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Education

Ph.D. (Mechanical Engineering). University of Minnesota, Twin Cities

專長

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Research Interests

System design of underwater robots, Biomimetic underwater vehicles navigation and control, Unmanned ocean vehicles formation control

期刊論文 (Journal Papers)

1. Edward Chen, Jenhwa Guo, “Real Time Map Generation using Sidescan Sonar Scanlines for Unmanned Underwater Vehicles. *Ocean Engineering*, 91, 252-262, 2014.
2. Edward Chen, Jenhwa Guo, Observability-based Maneuvering planner for AUV. *Journal of Taiwan Society of Naval Architects and Marine Engineers*, 34(1), 41-54, 2015.
3. Sheng-Wei Huang, Li-Yuan Zhang, Jenhwa Guo, Parameter Identification for Surge Equation of an Underwater Vehicle, *Journal of Taiwan Society of Naval Architects and Marine Engineers*, 36(4), 189-202, 2017.
4. Daniel Martinez Sierra, Jenhwa Guo, “Two-Dimensional Dynamic Ground Effect On A Swimming Undulating Plate: A Parametric Study,” *Journal of Mechanics*, Vol. 34, No. 6, 863-877, 2018.
5. Sheng-Wei Huang, Edward Chen, Jenhwa Guo, Efficient Seafloor Classification and Submarine Cable Route Design Using an Autonomous Underwater Vehicle, *IEEE Journal of Oceanic Engineering*, Volume: 43, Issue: 1, pp. 7-18, 2018.
6. Wei-Kuo Yen, Daniel Martinez Sierra, Jenhwa Guo, Controlling a Robotic Fish to Swim Along a Wall Using Hydrodynamic Pressure Feedback, *IEEE Journal of Oceanic Engineering*, Volume: 43, Issue: 2, pp. 369-380, 2018.
7. Wei-Kuo Yen, Jenhwa Guo, “Phase Controller for a Robotic Fish to Follow an Oscillating Source,” *Ocean Engineering*, 161, 77–87, 2018.
8. D. Martinez S. Sierra, J. Guo, Performance Comparison between Triple Waterjet And Triple Propeller Propulsion Systems of Passenger Vessels. *Journal of Taiwan Society of Naval Architects and Marine Engineers*, 37(4), 177-188, 2018.
9. Yongfa Qiang, Wei Fan, Canbo Xiao, Richard B. Rivkin, Yiwen Pan, Jiaping Wu, Jenhwa Guo, Ying Chen, “Behaviors of Bubble-Entrained Plumes in

- Air-Injection Artificial Upwelling,” *Journal of Hydraulic Engineering* 144(7), 04018032, 2018.
10. Yang Weng, Yujian Guo, Omar Alkhazragi, Tien Khee Ng, Jenhwa Guo, & Boon S. Ooi, “Impact of Turbulent-Flow-Induced Scintillation on Deep-Ocean Wireless Optical Communication,” *Journal of Lightwave Technology*, 37(19), 5083-5090, 2019.
 11. W.-K. Yen, C.-F. Huang, H.-R. Chang, and J. Guo, “Localization of a Leading Robotic Fish Using a Pressure Sensor Array on its Following Vehicle,” *Bioinspiration & Biomimetics*, (in press), 2020.
(<https://doi.org/10.1088/1748-3190/abb0cc>)
 12. K.-Y. Chen, C.-F. Huang, S.-W. Huang, J.-Y. Liu, J. Guo, “Mapping Coastal Circulations Using Moving Vehicles Acoustic Tomography. *Journal of Acoustic Society of America – Express Letters*, 148 (4), EL353-EL358, 2020.
 13. Naokazu Taniguchi, Toshiyuki Takahashi, Kengo Yoshiki, Hironori Yamamoto, Aruni D Hanifa, Yuji Sakuno, Hidemi Mutsuda, Sheng-Wei Huang, Chen-Fen Huang, Jen-Hwa Guo, “A Reciprocal Acoustic Transmission Experiment for Precise Observations of Tidal Currents in a Shallow Sea,” (accepted), 2020

會議論文 (Conference Papers)

1. B. L. Kuo, W. K. Yen, D. Martinez S., C. J. Chen and J. Guo, “Near-Body Pressure Estimation of a Robot Fish by Its Swimming Kinematics,” the 6th International Symposium on Aero Aqua Biomechanisms, Hawaii, Nov. 2014.
2. W. K. Yen, J. Guo, “Wall Following Control of a Robotic Fish Using Dynamic Pressure,” Pacific PNT 2015, Hawaii, April 2015.
3. W. K. Yen, J. Guo, “Controller Design for a Fish Robot to Follow an Oscillating Source,” IEEE Cyber, Shenyang, April 2015.
4. W.-K. Yen, D. Martinez S., J. Guo, “Biomimetic Underwater Vehicle Phase Following to a Periodically Oscillating Source,” Proceedings of the 2015 International Symposium on Underwater Technology, Chennai, Feb., 2015.
5. S.W. Huang, E. Chen, J. Guo, “Efficient Seafloor Classification and Cable Route Design using an AUV,” OCEANS’ 15, MTS/IEEE, Genova, May 2015.
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7. S.W. Huang, T.-L. Wu, Y.-T. Hsu, J. Guo, J.-F. Tsai, F.-C. Chiu, “Effective Energy-Saving Device of Eco-Ship by Using Wave Propulsion,” 2016 Techno-Ocean, Kobe, 2016.
8. C.W. Lee, R. Nian, J. Guo, “Underwater Vehicle Gesture Control Aided By Air

- Bubble Motion Observation,” IEEE Autonomous Underwater Vehicles (AUV), Tokyo, p.360-363, 2016.
9. J.E. Chang, S.W. Huang, J. Guo, “Hunting Ghost Fishing Gear for Fishery Sustainability using Autonomous Underwater Vehicles,” IEEE Autonomous Underwater Vehicles (AUV), Tokyo, p.49-53, 2016.
 10. S. W. Huang, N. Taniguchi, C. F. Huang, J. Guo, “Autonomous Underwater Vehicle Navigation Using A Single Tomographic Node,” The Journal of the Acoustical Society of America: Vol 140, No 4, 2016.
 11. Y. Weng, J. Guo, A.-T. Hsiao , S.W. Huang, “Vehicle Motion on Optical Communication Quality in the Process of Underwater Wireless Data Upload,” OCEANS’17, MTS/IEEE, Anchorage, p. 1-5, 2017.
 12. S.W. Huang, N. Taniguchi, A.T. Hsiao, Y.J. Chan, C.F. Huang, L.Y. Chang, J. Guo, “Autonomous Underwater Vehicle Localization Using an Ocean Acoustic Tomographic Sensor,” OCEANS’18, MTS/IEEE, Kobe, p. 1-5, 2018.
 13. J. Guo, L.J. Mu, S.W. Huang, “Development of Passive Oil Compensated Shaft Seal Module for Kuroshio Turbine,” The 4th Asian Wave and Tidal Energy Conference, Taipei, 2018.
 14. C. F. Huang, K.Y. Chen, S. W. Huang, J. Guo, “Acoustic Mapping of Ocean Currents Using Moving Vehicles,” 176th Acoustical Society of America Meeting, Victoria, Canada, 2018.