

Xiaojun Mei

Address: 1550 Haigang Ave., Shanghai, P.R. China
Email: 1) xjmei94@163.com, 2) xiaojun.mei@ieee.org,
And 3) xjmei@shmtu.edu.cn
Phone: (+86) 021-38282821



EDUCATION

- 2018.09 – 2021.10 Shanghai Maritime University (PhD)
Major: Traffic information engineering and control
Advisor: Huafeng Wu, Pro. Dr.
- 2019.09 – 2020.09 University of Lisbon (Visiting PhD student)
Major: Control science
Advisor: Antonio M. Pascoal, Associate Pro. Dr.
- 2016.09 – 2018.07 Shanghai Maritime University (Master)
Major: Vehicle operation engineering
Advisor: Huafeng Wu, Pro. Dr.
- 2015.02 – 2015.06 Mokpo Maritime University (Visiting B.E. student)
Major: Navigation technology
- 2012.09 – 2016.07 Shanghai Maritime University (Bachelor)
Major: Navigation technology

WORK EXPERIENCE

- 2021.11 - present Postdoc., Shanghai Maritime University

RESEARCH INTERESTS

- Intelligent Vessels and Ocean Monitoring Sensor Networks
- Maritime Communications, Target Localization, and Navigation

PUBLICATION

PEER-REVIEWED JOURNAL ARTICLES

1. **X. Mei**, D. Han, N. Saeed, H. Wu, T. Ma, and J. Xian, "Range Difference-based Target Localization under Stratification Effect and NLOS bias in UWSNs", *IEEE Wireless Communications Letters*, 2022, Accepted, doi: 10.1109/LWC.2022.3193579.(SCI, JCR Q1, IF: 5.281)
2. **X. Mei**, Y. Chen, X. Xu, and H. Wu, "RSS Localization using Multi-step Linearization in the presence of Unknown Path Loss Exponent", *IEEE Sensors Letters*, vol.6, no.8, p.1-4, 2022. (ESCI, EI)

3. **X. Mei**, H. Wu, J. Xian, and T. Ma, "Information-driven Optimal Placement for Target Localization in Ocean Sensor Networks", *Journal of Huazhong University of Science and Technology (Natural Science Edition)*, vol. 49, no.11, p.23-29, 2021 (EI)
4. **X. Mei**, H. Wu, J. Xian, and B. Chen, "RSS-based Byzantine Fault-tolerant Localization Algorithm under NLOS Environment," *IEEE Communications Letters*, vol. 25, no.2, p.474-478, 2021. (SCI, JCR Q2, IF: 3.553)
5. **X. Mei**, H. Wu, and J. Xian, "Matrix Factorization based Target Localization via Range Measurements with Uncertainty in Transmit Power," *IEEE Wireless Communications Letters*, vol. 9, no. 10, p.1611-1615, 2020. (SCI, JCR Q1, IF: 5.281)
6. **X. Mei**, H. Wu, N. Saeed, T. Ma, J. Xian, and Y. Chen, "An Absorption Mitigation Technique for Received-Signal-Strength-Based Target localization in Underwater Wireless Sensor Networks", *Sensors*, vol. 20, no. 17, p. 4698, 2020. (SCI, JCR Q2, IF: 3.847)
7. **X. Mei**, H. Wu, J. Xian, B. Chen, H. Zhang, and X. Liu, "A Robust, Non-Cooperative Localization Algorithm in the Presence of Outlier Measurements in Ocean Sensor Networks," *Sensors*, vol. 19, no. 12, p. 2708, 2019. (SCI, JCR Q2, IF: 3.847)
8. H. Wu, **X. Mei**, X. Chen, J. Li, J. Wang, and P. Mohapatra, "A novel cooperative localization algorithm using enhanced particle filter technique in maritime search and rescue wireless sensor network.," *ISA Transactions*, vol 78, p.39-46, 2018. (SCI, JCR Q1, IF: 5.911)
9. **X. Mei**, H. Wu, Y. Chen, and E. Jiang, "Ship tracking of wireless sensor network based on improved adaptive particle filter," *Journal of Shanghai Maritime University*, vol. 39, no. 2, pp. 12–16, 2018.
10. T. Ma, W. Zhang, Y. Li, Y. Zhao, Q. Zhang, **X. Mei**, and J. Fan, "Communication-constrained cooperative bathymetric simultaneous localisation and mapping with efficient bathymetric data transmission method", *Journal of Navigation*, 1-17, 2022. Doi:10.1017/S0373463321000904. (SCI, JCR Q2, IF: 2.647) .
11. Y. Zhang, H. Wu, **X. Mei**, et al, "Unknown Transmit Power RSSD-based Localization under Gaussian Mixture Channel", *IEEE Sensors Journal*, vol. 22 , no.9, pp.9114-9123, 2022 (SCI, JCR Q1, IF: 4.325).
12. H. Wu, L. Liang, **X. Mei**, and Y. Zhang, "A Convex Optimization Approach for NLOS Error Mitigation in TOA-based Localization", *IEEE Signal Processing Letters*, vol. 29 pp.677-681, 2022 (SCI, JCR Q2, IF: 3.201) .
13. Y. Zhang, H. Wu, **X. Mei**, J. Xian, W. Wang, Q. Zhang, and L. Liang, "Two-Phase Robust Target Localization in Ocean Sensor Networks using Received Signal Strength Measurements," *Sensors*, vol. 21, no.5, p.1724, 2021. (SCI, JCR Q2, IF: 3.847)
14. J. Xian, H. Wu, **X. Mei**, Y. Zhang, H. Chen, and J. Wang, "NMTLAT: A New robust mobile Multi-Target Localization and Tracking Scheme in marine search and rescue wireless sensor networks under Byzantine attack," *Computer Communications*, vol. 160, pp. 623–635, 2020. (SCI, JCR Q1, IF: 5.047)
15. Y. Chen, Y. Hu, S. Zhang, **X. Mei**, and Q. Shi, "Optimized Erosion Prediction with MAGA Algorithm Based on BP Neural Network for Submerged Low-Pressure Water Jet," *Applied Sciences*, vol. 10, no. 8, p. 2926, Apr. 2020. (SCI, JCR Q3, IF: 2.838)

16. H. Wu, J. Xian, **X. Mei**, Y. Zhang, J. Wang, J. Cao, and P. Mohapatra, "Efficient target detection in maritime search and rescue wireless sensor network using data fusion," *Computer Communications*, vol. 136, pp. 53–62, 2019. (SCI, JCR Q1, IF: 5.047)
17. H. Wu, Q. Meng, J. Xian, **X. Mei**, C. Claramunt, and J. Cao, "An Information Entropy Based Event Boundary Detection Algorithm in Wireless Sensor Networks," *Symmetry (Basel)*, vol. 11, no. 4, p. 537, Apr. 2019. (SCI, JCR Q2, IF: 2.940)
18. S. Cheng, H. Wu, and **X. Mei**, "An alternative nonnegative constrained framework-based cooperative localization algorithm in ocean sensor networks," *Computer Engineering Application*, vol. 57, no. 23, pp. 129–136, 2021.
19. Y. Zhang, H. Wu, J. Xian, and **X. Mei**, "Adaptive Clustering Algorithm in OceanWireless Sensor Network Under Double Constraints," *Computer Engineering Application*, vol. 19, no. 55, pp. 128–133, 2019.

MANUSCRIPTS IN PREPARATION/SUBMITTED FOR REVIEW

1. **X. Mei**, D. Han, Y. Chen, H. Wu, and T. Ma, "Target Localization using Information Fusion in WSNs-based Marine Search and Rescue", (Submitted to Alexandria Engineering Journal)
2. **X. Mei**, D. Han, N. Saeed, H. Wu, C. Chang, B. Han, T. Ma, and, J, Xian, "Trajectory Optimization of Autonomous Surface Vehicles with Outliers for Underwater Target Localization", (Submitted to Remote Sensing)
3. **X. Mei**, H. Wu, J. Xian, and Y. Chen, "Block Principal Pivoting-based Target Localization in Underwater Sensor Networks", (In preparation)
4. **X. Mei**, D. Han, H. Wu, and J. Xian, "Target Localization using Differential Received Signal Strength in Uncertain Environmental Parameter", (In preparation)
5. **X. Mei**, D. Han, H. Wu, and J. Xian, "A Coarse-to-Fine Localization Technique in Wireless Sensor Networks", (In preparation)
6. **X. Mei**, D. Han, H. Wu, et al, "A Robust Localization Method in the presence of Uncertain Path Loss Exponent in Underwater Wireless Sensor Networks", (In preparation)

CONFERENCE AND PATENT

CONFERENCE

1. **X. Mei**, H. Wu, J. Xian, H. Zhang, and Y. Zhang, "A Robust Localization with Outlier Measurements in Underwater Sensor Networks", Proceedings of the 2019 Academic Conference of the Chinese Acoustics Society Hydroacoustic Branch, Nanjing, China.
2. **X. Mei**, H. Wu, Y. Chen, H. Zhang, and Q. Zhang, "A Lightweight Computation Target Localization Algorithm using Information Fusion in WSNs-based Marine Search and Rescue," *Asia Navigation Conference, Tianjin, China, 2021*

PATENT

1. H. Wu and **X. Mei**, "A Cooperative Localization Method in Marine Search and Rescue Wireless Sensor Network", CN Patent, 201710891573.1. (Granted)

2. **X. Mei**, D. Han, Z. Wu, et al, “A Target Localization Approach Based on Information Fusion in Marine Search and Rescue Wireless Sensor Networks” CN Patent, 2022105369680. (Substantive examination)
3. H. Wu, J. Xian, **X. Mei**, et al, “An Opportunistic Routing Protocol for Maritime Wireless Sensor Networks” CN Patent, 2021110200860. (Substantive examination)
4. X. Chen, W. Ji, Y. Yang, H. Wu, Z. Yu, Q. Zhang, J. Fu, J. Xian, J. Zhao, **X. Mei**, “Ship detection method based on Canny operator and Gaussian morphology” CN Patent, 2018109679270. (Substantive examination)

HONOR AND AWARDS

- 2021 **Outstanding Research Award**
Awarded by Shanghai Maritime University for Paper entitled: “Matrix Factorization-Based Target Localization via RangeMeasurements With Uncertainty in Transmit Power.”
- 2020 **National Scholarships for PhD Students**
Awarded by National Ministry of Education.
- 2020 **Outstanding Research Award**
Awarded by Shanghai Maritime University for Paper entitled: “A Robust, Non-Cooperative Localization Algorithm in the Presence of Outlier Measurements in Ocean Sensor Networks.”
- 2019 **National Study Abroad Fund**
Awarded by China Scholarship Council (CSC).
- 2019 **First Class Scholarship**
Awarded by Shanghai Maritime University, Office of Graduate Studies.
- 2018 **Principal Scholarship**
Awarded by Shanghai Maritime University, Office of Graduate Studies.
- 2018 **Shanghai Outstanding Graduate**
Awarded by Shanghai Municipal Education Commission.
- 2018 **Outstanding Research Award**
Awarded by Shanghai Maritime University for Paper entitled: “A novel cooperative localization algorithm using enhanced particle filter technique in maritime search and rescue wireless sensor network.”
- 2017 **National Scholarships for Master Students**
Awarded by National Ministry of Education.
- 2017 **Outstanding Students**
Awarded by Shanghai Maritime University.
- 2017 **Principal Scholarship**
Awarded by Shanghai Maritime University, Office of Graduate Studies.
- 2016 **Principal Scholarship**
Awarded by Shanghai Maritime University, Office of Graduate Studies.
- 2016 **Shanghai Outstanding Graduate**

Awarded by Shanghai Municipal Education Commission.

PROFESSIONAL AFFILIATIONS AND SERVICES

- **Review Editor of Frontiers in Communications and Networks**
- **Reviewer of ISA Transactions**
- **Reviewer of IEEE Communications Letters**
- **Reviewer of IEEE Transactions on Signal and Information Processing over Networks**
- **Reviewer of IEEE Wireless Communications Letters**
- **Reviewer of IEEE Access**
- **Reviewer of International Journal of Control, Automation and Systems**
- **Reviewer of Electronic Letters**
- **Reviewer of Remote Sensing**
- **Reviewer of Sensors**
- **Reviewer of Journal of Marine Science and Engineering**
- **Reviewer of Journal of Computational Methods in Sciences and Engineering**
- **Reviewer of Navigation of China**
- **Professional Organization Member: IEEE Member**

PROJECTS

PRINCIPLE INVESTIGATOR

- **Research on Target Localization and Tracking in Underwater Wireless Sensor Networks with Quantum Coupling Optimization Framework, Grant No. 2022M712027 (Sponsored by Postdoctoral Science Foundation of China)**
- **Applications of Wireless Sensor Networks on Water Transportation, Grant No. 201908310079 (Sponsored by China Scholarship Council)**
- **Research on Localization in Ocean Sensor Networks in the presence of Uncertainty, Grant No. 2019YBR002 (Sponsored by Shanghai Maritime University)**
- **Research on Cooperative Localization Algorithms Based on Modified Particle Filter in Marine Monitoring Wireless Sensor Networks, Grant No. 2017ycx030 (Sponsored by Shanghai Maritime University)**

PARTICIPATION

- **Research on Key Technologies and System Development of Communication and Navigation Support in the Arctic waterway, Grant No.2021YFC2801002 (Sponsored by National Ministry of Science and Technology)**
- **Dynamic Self-adaptive Clustering Based Intelligent Data Prediction and Reconstruction in Ocean Sensor Networks, Grant No. 52071200 (Sponsored by Natural Science Foundation of China)**

- Three-Dimensional Dynamic Cooperative Localization Mechanism of Marine Sensor Networks Based on Wave Shadowing Effect Model, Grant No. 51579143 (**Sponsored by Natural Science Foundation of China**)
- Coastal Meteorological Monitoring and Warning System Based on Buoy Internet of Things and Its Navigation Aid Application, Grant No. 18040501700 (**Sponsored by Shanghai Science and Technology Committee**)
- Key technical research on positioning based wireless sensor networks and target search and rescue at sea, Grant No. 12SG40 (**Sponsored by Shanghai Municipal Education Commission and Shanghai Education Development Foundation**)