IEEE Journal Papers (under review)

(3,407 citations)
http://www.sce.carleton.ca/faculty/yanikomeroglu/cv/publications.pdf

J.-D. Medjo Me Biomo, H. Yanikomeroglu, G. Karabulut Kurt, "Supervised learning for routing in satellite networks: A synthetic dataset generation framework based on flooding protocol", under review in *IEEE Transactions on Aerospace and Electronics Systems*.

W. Jaafar, H. Yanikomeroglu, "HAPS-ITS: Enabling future ITS services in trans-continental highways", under review in *IEEE Communications Magazine*.

A. Hajijamali Arani, M.M. Azari, P. Hu, Y. Zhu, H. Yanikomeroglu, S. Safavi-Naeini, "Green sky: Reinforcement learning for energy-efficient trajectory design of UAVs", under review in *IEEE Internet of Things Journal*.

O. Abbasi, H. Yanikomeroglu, "Transmission scheme, detection and power allocation for uplink user cooperation with NOMA and RSMA", under review in *IEEE Transactions on Communications*.

K. Tekbiyik, G. Karabulut Kurt, A.R. Ekti, H. Yanikomeroglu, "Graph attention networks for channel estimation in RIS-assisted satellite IoT communications", under review in *IEEE Internet of Things Journal*.

K. Tekbiyik, G. Karabulut Kurt, A.R. Ekti, H. Yanikomeroglu, "Reconfigurable intelligent surfaces in action for non-terrestrial networks", under review in *IEEE Wireless Communications Magazine*. (02)

S. Alfattani, W. Jaafar, Y. Hmamouche, H. Yanikomeroglu, A. Yongacoglu, "Link budget analysis for reconfigurable smart surfaces in aerial platforms", under review in *IEEE Open Journal of the Communications Society*. (05)

IEEE Journal Papers (under review)

N. Cherif, W. Jaafar, H. Yanikomeroglu, A. Yongacoglu, "3D Aerial highways: The key enabler of the retail industry transformation", under review in *IEEE Communications Magazine*. (04)

O. Ghdiri, W. Jaafar, S. Alfattani, J. Ben Abderrazak, H. Yanikomeroglu, "Offline and online UAV-enabled data collection in time-constrained IoT networks", under review in *IEEE Transactions on Green Communications and Networking*.

T. Darwish, G. Kurt, H. Yanikomeroglu, G. Lamontagne, M. Bellemare, "Location management in IP-based future LEO satellite networks: A review", under review in *IEEE Communications Surveys and Tutorials*.

K. Tekbiyik, G. Karabulut Kurt, H. Yanikomeroglu, "Energy-efficient RIS-assisted satellites for IoT networks", under review in *IEEE Internet of Things Journal*. (01)

P.M. Ghari, M. Sabbaghian, H. Yanikomeroglu, "Moving aerial anchors assisted network localization", under review in *IEEE Transactions on Wireless Communications*.

K. Tekbiyik, G. Karabulut Kurt, A.R. Ekti, A. Gorcin, H. Yanikomeroglu, "Reconfigurable intelligent surfaces empowered THz communication for LEO satellite networks", under review in *IEEE Transactions on Wireless Communications*. (08)

T. Darwish, G. Karabulut Kurt, H. Yanikomeroglu, G. Senarath, P. Zhu, "A vision of self-evolving network management for future intelligent vertical HetNet", under review in *IEEE Wireless Communications Magazine*. (04)

IEEE Journal Papers (2021)

G. Karabulut Kurt, H. Yanikomeroglu, "Communication, computing, caching, and sensing for next generation aerial delivery networks", to appear in *IEEE Vehicular Technology Magazine*.

Z. Rahimi, M.J. Sobouti, R. Ghanbari, S.A. Hosseini Seno, A.H. Mohajerzadeh, H. Ahmadi, H. Yanikomeroglu, "An efficient 3D positioning approach to minimize required UAVs for IoT network coverage", to appear in *IEEE Internet of Things Journal*.

IEEE Journal Papers (2021)

O.A. Topal, G. Karabulut Kurt, H. Yanikomeroglu, "Securing the inter-spacecraft links: Physical layer key generation from Doppler frequency shift", to appear in *IEEE Journal of Radio Frequency Identification*.

Y. Aydin, G. Karabulut Kurt, E. Ozdemir, H. Yanikomeroglu, "Group handover for drone-mounted base stations", to appear in *IEEE Internet of Things Journal*. (01)

K. Tekbiyik, G. Karabulut Kurt, A.R. Ekti, H. Yanikomeroglu, "Reconfigurable intelligent surfaces in action for non-terrestrial networks", under review in *IEEE Communications Magazine*. (02)

A. Mahmoud, S. Muhaidat, P. Sofotasios, I. Abualhaol, O.A. Dobre, H. Yanikomeroglu, "Intelligent reflecting surfaces assisted UAV communications for IoT networks: Performance analysis", to appear in *IEEE Transactions on Green Communications and Networking*.

H.S. Khallaf, M. Uysal, K. Kato, E.M. Mohamed, S.M. Sait, H. Yanikomeroglu, "Composite fading model for aerial MIMO FSO links in the presence of atmospheric turbulence and pointing errors" to appear in *IEEE Wireless Communications Letters*.

A.U. Chaudhry, H. Yanikomeroglu, "Laser inter-satellite links in a Starlink constellation: A Classification and analysis", to appear in *IEEE Vehicular Technology Magazine*.

W. Jaafar, H. Yanikomeroglu, "Dynamics of laser-charged UAVs: A battery perspective", to appear in *IEEE Internet of Things Journal*. (03)

IEEE Journal Papers (2021)

A.U. Chaudhry, H. Yanikomeroglu, "Free space optics for next-generation satellite networks", to appear in *IEEE Consumer Electronics Magazine*. (04)

G. Kurt, M.G. Khoshkholgh, S. Alfattani, A. Ibrahim, T.S.J. Darwish, Md S. Alam, H. Yanikomeroglu, A. Yongacoglu, "A vision and framework for the high altitude platform station (HAPS) networks of the future", *IEEE Communications Surveys and Tutorials*, Secondquarter 2021. (12)

N. Cherif, M. Alzenad, H. Yanikomeroglu, A. Yongacoglu, "Downlink coverage and rate analysis of an aerial user in vertical heterogeneous networks (VHetNets)", *IEEE Transactions on Wireless Communications*, Mar 2021 (10)

E. Erdogan, I. Altunbas, G. Karabulut Kurt, M. Bellemare, G. Lamontagne, H. Yanikomeroglu, "Site diversity in downlink optical satellite networks through ground station selection", *IEEE Access*, 2021.

M.S. Alam, G. Karabulut Kurt, H. Yanikomeroglu, P. Zhu, N.-D. Dao, "High altitude platform station based super macro base station (HAPS-SMBS) constellations", *IEEE Communications Magazine*, Jan 2021 (08)

S. Alfattani, W. Jaafar, Y. Hmamouche, H. Yanikomeroglu, A. Yongacoglu, N.D. Dao, P. Zhu, "Aerial platforms with reconfigurable smart surfaces for 5G and beyond", *IEEE Communications Magazine*, Jan 2021. (09)

E. Erdogan, I. Altunbas, N. Kabaoglu, H. Yanikomeroglu, "A cognitive radio enabled RF/FSO communication model for aerial relay networks: Possible configurations and opportunities", *IEEE Open Journal of Vehicular Technology*, 2021. (01)

IEEE Journal Papers (2020)

W, Jaafar, S. Naser, S. Muhaidat, P.C. Sofotasios, H. Yanikomeroglu, "On the downlink performance of RSMA-based UAV communications", *IEEE Transactions on Vehicular Technology*, Dec 2020. (01)

K. Tekbiyik, A.R. Ekti, G. Karabulut Kurt, A. Gorcin, H. Yanikomeroglu, "A holistic investigation on terahertz propagation and channel modeling toward vertical heterogeneous networks", *IEEE Communications Magazine,* Nov 2020. (08)

W. Jaafar, S. Naser, S. Muhaidat, P.C. Sofotasios, H Yanikomeroglu, "Multiple access in aerial networks: From orthogonal and non-orthogonal to rate-splitting", *IEEE Open J. of Vehicular Technology*, 2020. (06)

E. Kalantari, H. Yanikomeroglu, A. Yongacoglu, "Wireless networks with cache-enabled and backhaul-limited aerial base stations", *IEEE Transactions on Wireless Communications*, Nov 2020. (02)

O. Abbasi, H. Yanikomeroglu, A. Ebrahimi, N. Mokari, "Trajectory design and power allocation for drone-assisted NR-V2X network with dynamic NOMA/OMA", *IEEE Trans Wireless Communications*, Nov 2020. (05)

IEEE Journal Papers (2020)

A. Azizi, S. Parsaeefard, M.R. Javan, N. Mokari, H. Yanikomeroglu, "Profit maximization in 5G+ with heterogeneous aerial and ground base stations", *IEEE Transactions on Mobile Computing*, Oct 2020. (04)

C.T. Cicek, H. Gultekin, B. Tavli, H. Yanikomeroglu, "Backhaul-aware optimization of a UAV base station location and bandwidth allocation for profit maximization", *IEEE Access*, 2020. (17)

H. Vaezy, M.S.H. Abad, O. Ercetin, H. Yanikomeroglu, M.J. Omidi, M.M. Naghsh, "Beamforming for maximal coverage in mmWave drones: A reinforcement learning approach", *IEEE Communications Letters*, May 2020. (07)

A. Farajzadeh, O. Ercetin, H. Yanikomeroglu, "Mobility-assisted over-the-air computation for backscatter sensor networks", *IEEE Wireless Communications Letters*, May 2020. (04)

S. Enayati, H. Saeedi, H. Pishro-Nik, H. Yanikomeroglu, "Optimal altitude selection of aerial base stations to maximize coverage and energy harvesting probabilities: A stochastic geometry analysis", *IEEE Transactions on Vehicular Communications*, Feb 2020.

IEEE Journal Papers (2019)

M. Alzenad, H. Yanikomeroglu, "Coverage and rate analysis for vertical heterogeneous networks (VHetNets)", *IEEE Transactions on Wireless Communications*, Dec 2019. (26)

S. Enayati, H. Saeedi, H. Pishro-Nik, H. Yanikomeroglu, "Moving aerial base station networks: Stochastic geometry analysis and design perspective", *IEEE Trans. Wireless Communications*, Jun 2019. (37)

S. Andreev, V. Petrov, M. Dohler, H. Yanikomeroglu, "Future of ultra-dense networks beyond 5G: Harnessing heterogeneous moving cells", *IEEE Communications Magazine*, Jun 2019. (74)

X. Zhou, J. Guo, S. Durrani, H. Yanikomeroglu, "Underlay drone cell for temporary events: Impact of drone height and aerial channel environments", *IEEE Internet of Things Journal*, Apr 2019. (22)

I. Bor-Yaliniz, M. Salem, G. Senerath, H. Yanikomeroglu, "Is 5G ready for drones?: A look into contemporary and prospective wireless networks from a standardization perspective", *IEEE Wireless Communications Magazine*, Feb 2019. (50)

I. Bor-Yaliniz, A. El-Keyi, H. Yanikomeroglu, "Spatial configuration of agile wireless networks with drone-BSs and user-in-the-loop", *IEEE Transactions on Wireless Communications*, Feb 2019. (26)

IEEE Journal Papers (2016–2018)

X. Cao, P. Yang, M. Alzenad, X. Xi, D. Wu, H. Yanikomeroglu, "Airborne communication networks: A survey", *IEEE Journal on Selected Areas in Communications*, Sep 2018. (141)

I. Bor-Yaliniz, S.S. Szyszkowicz, H. Yanikomeroglu, "Environment aware drone-base-station placements in modern metropolitans", *IEEE Wireless Communications Letters,* Jun 2018. (37)

F. Lagum, I. Bor-Yaliniz, H. Yanikomeroglu, "Strategic densification with UAV-BSs for cellular networks", *IEEE Wireless Communications Letters,* Jun 2018. (65)

M. Alzenad, A. El-Keyi, H. Yanikomeroglu, "3D placement of an unmanned aerial vehicle BS for maximum coverage of users with different QoS requirements", *IEEE Wireless Commun. Letters,* Feb 2018. (250)

M. Alzenad, M.Z. Shakir, H. Yanikomeroglu, M.-S. Alouini, "FSO-based vertical backhaul/fronthaul framework for 5G+ wireless networks", *IEEE Communications Magazine,* Jan 2018. (273)

M. Alzenad, A. El-Keyi, F. Lagum, H. Yanikomeroglu, "3D placement of unmanned aerial vehicle base station (UAV-BS) for energy-efficient maximal coverage", *IEEE Wireless Commun. Lett.,* Aug 2017. (500)

I. Bor-Yaliniz, H. Yanikomeroglu, "The new frontier in RAN heterogeneity: Multi-tier drone-cells", *IEEE Communications Magazine,* Nov 2016. (359)

IEEE Conference Papers (2021)

N. Adam, C. Tapparello, W. Heinzelman, H. Yanikomeroglu, ""Utilizing ground nodes with multi-hop capabilities to extend the range of UAV-BSs", under review in *IEEE PIMRC 2021*.

A.U. Chaudhry, H. Yanikomeroglu, "Optical wireless satellite networks versus optical fiber terrestrial networks: The latency perspective", under review in *Biennial Symposium on Communications (BSC) 2021*.

M.Y. Abdelsadek, H. Yanikomeroglu, G. Karabulut Kurt, "Future ultra-dense LEO satellite networks: A cell-free massive MIMO approach", *IEEE ICC Workshops 2021*.

N. Cherif, W. Jaafar, H. Yanikomeroglu, A. Yongacoglu, "Disconnectivity-aware energy-efficient cargo-UAV trajectory planning with minimum handoffs", *IEEE ICC 2021*.

M.G. Khoshkholgh, H. Yanikomeroglu, "RSS-based UAV-BS 3-D mobility management via policy gradient deep reinforcement learning", *IEEE ICC 2021*.

K. Tekbıyık, G. Karabulut Kurt, C. Huang, A.R. Ekti, H. Yanikomeroglu, "Channel estimation for full-duplex RIS-assisted HAPS backhauling with graph attention networks", *IEEE ICC 2021*. (03)

A.Z. Cengiz, S. Tedik Basaran, B. Ozbek, G. Karabulut Kurt, H. Yanikomeroglu, "Approximation of correlation matrix for high altitude platform stations", SIU 2021.

O. Ben Yahia, E. Erdogan, G. Karabulut Kurt, I. Altunbas, H. Yanikomeroglu, "Physical layer security framework for optical non-terrestrial networks", *ICT 2021 Workshops*.

N. Adam, C. Tapparello, W. Heinzelman, H. Yanikomeroglu, "Placement optimization of multiple UAV base stations", *IEEE WCNC 2021*.

IEEE Conference Papers (2020)

N. Cherif, W. Jaafar, H. Yanikomeroglu, A. Yongacoglu, "On the optimal 3D placement of a UAV base station for maximal coverage of UAV users", *IEEE Globecom 2020*. (05)

O. Ghdiri, W. Jaafar, S. Alfattani, J. Ben Abderrazak, H. Yanikomeroglu, "Energy-efficient multi-UAV data collection for IoT networks with time deadlines", *IEEE Globecom 2020*. (01)

O.A. Topal, G. Karabulut Kurt, H. Yanikomeroglu, "Securing the inter-satellite links: Doppler frequency shift based physical layer key generation", *IEEE WiSEE 2020*. (01)

O. Abbasi, H. Yanikomeroglu, A. Ebrahimi, N. Mokari, "Dynamic NOMA/OMA for V2X network with UAV relaying", *IEEE VTC2020-Fall Workshops*.

I. Bor-Yaliniz, G. Senarath, H. Yanikomeroglu, "Aerial access nodes and virtual wireless access: A look into integration strategies", *IEEE ICC 2020*.

IEEE Conference Papers (2019)

S. Alfattani, W. Jaafar, H. Yanikomeroglu, A. Yongacoglu, "Multi-UAV data collection architecture for wireless sensor networks", *IEEE Globecom 2019*. (05)

N. Cherif, M. Alzenad, H. Yanikomeroglu, A. Yongacoglu, "Downlink coverage analysis of an aerial user in vertical heterogeneous networks", *IEEE Globecom 2019*. (03)

R. Ghanavi, M. Sabbaghian, H. Yanikomeroglu, A. Yongacoglu, "Q-Learning based aerial base station placement for fairness enhancement in mobile networks", *IEEE GlobalSIP 2019*. (01)

R. Ozdag, H. Yanikomeroglu, "A new meta-heuristic approach for 3D placement of multiple unmanned aerial vehicle base stations in wireless networks", *DMS 2019*.

M. Khoshkholgh, K. Navaie, H. Yanikomeroglu, V.C.M. Leung, K.G. Shin, "How do non-ideal UAV antennas affect air-to-ground communications?", *IEEE ICC 2019*. (06)

A. Farajzadeh, O. Ercetin, H. Yanikomeroglu, "UAV data collection over NOMA backscatter networks: UAV altitude and trajectory optimization", *IEEE ICC 2019*. (26)

M. Khoshkholgh, K. Navaie, H. Yanikomeroglu, V.C.M. Leung, K.G. Shin, "Coverage performance of aerial-terrestrial HetNets", *IEEE VTC2019-Spring*. (07)

M. Khoshkholgh, K. Navaie, V.C.M. Leung, H. Yanikomeroglu, "Randomized caching in cooperative UAV-enabled fog-RAN", *IEEE WCNC 2019*. (07)

C.T. Cicek, H. Gultekin, B. Tavli, H. Yanikomeroglu, "UAV Base station location optimization for next generation wireless networks: Overview and future research directions", *IEEE UVS-Oman 2019*. (38)

IEEE Conference Papers (2016–2018)

M. Alzenad, H. Yanikomeroglu, "Coverage and rate analysis for downlink unmanned aerial vehicles base stations with LoS/NLoS propagation", *IEEE Globecom Workshops 2018*. (28)

H. Yanikomeroglu, "Integrated terrestrial/non-terrestrial 6G networks for ubiquitous 3D super-connectivity", Invited Paper, *ACM Int'l Conf. Modeling, Analysis, and Simulation of Wireless and Mobile Systems (MSWIM) 2018*. (10)

X. Zhou, J. Guo, S. Durrani, H. Yanikomeroglu, "Uplink coverage performance of an underlay drone cell for temporary events", Invited Paper, *IEEE Int'l Conf. in Communications Workshops (ICCW) 2018*. (25)

M. Gapeyenko, I. Bor-Yaliniz, S. Andreev, H. Yanikomeroglu, Y. Koucheryavy, "Effect of blockage in deploying mmWave drone base stations for beyond-5G networks", Invited Paper, *IEEE ICCW 2018*. (28)

R. Ghanavi, E. Kalantari, M. Sabbaghian, H. Yanikomeroglu, A. Yongacoglu, "Efficient 3D aerial base station considering users mobility by reinforcement learning", *IEEE WCNC 2018*. (73)

E. Kalantari, I. Bor-Yaliniz, A. Yongacoglu, H. Yanikomeroglu, "User association and bandwidth allocation for terrestrial and aerial base stations with backhaul considerations", *IEEE PIMRC 2017*. (84)

E. Kalantari, M.Z. Shakir, H. Yanikomeroglu, A. Yongacoglu, "Backhaul-aware robust 3D drone placement in 5G+ wireless networks", *IEEE Int'l Conf. in Commun. Workshops (ICCW) 2017*. (190)

E. Kalantari, H. Yanikomeroglu, A. Yongacoglu, "On the number and 3D placement of drone base stations in wireless cellular networks", *IEEE Vehicular Technology Conference (VTC2016-Fall)*. (281)

I. Bor Yaliniz, A. El-Keyi, H. Yanikomeroglu, "Efficient 3-D placement of an aerial base station in next generation cellular networks", *IEEE Int'l Conf. in Communications (ICC) 2016*. (597)

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