

**Cooperative scheduler to enhance massive connectivity in 5G and beyond by minimizing interference in OMA and NOMA**  
**Mwakwata, Collins Burton; Elgarhy, Osama Mohamed Mostafa; Alam, Muhammad Mahtab; Le Moullec, Yannick; Päränd, Sven; Trichias, Konstantinos; Ramantas, Kostas** IEEE Systems Journal 2022 / p. 5044-5055  
<https://doi.org/10.1109/JSYST.2021.3114338> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**Cost-efficient network planning for the cross-border Baltic corridor—a study**

**Elgarhy, Osama Mohamed Mostafa; Alam, Mohammad Saad; Tammets, Anet; Roosipuu, Priit; Ancans, Guntis; Saidans, Guntars; Tutovs, Jurijs; Saliņš, Klavs; Verdiņš, A.; Aleksandrovs, M.; Perševics, A.; Zariņš, D.; Uusmaa, Mart; Uhtlik, Ove; Soom, Priit** Sensors 2023 / art. 8111 <https://doi.org/10.3390/s23198111> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**Energy consumption evaluation of NOMA-based sustainable scheduling in 6G O-RAN**

**Latif, Aamir; Alam, Muhammad Mahtab; Elgarhy, Osama Mohamed Mostafa; Le Moullec, Yannick** 2024 International Wireless Communications and Mobile Computing (IWCMC) 2024 / p. 484-489 <https://doi.org/10.1109/IWCMC61514.2024.10592553>

**Energy efficiency and connectivity maximization for massive machine type communication in multi-cell NOMA**

**Latif, Aamir; Elgarhy, Osama Mohamed Mostafa; Le Moullec, Yannick; Alam, Muhammad Mahtab** 2024 19th Biennial Baltic Electronics Conference (BEC) 2024 / 6 p <https://doi.org/10.1109/BEC61458.2024.10737950>

**Energy efficiency and latency optimization for IoT URLLC and mMTC use cases**

**Elgarhy, Osama Mohamed Mostafa; Reggiani, Luca; Alam, Muhammad Mahtab; Zoha, Ahmed; Ahmad, Rizwan; Kuusik, Alar** IEEE Access / p. 23132-23148 <https://doi.org/10.1109/ACCESS.2024.3364349>

**Experimental validation and field trials of 5G cross-border connectivity**

**Elgarhy, Osama Mohamed Mostafa; Kulmar, Marika; Roosipuu, Priit; Rohtla, Margus; Le Moullec, Yannick; Kõrbe Kaare, Kati; Sadam, Arvi; Scholliers, Johan; Alam, Muhammad Mahtab** Proceedings of the IEEE Future Networks World Forum 2024 (IEEE FNWF2024) 2024

**Impact of power allocation on device-to-device discovery processes**

**Osman, Essam Abdelsalam; Khan, Muhidul Islam; Elgarhy, Osama Mohamed Mostafa; Reggiani, Luca; Mahtab, Muhammad** BEC 2018 : 2018 16th Biennial Baltic Electronics Conference (BEC) : proceedings of the 16th Biennial Baltic Electronics Conference, October 8-10, 2018 2018 / 4 p <https://doi.org/10.1109/BEC.2018.8600961>

**Inter-cell interference reduction scheme for uplink transmission in NB-IoT Systems**

**Mwakwata, Collins Burton; Elgarhy, Osama Mohamed Mostafa; Le Moullec, Yannick; Alam, Muhammad Mahtab; Päränd, Sven; Annus, Ivar** IWCMC 2021 Wireless Sensors & IoT: 2021 International Wireless Communications and Mobile Computing (IWCMC), Harbin, China, June 28 - July 2, 2021 2021 / p. 400-405 <https://doi.org/10.1109/IWCMC51323.2021.9498970>

**Performance evaluation of 5G NR sidelink for V2X scenarios**

**Elgarhy, Osama Mohamed Mostafa; Yener, Onur; Alam, Muhammad Mahtab** 2022 18th Biennial Baltic Electronics Conference (BEC) : proceedings 2022 / 5 p <https://doi.org/10.1109/BEC56180.2022.9935591>

**Performance evaluation of 5G-NR positioning accuracy using time difference of arrival method**

**Müürsepp, Ivo; Kulmar, Marika; Elgarhy, Osama Mohamed Mostafa; Alam, Muhammad Mahtab; Chen, Tao; Horsmanheimo, Seppo; Scholliers, Johan** 2021 IEEE International Mediterranean Conference on Communications and Networking (MeditCom) : Athens, Greece, 7-10 Sept. 2021 2021 / p. 494-499 : ill <https://doi.org/10.1109/MeditCom49071.2021.9647652>

**Rate-latency optimization for NB-IoT with adaptive resource unit configuration in uplink transmission**

**Elgarhy, Osama Mohamed Mostafa; Reggiani, Luca; Malik, Hassan; Alam, Muhammad Mahtab; Imran, Muhammad Ali** IEEE Systems Journal 2021 / p. 265 - 276 <https://doi.org/10.1109/JSYST.2020.2991073> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**Service placement and migration algorithm utilizing precise positioning for connected and automated vehicles**

**Elgarhy, Osama Mohamed Mostafa; Alam, Muhammad Mahtab; Reggiani, Luca; Azeem, Muhammad Moazam** 2023 IEEE Conference on Standards for Communications and Networking (CSCN) 2023 / p. 183-188  
<https://doi.org/10.1109/CSCN60443.2023.10453210>

**Sustainable scheduling for ultra massive machine type communication using NOMA in 6G O-RAN**

**Latif, Aamir; Alam, Muhammad Mahtab; Elgarhy, Osama Mohamed Mostafa; Le Moullec, Yannick** Digital Proceedings of the European Conference on Networks and Communications & 6G Summit 2024 (EuCNC 2024) 2024

**Towards optimal placement and runtime migration of time-sensitive services of connected and automated vehicles**

**Elgarhy, Osama Mohamed Mostafa; Le Moullec, Yannick; Reggiani, Luca; Azeem, Muhammad Moazam; Taleb, Tarik; Alam, Muhammad Mahtab** IEEE Open Journal of Vehicular Technology 2024 / p. 13-33 <https://doi.org/10.1109/OJVT.2024.3496583>