

# Jie Huang

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## EDUCATION

- Tsinghua University, China** 2015-2020  
Ph.D. in Physical Oceanography, Advisor: Dr. Fanghua Xu  
Thesis: “Water mass formation and pathway variability in the upstream of the Denmark Strait overflow”
- Woods Hole Oceanographic Institution, USA** 2017-2019  
Guest student in Physical Oceanography, Advisor: Dr. Robert S. Pickart  
Project: “Ventilation of Denmark Strait Overflow Water in the Iceland and Greenland Seas”
- Xiamen University, China** 2011-2015  
B.S. in Marine Sciences, with honors  
Thesis: “Physical-biological coupling in Qiongdong upwelling area: Base on stable isotope”

## PROFESSIONAL EXPERIENCE

- Postdoctoral Investigator**, Woods Hole Oceanographic Institution, USA 2021-present  
with Dr. Robert S. Pickart:  
1) Overturning in the Subpolar North Atlantic Program  
2) The distributed biological observatory – Northern Chukchi study  
3) Fate of freshwater and heat in Baffin Bay: Basin-scale circulation and shelf/slope processes
- Graduate Research Assistant**, Tsinghua University 2015-2017  
with Dr. Fanghua Xu: Subsurface chlorophyll response to ocean mesoscale eddies
- Undergraduate Research Assistant**, Xiamen University 2014-2015  
with Dr. Kuanbo Zhou: Temporal evolution of near-surface chlorophyll over cyclonic eddy lifecycles

## RESEARCH INTEREST

**High latitude ocean processes**, e.g., water mass transformation, dense water pathways, structure and instability of boundary current, and air-sea interaction

**Physical-biogeochemical interaction**, especially in ocean mesoscale/submesoscale eddies

## PROPOSALS

[1] Origin of the East Greenland Current. PIs: R. S. Pickart (lead-PI) and **J. Huang** (co-PI), *National Science Foundation, submitted.*

## PUBLICATIONS

### *Preprints*

- [4] **Huang, J.**, R. S. Pickart, et al. Water mass and general circulation in Baffin Bay: Observations from shipboard surveys in 2021, *in preparation.*
- [3] **Huang, J.**, R. S. Pickart and A. Pacini. West Greenland shelfbreak downwelling from 6 years mooring data, *in preparation.*
- [2] Chen, Z., Y. O. Kwon, K. Chen, P. S. Fratantoni, G. Gawarkiewicz, T. M. Joyce, and **J. Huang**. Variability along Pathways of the Deep Gulf of Maine Bottom Waters, *in preparation.*
- [1] Pickart, R. S., P. Lin, F. Bahr, L. T. McRaven, **J. Huang**, A. Pacini, et al. The Pacific Water flow branches the eastern Chukchi Sea, *Progress in Oceanography, submitted.*

### *Published*

#### *First-author*

- [7] **Huang, J.**, R. S. Pickart, N. Foukal, M. A. Spall and P. Lin (2023), Structure and variability of the Barrow Canyon outflow from two high-resolution shipboard surveys in 2018, *Journal of Geophysical Research: Oceans*, e2023JC019640.
- [6] **Huang, J.**, R. S. Pickart, Z. Chen and R. X. Huang (2023), Role of air-sea heat flux on the transformation of Atlantic Water encircling the Nordic Seas, *Nature Communications*, 14,141.
- [5] **Huang, J.**, R. S. Pickart, F. Xu, et al. (2021), Wintertime water mass transformation in the western Iceland and Greenland Seas, *Journal of Geophysical Research: Oceans*, e2020JC016893.
- [4] **Huang, J.**, R. S. Pickart, R. X. Huang, P. Lin, A. Brakstad, and F. Xu (2020), Sources and upstream pathways of the densest overflow in the Nordic Seas, *Nature Communications*, 11(1), 1-9.
- [3] **Huang, J.**, R. S. Pickart, H. Valdimarsson, P. Lin, M. A. Spall, and F. Xu (2019), Structure and variability of the North Icelandic Jet from two years of mooring data, *Journal of Geophysical Research: Oceans*, 124, 3987-4002.
- [2] **Huang, J.**, and F. Xu (2018), Observational evidence of subsurface chlorophyll response to mesoscale eddies in the North Pacific, *Geophysical Research Letters*, 45, 8462-8470.
- [1] **Huang, J.**, F. Xu, K. Zhou, P. Xiu and Y. Lin (2017), Temporal evolution of near-surface chlorophyll over cyclonic eddy lifecycles in the Southeastern Pacific, *Journal of Geophysical Research: Oceans*, 122 (8), 6165-6179.

### **Co-author**

- [6] Renfrew, I. A., **J. Huang**, S. Semper, C. Barrell, A. Terpstra, R. S. Pickart, K. Våge, A. D. Elvidge, T. Spengler, A-M. Strehl, A. Weiss. (2023), Coupled atmosphere-ocean observations of a cold air outbreak and its impact on the Iceland Sea. *Quarterly Journal of the Royal Meteorological Society*, 1-12.
- [5] Zhou K., C. R. Benitez-Nelson, **J. Huang**, et al. (2021), Decoupling between particulate carbon, nitrogen and biogenic silica export mediated by cyclonic eddies in the North Pacific Subtropical Gyre, *Limnology and Oceanography*, 66 (9), 3508-3522.
- [4] Spall M., M. Almansi, **J. Huang**, T. Haine and R. S. Pickart (2021), Lateral distribution of heat and salt in the Nordic Seas, *Progress In Oceanography*, 102609.
- [3] Zhang, R., X. Wang, H. Ren, **J. Huang**, M. Chen and D. Sigman (2020), Dissolved organic nitrogen cycling in the South China Sea from an isotopic perspective, *Global Biogeochemical Cycles*, 34 (12), e2020GB006551.
- [2] Renfrew, I. A., R. S. Pickart, ..., **J. Huang** and 55 co-authors (2019), The Iceland-Greenland Sea Project, *Bulletin of the American Meteorological Society*, 100, 1795-1817.
- [1] Zhang, R., D. Zhang, M. Chen, Z. Jiang, C. Wang, M. Zheng, Y. Qiu and **J. Huang** (2019), N<sub>2</sub> fixation rate and diazotroph community structure in the western tropical North Pacific Ocean, *Acta Oceanologica Sinica*, 38, 26-34.

### **PRESENTATIONS (FIRST AUTHOR ONLY)**

#### **Oral Presentations**

- “Structure and variability of the Barrow Canyon outflow from two high-resolution shipboard surveys in 2018”  
*Arctic-Subarctic Ocean Fluxes meeting 2023* 2023
- “Role of air-sea heat flux on the transformation of Atlantic Water encircling the Nordic Seas”  
*ICES Working Group on Oceanic Hydrography - Science Symposium* 2023
- “Structure and variability of the Barrow Canyon outflow from two high-resolution shipboard surveys in 2018”  
*High Latitude Process Workshop 2023* 2023
- “Structure and variability of the Barrow Canyon outflow from two high-resolution shipboard surveys in 2018”  
*The Sixth Xiamen Symposium on Marine Environmental Sciences 2023* 2023

“Role of air-sea heat flux on the transformation of Atlantic Water as it encircles the Nordic Seas” <i>Arctic-Subarctic Ocean Fluxes meeting 2022</i>	2022
“Overturning in the Nordic Seas” <i>Lihai early career workshop 2022</i>	2022
“Revisiting the role of air-sea heat flux on the transformation of Atlantic Water along the rim current system in the Nordic Seas” <i>High Latitude Process Workshop 2022</i>	2022
“Role of air-sea heat flux on the transformation of Atlantic Water along the rim current system in the Nordic Seas” <i>Ocean Science Meeting 2022</i>	2022
“Source and upstream pathways of the densest overflow water in the Nordic Seas” <i>Arctic-Subarctic Ocean Fluxes meeting 2021</i>	2021
“Wintertime water mass transformation in the western Iceland and Greenland Seas” <i>Iceland and Greenland Seas Project Workshop 2021</i>	2021
“The ocean response to cold air outbreaks: a case study” <i>Iceland and Greenland Seas Project Workshop 2021</i>	2021
“Source and upstream pathways of the densest overflow water in the Nordic Seas” <i>WHOI Physical Oceanography Seminar</i>	2020
“Source and upstream pathways of overflow water in the Nordic Seas” <i>High Latitude Process Workshop 2020, New Hampshire, USA.</i>	2020
“Upstream sources of the North Icelandic Jet: a potential pathway between Greenland Sea and Iceland Sea” <i>Iceland and Greenland Seas Project Workshop 2019, Norwich, UK.</i>	2019
“Observational evidence of subsurface chlorophyll response to mesoscale eddies in the North Pacific” <i>Linfeng Forum: Physical-biogeochemical interactions in mesoscale eddies, Xiamen, China.</i>	2018
“Structure and variability of the North Icelandic Jet from two years of mooring data” <i>High Latitude Process Workshop 2018, New Hampshire, USA.</i>	2018
“Sea surface chlorophyll responses to cyclonic eddies in the Subtropical Southeastern Pacific Ocean” <i>Asia Oceania Geosciences Society (AOGS) 13<sup>th</sup> Annual Meeting, Beijing, China.</i>	2016

### ***Poster Presentations***

“Structure and variability of the Barrow Canyon outflow from two high-resolution shipboard surveys in 2018” <i>Alaska Marine Science Symposium</i>	2023
“Role of air-sea heat flux on the transformation of Atlantic Water as it encircles the Nordic Seas” <i>US AMOC science meeting 2022</i>	2022
“Sources and upstream pathways of the densest overflow in the Nordic Seas” <i>Ocean Sciences Meeting 2020, San Diego, USA.</i>	2020
“Sea surface chlorophyll responses to cyclonic eddies in the Subtropical Southeastern Pacific Ocean” <i>The Third Xiamen Symposium on Marine Environmental Sciences, Xiamen, China.</i>	2017

### **WORKSHOP & Forum**

Arctic-Subarctic Ocean Fluxes workshop	2021, 2022, 2023
High Latitude Processes Workshop	2018, 2019, 2020, 2022, 2023
Lihai early career workshop	2022
Iceland and Greenland Seas Project Workshop	2019, 2021
Linfeng Forum: Physical-biogeochemical interactions in mesoscale eddies	2018

### **CRUISE PARTICIPATION**

R/V Sikuliaq, <b>Chukchi and Beaufort Seas</b> , 33 days, Arctic Observing Network (AON) Program.	2022
R/V Norseman II, <b>Chukchi Sea</b> , 28 days, Distributed Biological Observatory (DBO) Project.	2022
NRV Alliance, <b>Iceland and Greenland Seas</b> , 43 days, Iceland Greenland Seas Project (IGP).	2018
R/V Neil Armstrong, <b>Labrador and Irminger Seas</b> , 37 days, Overturning in the Subpolar North Atlantic Program (OSNAP).	2018

## AWARDS

<b>The 2022 Outstanding Reviewers for <i>JGR: Oceans</i></b>	2023
<b>National Scholarship</b> , The National Ministry of Education in China, Beijing, China.	2019
Kwang-Hua Scholarship, Tsinghua University, Beijing, China.	2018
Inspur Group Scholarship, Tsinghua University, Beijing, China.	2017
Outstanding Graduates, Xiamen University, Xiamen, China.	2015
<b>National Scholarship</b> , The National Ministry of Education in China, Beijing, China.	2014
Chinese Industrial and Commercial Bank Scholarship, Xiamen University, Xiamen, China.	2014
Excellent Student Cadre, Xiamen University, Xiamen, China.	2014
Linpeng Ecology Scholarship, Xiamen University, Xiamen, China.	2013

## PROFESSIONAL AFFILIATIONS

**Review Editor:** Frontiers in Marine Science.

**Member:** American Geophysical Union.

**Reviewer:** Nature Climate Change, Nature Communications, npj Climate and Atmospheric Science, Geophysical Research Letters, Journal of Geophysical Research: Oceans, Deep Sea Research, Progress in Oceanography, Remote Sensing of Environment, Continental Shelf Research, Ocean Dynamics, and Ocean Science.

## OUTREACH

<b>Volunteer</b> , Marine biology and environmental investigation in Changjiang Estuary and nearby ocean, Zhoushan, China, Organization: Xiamen University.	2014
<b>Volunteer</b> , Heavy metal and environmental investigation in Beibu Bay, Beihai, China, Organization: Xiamen University.	2013
<b>Volunteer</b> , Uninhabited Island protection, Xiamen, China, Organization: Xiamen University.	2012