Xiaojun Mei

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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, 1/37)
  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, 2/331)
  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*, vol. 11, no. 10, p. 2080-2084, 2022. (SCI, JCR Q1, IF: 5.281)
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", *Remote Sensing*, vol. 14, no. 17, p. 4343, 2022. (SCI, JCR Q1, IF: 5.349)

3. **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)
4. **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)
5. **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)
6. **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)
7. **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)
8. **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)
9. 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)
10. **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 Univiversity*, vol. 39, no. 2, pp. 12–16, 2018.
11. J. Xian, H. Wu, **X. Mei**, Y. Zhang, X. Chen, Q. Zhang, and L. Liang. "Novel Energy-Efficient Opportunistic Routing Protocol for Marine Wireless Sensor Networks Based on Compressed Sensing and Power Control", Journal of Ocean University of China, vol. 21, no. 6, p. 1504-1516.（SCI，JCR Q4，IF：1.179）
12. J. Xian, H. Wu, **X. Mei**, X. Chen, and Y. Yang, "Low-Delay and Energy-Efficient Opportunistic Routing for Maritime Search and Rescue Wireless Sensor Networks", *Remote Sensing*, vol. 14, no. 20, p. 5178, 2022.（SCI，JCR Q1，IF：5.349）
13. H. Wu, Y. Hu, W. Wang, **X. Mei**, and J. Xian, "Ship Fire Detection Based on an Improved YOLO Algorithm with a Lightweight Convolutional Neural Network Model", *Sensors* vol. 22, no. 19, p. 7420, 2022.（SCI，JCR Q2，IF：3.847）
14. 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）.
15. 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).

16. 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）.
17. 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)
18. 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)
19. 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)
20. 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 Communnications*, vol. 136, pp. 53–62, 2019. (SCI, JCR Q1, IF: 5.047)
21. 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)
22. 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.
23. 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**, H. Wu, J. Xian, and Y. Chen, "Block Principal Pivoting-based Target Localization in Underwater Sensor Networks", (In preparation)
3. **X. Mei**, D. Han, H. Wu, and J. Xian, "Target Localization using Differential Received Signal Strength in Uncertain Environmental Parameter", (In preparation)
4. **X. Mei**, D. Han, H. Wu, and J. Xian, "A Coarse-to-Fine Localization Technique in Wireless Sensor Networks", (In preparation)
5. **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. **X. Mei**, D. Han, Z. Wu, et al, "An Optimal Path Planning Method of Autonomous Surface Vehicles for Target Localization Error Minimization", CN Patent, 202210536357.6. (Substantive examination)
4. **X. Mei**, D. Han, Z. Wu, et al, "A Joint Estimation Method for Target Location and Environment Propagation Parameter in Underwater Wireless Sensor Networks", CN Patent, 202210536969.5. (Substantive examination)
5. **X. Mei**, H. Wu, D. Han, et al, "Localization Method of Water Surface Sensor Network with Unknown Signal Propagation Loss under Non-line-of-sight Condition", CN Patent, 202211419052.3. (Substantive examination)
6. **X. Mei**, H. Wu, Z. Wu, et al, "A Localization Method in Ocean Sensor Networks with Uncertain Parameters", CN Patent, 202211471174.7. (Substantive examination)
7. J. Xian, J. Ma, H. Wu, Y. Yang, **X. Mei**, X. Chen, and Y. Zhang, "A Marine Search and Rescue Wireless Sensor Network Communication Method, Device and Storage Medium", CN Patent, 202210840637.6. (Substantive examination)
8. H. Wu, J. Xian, **X. Mei**, et al, "An Opportunistic Routing Protocol for Maritime Wireless Sensor Networks" CN Patent, 2021110200860. (Substantive examination)

HONOR AND AWARDS

- 2022 **Shanghai Post-doctoral Excellence Program**
  Awarded by the Shanghai Human Resources and Social Security Bureau
- 2022 **1st Prize of Science and Technology Progress Award**
  Awarded by the Chinese Society of Naval Architects and Marine Engineers
- 2022 **2nd Prize of Excellent Paper in the 19th Annual Academic Conference**
  Awarded by Shanghai Communication Society
- 2022 **Honorary Award of the 2nd Shanghai Postdoctoral Innovation and Entrepreneurship Competition**
  Awarded by Shanghai Human Resources and Social Security Bureau
- 2022 **Outstanding Research Award**

Awarded by Shanghai Maritime University for Paper entitled: "RSS-based Byzantine Fault-tolerant Localization Algorithm under NLOS Environment."

- 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 Geoscience and Remote Sensing Letters**
- **Reviewer of Ocean Engineering**
- **Reviewer of IEEE Access**
- **Reviewer of Frontiers in Marine Science**
- **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 Robust Localization and Tracking in Ocean Sensor Networks based on Quantum Optimization Framework, Grant No. 52201401 (**Sponsored by Natural Science Foundation of China**)
- 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**)
- Key Technology for Target Localization in High Accuracy and High Reliability Ocean Monitoring Sensor Network, Grant No. 2022767 (**Shanghai Human Resources and Social Security Bureau**)
- 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**)