

### **A cache-based approach toward improved scheduling in fog computing**

Khan, Osama Amir; Malik, Saif Ur Rehman; Baig, Faizan M.; Islam, Saif Ul; Pervaiz, Haris; **Malik, Hassan**; Ahmed, Syed Hassan  
Software - Practice and Experience 2021 / p. 2360 - 2372 <https://doi.org/10.1002/spe.2824> [Journal metrics at Scopus](#) [Article at Scopus](#)  
[Journal metrics at WOS](#) [Article at WOS](#)

### **Cooperative interference avoidance scheduler for radio resource management in NB-IoT systems**

**Mwakwata, Collins Burton; Alam, Muhammad Mahtab; Le Moullec, Yannick; Malik, Hassan; Päränd, Sven** EuCNC 2020:  
2020 European Conference on Networks and Communications (EuCNC), Dubrovnik, Croatia, Croatia, 15-18 June 2020 :  
proceedings 2020 / p. 154-159 <https://doi.org/10.1109/EuCNC48522.2020.9200967>

### **DORM : narrowband IoT development platform and indoor deployment coverage analysis**

**Khan, Sikandar Muhammad Zulqarnain; Malik, Hassan; Sarmiento, Jeffrey Leonel Redondo; Alam, Muhammad Mahtab; Le Moullec, Yannick** Procedia computer science 2019 / p. 1084-1091 : ill <https://doi.org/10.1016/j.procs.2019.04.154> [Conference proceeding at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

### **Dynamic radio frame configuration by exploiting uplink control channel for URLLC**

**Sharma, Navuday; Alam, Muhammad Mahtab; Le Moullec, Yannick; Malik, Hassan; Bennis, Mehdi; Päränd, Sven** 2019 IEEE  
Wireless Communications and Networking Conference Workshop (WCNCW) 2019 / 6 p. : ill  
<https://doi.org/10.1109/WCNCW.2019.8902898>

### **Evaluation of low power wide area network technologies for smart urban drainage systems**

**Malik, Hassan; Kändler, Nils; Alam, Muhammad Mahtab; Annus, Ivar; Le Moullec, Yannick; Kuusik, Alar** 2018 IEEE :  
International Conference on Environmental Engineering, March 12-14, 2018 Milan Italy : conference proceedings 2018 / 5 p. : ill  
<https://doi.org/10.1109/EE1.2018.8385262>

### **FESDA : fog-enabled secure data aggregation in smart grid IoT network**

Saleem, Ahsan; Khan, Abid; Malik, Saif Ur Rehman; Pervaiz, Haris; **Malik, Hassan**; Alam, Masoom; Jindal, Anish IEEE Internet of  
Things Journal 2020 / p. 6132-6142 <https://doi.org/10.1109/JIOT.2019.2957314> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Interference-aware radio resource allocation for 5G ultra-reliable low-latency communication**

**Malik, Hassan; Alam, Muhammad Mahtab; Le Moullec, Yannick; Ni, Qiang** 2018 IEEE Globecom Workshops (GC Wkshps) :  
proceedings 2018 / p. <https://doi.org/10.1109/GLOCOMW.2018.8644301>

### **Machine learning meets communication networks : current trends and future challenges**

Ahmad, Ijaz; Shahabuddin, Shariar; Malik, Hassan; Leppänen, Teemu; Loven, Lauri; Anttonen, Antti; Sodhro, Ali Hassan; **Alam, Muhammad Mahtab**; Juntti, Markku; Ylä-Jääski, Antti IEEE Access 2020 / art. 9274307, p. 223418-223460  
<https://doi.org/10.1109/ACCESS.2020.3041765> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Narrowband internet of things (NB-IoT) : from physical (PHY) and media access control (MAC) layers perspectives**

**Mwakwata, Collins Burton; Malik, Hassan; Alam, Muhammad Mahtab; Le Moullec, Yannick; Päränd, Sven; Mumtaz, Shahid**  
Sensors 2019 / art. 2613, 34 p.: ill <https://doi.org/10.3390/s19112613> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Narrowband Internet of Things (NB-IoT) : from physical (PHY) and Media Access Control (MAC) layers perspectives : [an article in collection]**

**Mwakwata, Collins Burton; Malik, Hassan; Alam, Muhammad Mahtab; Le Moullec, Yannick; Päränd, Sven; Mumtaz, Shahid**  
Internet of things and sensors networks in 5G wireless communications 2020 / p. 39-72 : ill <https://doi.org/10.3390/books978-3-03928-149-7> <https://doi.org/10.3390/s19112613>

### **Narrowband internet of things (NBIIoT) for industrial automation**

**Malik, Hassan; Alam, Muhammad Mahtab; Kuusik, Alar; Le Moullec, Yannick; Päränd, Sven** Wireless automation as an enabler  
for the next industrial revolution 2020 / p. 65-87 <https://doi.org/10.1002/9781119552635.ch4>

### **NarrowBand-IoT performance analysis for healthcare applications**

**Malik, Hassan; Alam, Muhammad Mahtab; Le Moullec, Yannick; Kuusik, Alar** Procedia computer science 2018 / p. 1077-1083  
<https://doi.org/10.1016/j.procs.2018.04.156> [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

### **NB-IoT network field trial : indoor, outdoor and underground coverage campaign**

**Malik, Hassan; Khan, Sikandar Muhammad Zulqarnain; Sarmiento, Jeffrey Leonel Redondo; Kuusik, Alar; Alam, Muhammad Mahtab; Le Moullec, Yannick; Päränd, Sven** IWCMC 2019 : 15th International Wireless Communications & Mobile  
Computing Conference (IWCMC), June 24-28, 2019, Tangier, Morocco 2019 / p. 537-542 : ill  
<https://doi.org/10.1109/IWCMC.2019.8766568>

### **NB-IoT-võrgu uuring : katvus sise-, välis- ja maa-alustes tingimustes**

**Malik, Hassan; Khan, Sikandar Muhammad Zulqarnain; Sarimento, Jeffrey Leonel Redondo; Mwakwata, Collins Burton;**

**Alam, Muhammad Mahtab; Le Menach, Yvonnick;** Päränd, Sven *Elektrisola* 2019 / lk. 14-18 : ill  
[http://www.ester.ee/record=b1240496\\*est](http://www.ester.ee/record=b1240496*est)

**Radio resource management in NB-IoT systems : empowered by interference prediction and flexible duplexing**

**Malik, Hassan; Alam, Muhammad Mahtab;** Pervaiz, Haris; **Moullec, Yannick Le;** Al-Dulaimi, Anwer; Päränd, Sven; Reggiani, Luca *IEEE Network* 2020 / Art. nr. 8839971 <https://doi.org/10.1109/MNET.001.1900087> [Journal metrics at Scopus](#) [Article at Scopus](#)  
[Journal metrics at WOS](#) [Article at WOS](#)

**Radio resource management scheme in NB-IoT systems**

**Malik, Hassan;** Pervaiz, Haris; **Alam, Muhammad Mahtab; Le Moullec, Yannick; Kuusik, Alar;** Imran, Muhammad Ali *IEEE Access* 2018 / p. 15051-15064 : ill <https://doi.org/10.1109/ACCESS.2018.2812299> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**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](#)

**A survey on the roles of communication technologies in IoT-based personalized healthcare applications**

**Alam, Muhammad Mahtab; Malik, Hassan; Khan, Muhidul Islam; Pardy, Tamas; Kuusik, Alar; Le Moullec, Yannick** *IEEE Access* 2018 / p. 36611-36631 : ill <https://doi.org/10.1109/ACCESS.2018.2853148> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)