gallery, AI for Scientific Reasoning & Discovery section (Oct. 5–6, 2026; poster presentation) <i>Transforming AI Research and Education: Texas A&M's Generative AI Literacy Initiative</i>
2026	Texas A&M University, Electrical and Computer Engineering, Electromagnetics Seminar <i>Advances in Wireless Communications and Sensing, and the Generative AI Literacy Initiative</i>
2026	University of Stavanger, Norway <i>If AI Is the Calculator of Our Era, What Is the New “Math”?</i>
2026	Texas A&M University, ETID/MSET Seminar Series <i>AI Explained: What It Is, What It Isn't, and Why It Matters</i>
2025	Texas A&M College of Engineering Faculty Engagement Event: Innovative AI Tools and Resources <i>Generative AI Literacy</i> . Organized by the College of Engineering Associate Dean.
2025	Texas A&M Institute of Data Science (TAMIDS), GenAI Foundations Workshop for Beginners (Sept. 23 and Oct. 23, 2025) <i>Generative AI for Beginners</i>
2025	Texas A&M Institute of Data Science (TAMIDS) Seminar Series <i>Generative AI: Introduction and Applications</i>
2025	Oklahoma State University, School of ECE <i>Brains Behind the Chatbots: How Transformers Power Large Language Models</i>
2024	Gebze Technical University, Türkiye <i>Advances in Wireless Sensing and Communication</i>
2023	Batman University, Türkiye <i>Advances in Wireless Sensing and Communication</i>
2023	Texas A&M University, Electrical and Computer Engineering Seminar Series <i>Advances in Wireless Sensing and Communication</i>

2022	Department of Energy (DOE), Oak Ridge National Laboratory (ORNL) <i>Advances in Wireless Sensing and Communication</i>
2021	Texas A&M University, Industrial and Systems Engineering Department <i>Advances in Wireless Sensing and Communication</i>
2021	Oklahoma State University, Agricultural Education Department <i>Can TVWS Technology Bridge the Digital Divide?</i>
2020	Oklahoma State University, CEAT Research Seminar Series <i>Wireless Sensing and Communication Research</i>
2020	Rural Renewal Symposium <i>Could Rural Communities Bridge the Digital Divide Using TV White Space?</i>
2020	NSF Second Call to Arms Workshop: Wireless and Mobile Systems in the Face of COVID-19 <i>A Low-Cost and Non-Contact Monitoring of Respiration Rate, Patterns, and Anomalies for Patients with COVID-19</i>
2020	Research and Development Group, Qualcomm Inc. <i>Advances in Wireless Sensing and Communication</i>
2018	NASA Jet Propulsion Laboratory (JPL), Caltech <i>Visible Light Sensing and Communication</i>
2018	Boeing Innovation Week <i>Visible Light Communication and Sensing: Applications for the Aerospace Industry</i>
2017	Oklahoma Transportation Research Day <i>Vehicle Sensing and Communications Using LED Headlamps for Intelligent Transportation Systems</i>
2017	National Academy of Sciences and National Science Foundation (NSF); Multidisciplinary CubeSats Forum <i>Interference- and Topology-Aware Cognitive Radio Systems for Small Satellites Communication Networks</i>
2016	The Scientific and Technological Research Council of Türkiye (TÜBİTAK) <i>Random Subcarrier Allocation in OFDM-Based Cognitive Radio Networks</i>

Invited panelist

2026	How to Change the World roundtable (Provocateur), how-to-change-the-world.org
2026	National AI Literacy Day, Texas A&M University
2025	Texas A&M Connected Intelligence Workshop
2020	NSF Second Call to Arms Workshop: Wireless and Mobile Systems in the Face of COVID-19
2017	Forum by National Academy of Sciences (NAS) and National Science Foundation (NSF); Multidisciplinary CubeSats Forum

PROFESSIONAL SERVICE

2 current IEEE editorships (5 editorial roles in total)

6 technical program committees • **4** session chairs • **3** events organized

Reviewer for **21** journals and **7** conferences • NSF and DOE proposal reviewer and panelist

University service: 13 committees (9 Texas A&M, 4 Oklahoma State)

Associate editor and guest editor

2025–present	IEEE Transactions on Green Communications and Networking
2025–present	IEEE Open Journal of the Communications Society

2021–2022 Balkan Journal of Electrical and Computer Engineering
 2019–2021 European Journal of Technique (EJT)
 2019–2021 Frontiers in Communications and Networks

Reviewer and panelist for funding agencies

2026 DOE Early Career Research Program (proposal reviewer)
 2025 2026 Workshop on the Energy Consequences of Information Processing (co-organized by DOE, AFOSR, AFRL, and Sandia National Laboratories (SNL))
 2022–present Department of Energy, Office of Science
 2017–present National Science Foundation

Workshops and events organized

2026 Co-organizer, NVIDIA workshop (with Texas A&M ECE)
 Adding Knowledge to LLMs
 2025 Organizer and host, MathWorks seminar, Generative AI Literacy Initiative (TAMIDS)
 MATLAB with Agentic Tools
 2025–2026 Co-organizer, GenAI Foundations Workshop series for faculty and staff (TAMIDS, with CTE)

Technical committee member

2026 TPC member and reviewer, IEEE GLOBECOM 2026
 2025 2026 Workshop on the Energy Consequences of Information Processing (co-organized by DOE, AFOSR, AFRL, and Sandia National Laboratories (SNL))
 2020 IEEE International Conference on Computing, Networking and Communications
 2020 Texas Symposium on Wireless and Microwave Circuits and Systems
 2019 IEEE Vehicular Technology Conference
 2018 Istanbul Commerce University Technology and Applications Science Journal

Session chair

2024 IEEE Vehicular Technology Conference
 2023 IEEE International Conference on Computing, Networking and Communications
 2019 IEEE International Conference on Sensing, Communication, and Networking
 2017 IEEE 38th Sarnoff Symposium

Service within the university: Texas A&M University

2026–present ETID Faculty Success Committee
 2025–present ETID Promotion and Tenure Committee
 2025–present ETID ESET Faculty Search Committee
 2025–present ETID Strategic Plan Taskforce
 2024–2026 ETID School of ETID Committee
 2024–present ETID Tenure Track Mentoring Committee Chair (for two ESET faculty)
 2024–present ETID Post-Tenure Review Committee
 2023–present COE Engineering Faculty Advisory Committee (EFAC), ETID Representative
 2023–2024 ETID Honors and Awards Committee

Service within the university: Oklahoma State University

2022	ECE Faculty Search Committee
2017–2022	ECE Awards Committee
2017–2022	ECE Recruiting Committee
2016–2017	ECE Lab/Space Committee

Reviewer for journals and conferences

Journals: IEEE Transactions on Green Communications and Networking; IEEE Open Journal of the Communications Society; IEEE Transactions on Communications; IEEE Communications Magazine; IEEE Transactions on Wireless Communications; IEEE Photonics Journal; IEEE Internet of Things Journal; IEEE Transactions on Intelligent Transportation Systems; IEEE Transactions on Circuits and Systems I; IEEE Sensors Journal; IEEE Sensors Letters; IEEE Access; IEEE Communications Letters; IEEE Wireless Communications Letters; IEEE Transactions on Cognitive Communications and Networking; EURASIP Journal on Wireless Communications and Networking; Springer Wireless Personal Communications; Wiley Wireless Communications and Mobile Computing; Journal of Communications and Networks; Journal of Engineering Technology (JET); CRC Press (book proposals)

Conferences: IEEE International Conference on Communications; Vehicular Technology Conference; International Conference on Telecommunications; International Wireless Communications and Mobile Computing Conference; IEEE Global Communications Conference; Personal, Indoor and Mobile Radio Communications Conference; International Conference on Computing, Networking and Communications

Memberships

2021–present	Senior Member, Institute of Electrical and Electronics Engineers (IEEE)
	Member, IEEE Communications Society
	Member, IEEE Signal Processing Society

STUDENT ADVISING

6 Ph.D. graduated • 9 Ph.D. current (3 as co-chair) • 9 M.Sc./MSET graduated
4 M.Sc./MSET current • 1 postdoctoral researcher

Ph.D. graduates now at Amazon (2), Apple, PhasorLab, UT Southwestern, and Oklahoma State University

Postdoctoral researchers

Fall 2023 – Spring 2026	Mostafa Ibrahim
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Ph.D. students

Spring 2026 – present	Milad Saadat
Fall 2023 – present	Oguz Bedir
Fall 2023 – present	Nurullah Sevim (Chair; Co-advisor: Dr. Ted Rappaport, TAMU Hagler Fellow) Hagler Graduate Student Fellowship, 2025–2026 (one year of support)
Fall 2023 – present	Amir Tag
Spring 2023 – present	Hieu Le
Fall 2022 – present	Abdullateef Almohamad

Fall 2026 – present
Fall 2026 – present
Fall 2025 – present

Daniel Yu (Co-chair)
Rayan Mashat (Co-chair)
Sumin Kim (Co-chair)

M.Sc. students

Fall 2025 – present
Fall 2025 – present

Muhammet Kulaber (Co-chair)
Tiantian Zhu (Co-chair)

MSET students

Fall 2026 – present
Fall 2025 – present

Sean Coggins (with thesis; Co-chair)
Mamta Zawar (non-thesis)

Alumni (TAMU)

Fall 2023 – Spring 2026

Fall 2025 – Spring 2026
Fall 2025 – Spring 2026
Fall 2024 – Spring 2026
Spring 2025 – Fall 2025

Khalid Nakhleh (Ph.D.; co-advised with Dr. Ceyhun Eksin)
Last position: Applied Scientist at Amazon

Eden Schlink (MSET non-thesis)
Grant Gannon (MSET with thesis; Co-chair)
Nazanin Golshanara (MSET with thesis; Co-chair)
Bryce C. Hinze (MSET non-thesis)

Alumni (OSU)

Spring 2020 – Spring 2023

Spring 2020 – Fall 2023

Fall 2020 – Spring 2023

Spring 2017 – Spring 2021

Fall 2017 – Spring 2021

Spring 2018 – Fall 2019
Fall 2017 – Summer 2019
Fall 2017 – Spring 2019
Fall 2016 – Spring 2018
Fall 2016 – Spring 2018

Mostafa Ibrahim (Ph.D.)
Last position: Senior Wireless Communication Systems Engineer at PhasorLab Inc.

Zobaer Islam (Ph.D.)
Last position: Research Instructor at University of Texas Southwestern (previously at NC State University)

Karl Strecker (Ph.D.; co-advised with Dr. John O’Hara)
Last position: Postdoctoral Fellow at Oklahoma State University

Hisham Abuella (Ph.D.)
Last position: Senior Modem Systems Engineer at Apple (previously at Qualcomm)

Amit Kachroo (Ph.D.)
Last position: Applied Scientist at Amazon

Li Yu (M.Sc.)
Hussein Kwasme (M.Sc.)
Mohammad Al Mestiraihi (M.Sc.)
Surbhi Vishwakarma (M.Sc.)
Adithya Popuri (M.Sc.)

TECHNOLOGY TRANSFER AND ENTREPRENEURSHIP

2026–present **Founder, GrantPanel LLC**
AI-based mock review panel software for federal grant proposals; grantpanel.ai.

2026–present **Co-founder, Aura Prism LLC**
Commercializing non-invasive mmWave radar blood-pressure monitoring (PCT application WO 2025/221680 A1). NSF I-Corps participant (2025); preparing a full DoD SBIR proposal.

- 2020–present **ViLDAR licensing** (ongoing)
Visible light vehicle speed estimation (U.S. Patent 10,768,194); licensing discussions underway with a prospective licensee.
- 2019–present **Co-founder, Waylolo**, a non-contact lightwave sensing company (co-founded with Dr. Zobaer Islam, former Ph.D. student)
NSF I-Corps award (\$50K), NSF Division of Industrial Innovation and Partnerships (IIP), 2021; invited to submit a full NSF SBIR proposal.
- 2015–present **Industry deployment, Qualcomm**
Adaptive control-channel detection technique (US 2016/0119804 A1) implemented in Qualcomm commercial modem firmware and software; shipped in Qualcomm modems used in Apple and Android devices since 2015.

OUTREACH

- 2017–present **DIY Light-Wave Communication Kits**
Designed and distributed 200+ do-it-yourself visible-light wireless communication kits to K-12 students at numerous schools and Wonderland (children’s museum), and to undergraduate students at Oklahoma State University and Texas A&M University (sabitek.in.com/diy-kit).
- 2021–2023 **PETE-Kits rural outreach**
Productivity Enhancing Technology Experience Kits (PETE-Kits) provided hands-on technology experiences to K-12 schools in rural Oklahoma counties to promote rural entrepreneurship; supported by an NSF CNS Smart and Connected Communities (SCC) award.

MEDIA COVERAGE (NATIONAL AND INTERNATIONAL)

- 2025 **CXOTech Magazine**, *Generative AI Literacy: The Core Skill That Will Define Tech Leadership*
Authored article as Director of the Generative AI Literacy Initiative (Nov. 2025).
- 2025 **Marketing Brew**, *On campuses, GenAI companies brand themselves as academic friends, not foes*
Quoted as Director of the Generative AI Literacy Initiative.
- 2025 **Texas A&M joining OpenAI’s NextGenAI consortium and the Generative AI Literacy Initiative**
Covered by OpenAI, Forbes, Inside Higher Ed, HPCwire, Investing.com, IBL News, AI Magazine (UK), and ActuIA (France).
- 2025 **Featured and quoted**
EurekAlert! (AAAS), Semiconductor Digest, and The AI Insider.