

Curriculum Vitae

Chuanmin Hu

1. Address

College of Marine Science (CMS), University of South Florida (USF)
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2. Professional Preparation

Ph.D. in Physics, 1997, University of Miami, Coral Gables, Florida, U.S.A.
M.S. in Physics, 1992, Institute of Physics, Academia Sinica, Beijing, China
B.S. in Physics, 1989, University of Sci. and Tech. of China, Hefei, China

3. Professional Appointments

2014 – present, Professor, University of South Florida
2009 – 2014, Associate Professor, University of South Florida
2006 – 2008, Associate Research Professor, University of South Florida
2001 – 2005, Assistant Research Professor, University of South Florida
1998 – 2000, Post-doctorate Research Associate, University of South Florida

4. Recent Awards

2014 Faculty Outstanding Research Achievement Award, University of South Florida
2014 Outstanding Faculty Award, University of South Florida
2013 Group Achievement Honor Award, NASA Ames Research Center
2013 Gulf Guardian Award, U.S. Environmental Protection Agency
2013 STEM Collaborative Partnership Award, ARCS

5. Refereed Publications (as of 11/10/2016)

Total: 192 journal articles and 18 book chapters; Hu as first author: 46 journal articles and 6 book chapters; 7 appeared on journal covers, many highlighted by AGU, NASA, and IOCCG through press releases.

Citation statistics from scholar.google.com on 11/10/2016:

Total citations: 7920; h-index: 48.

a. Professional Journals

Underlined names are students or postdocs

- 192 2016 **Hu, C.**, B. Murch, B. B. Barnes, et al. (2016). Sargassum watch warns of incoming seaweed, *Eos*, 97(22):10-15, doi:10.1029/2016EO058355.
- 191 2016 Chen, S., **C. Hu**, R. H. Byrne, L. L. Robbins, and B. Yang (2016). Remote estimation of surface pCO₂ on the West Florida Shelf. *Cont. Shelf. Res.*, 128:10-25. <http://dx.doi.org/10.1016/j.csr.2016.09.004>

- 190 2016 Murawski, S.A., J.W. Fleeger, W.F. Patterson III, **C. Hu**, K. Daly, I. Romero, and G.A. Toro-Farmer. 2016. How did the Deepwater Horizon oil spill affect coastal and continental shelf ecosystems of the Gulf of Mexico? *Oceanography* 29(3):160–173, <http://dx.doi.org/10.5670/oceanog.2016.80>.
- 189 2016 Lu, Y., **C. Hu**, S. Sun, M. Zhang, Y. Zhou, J. Shi and Y. Wen (2016). Overview of optical remote sensing of marine oil spills and hydrocarbon seepage. *Journal of Remote Sensing*, 20(5):1259-1269 [DOI:10.11834/jrs.20166122]
- 188 2016 Barnes, B. B., **C. Hu** (2016) Island building in the South China Sea: detection of turbidity plumes and artificial islands using Landsat and MODIS data. *Sci. Rep.* 6, 33194; doi: 10.1038/srep33194
- 187 2016 **Hu, C.**, B. Murch, A. A. Corcoran, L. Zheng, B. B. Barnes, R. H. Weisberg, K. Atwood, J. M. Lenos (2016). Developing a smart semantic web with linked data and models for near real-time monitoring of red tides in the eastern Gulf of Mexico. *IEEE Systems Journal*, 10:1282 - 1290. doi:10.1109/JSYST.2015.2440782.
- 186 2016 **Hu, C.**, B. B. Barnes, L. Qi, C. Lembke, and D. English (2016). Vertical migration of *Karenia brevis* in the northeastern Gulf of Mexico observed from glider measurements. *Harmful Algae*. 58:59-65, doi:10.1016/j.hal.2016.07.005.
- 185 2016 Chen, J., Z. Lee, **C. Hu**, and J. Wei (2016), Improving satellite data products for open oceans with a scheme to correct the residual errors in remote sensing reflectance, *J. Geophys. Res. Oceans*, 121, 3866–3886, doi:10.1002/2016JC011673.
- 184 2016 Lu, Y., L. Li, **C. Hu**, L. Li, M. Zhang, S. Sun, and C. Lv (2016), Sunlight induced chlorophyll fluorescence in the near-infrared spectral region in natural waters: Interpretation of the narrow reflectance peak around 761 nm, *J. Geophys. Res. Oceans*, 121, 5017–5029, doi:10.1002/2016JC011797.
- 183 2016 Wang, M., and **C. Hu** (2016). Mapping and quantifying Sargassum distribution and coverage in the Central West Atlantic using MODIS observations. *Remote Sens. Environ.*, 183:356-367. <http://dx.doi.org/10.1016/j.rse.2016.04.019>
- 182 2016 Qi, L., **C. Hu**, Q. Xing, and S. Shang (2016). Long-term trend of *Ulva prolifera* blooms in the western Yellow Sea. *Harmful Algae*, 58:35-44. <http://dx.doi.org/10.1016/j.hal.2016.07.004>
- 181 2016 Li, X., **C. Hu**, S. Bao, and X. Yang (2016). MODIS captures large-scale atmospheric gravity waves over the Atlantic Ocean. *Acta Oceanol. Sin.*, 35:1-2.
- 180 2016 Weisberg, R. H., L. Zheng, Y. Liu, S. Murawski, **C. Hu**, D. Hollander, and J. Paul (2016). Did Deepwater Horizon Hydrocarbons Transit to the West Florida Continental Shelf? *Deep-sea Research II*, 129:259-272, DOI: 10.1016/j.dsr2.2014.02.002.
- 179 2016 **Hu, C.**, R. Hardy, E. Ruder, A. Geggel, L. Feng, S. Powers, F. Hernandez, G. Graettinger, J. Bodnar, and T. McDonald (2016). Sargassum coverage in the northeastern Gulf of Mexico during 2010 from Landsat and airborne observations: Implications for the Deepwater Horizon oil spill impact assessment. *Marine*

Pollution Bulletin, 107:15-21. DOI information:
10.1016/j.marpolbul.2016.04.045.

- 178 2016 Le, C., J. C. Lehrter, **C. Hu**, and D. R. Obenour (2016), Satellite-based empirical models linking river plume dynamics with hypoxic area and volume, *Geophys. Res. Lett.*, 43, 2693–2699, doi:10.1002/2015GL067521.
- 177 2016 Le, C., J. C. Lehrter, B. A. Schaeffer, **C. Hu**, M. C. Murrell, J. D. Hagy, R. M. Greene, and M. Beck (2016). Bio-optical water quality dynamics observed from MERIS in Pensacola Bay, Florida. *Estuarine, Coastal and Shelf Science*. 173:26-38. doi:10.1016/j.ecss.2016.02.003.
- 176 2016 Lu, Y., W. Zhan, and **C. Hu** (2016). Detecting and quantifying oil slick thickness by thermal remote sensing: A ground-base experiment. *Remote Sens. Environ.*, 181: 207-217, doi:10.1016/j.rse.2016.04.007.
- 175 2016 Lu, Y., S. Sun, M. Zhang, B. Murch, and **C. Hu** (2016), Refinement of the critical angle calculation for the contrast reversal of oil slicks under sunglint, *J. Geophys. Res. Oceans*, 121, 148–161, doi:10.1002/2015JC011001.
- 174 2016 Feng, L., and **C. Hu** (2016). Comparison of Valid Ocean Observations Between MODIS Terra and Aqua Over the Global Oceans. *IEEE Trans. Geosci. Remote Sens.* 54:1575-1585.
- 173 2016 Weisberg, R. H., L. Zheng, Y. Liu, A. A. Corcoran, C. Lembke, **C. Hu**, J. M. Lenos, and J. J. Walsh (2016). *Karenia brevis* blooms on the West Florida Shelf: A comparative study of the robust 2012 bloom and the nearly null 2013 event. *Cont. Shelf. Res.*, 120:106-121. doi:10.1016/j.csr.2016.03.011.
- 172 2016 Zhang, M., D. English, **C. Hu**, P. Carlson, F. E. Muller-Karger, G. Toro-Farmer & S. R. Herwitz (2016) Short-term changes of remote sensing reflectance in a shallow-water environment: observations from repeated airborne hyperspectral measurements, *International Journal of Remote Sensing*, 37:7, 1620-1638, DOI:10.1080/01431161.2016.1159746
- 171 2016 Xing, Q., and **C. Hu** (2016). Mapping macroalgal blooms in the Yellow Sea and East China Sea using HJ-1 and Landsat data: Application of a virtual baseline reflectance height technique. *Remote Sens. Environ.*, 178:113-126. <http://dx.doi.org/10.1016/j.rse.2016.02.065>
- 170 2016 Sun, S., **C. Hu**, L. Feng, G. A. Swayze, J. Holmes, G. Graettinger, I. MacDonald, O. Garcia and I. Leifer (2016), Oil slick morphology derived from AVIRIS measurements of the Deepwater Horizon oil spill: Implications for spatial resolution requirements of remote sensors, *Marine Pollution Bulletin*, 103: 276-285, doi:10.1016/j.marpolbul.2015.12.003
- 169 2016 Feng, L., X. Han, C. Hu, and X. Chen (2016). Four decades of wetland changes of the largest freshwater lake in China: Possible linkage to the Three Gorges Dam? *Remote Sens. Environ.*, 176:43-55. doi:10.1016/j.rse.2016.01.011.
- 168 2016 Sun, S. and **C. Hu** (2016), Sun glint requirement for the remote detection of surface oil films, *Geophys. Res. Lett.*, 43, 309–316, doi:10.1002/2015GL066884.

- 167 2016 Barnes, B. B. and **C. Hu** (2016) Dependence of satellite ocean color data products on viewing angles: A comparison between SeaWiFS, MODIS, and VIIRS. *Remote Sens. Environ.* 175:120-129.
- 166 2016 Feng, L., and **C. Hu** (2016). Cloud adjacency effects on top-of-atmosphere radiance and ocean color data products: A statistical assessment. *Remote Sens. Environ.*, 174:301-313. doi:10.1016/j.rse.2015.12.020.
- 165 2016 O'Connor, B. S., F. E. Muller-Karger, R. W. Nero, **C. Hu**, and E. B. Peebles (2016). The role of Mississippi River discharge in offshore phytoplankton blooming in the northeastern Gulf of Mexico during August 2010. *Remote Sens. Environ.*, 173:133-144. <http://dx.doi.org/10.1016/j.rse.2015.11.004>
- 164 2015 Walsh, J. J., J. M. Lenos, B. Darrow, A. Parks, R. H. Weisberg, L. Zheng, **C. Hu**, B. Barnes, K. L. Daly, G. Brooks, W. Jeffrey, R. Snyder, and D. Hollander (2015). A simulation analysis of the plankton fate of the Deepwater Horizon oil spills in 2010-2011. *Cont. Shelf. Res.*, 107:50-68. <http://dx.doi.org/10.1016/j.csr.2015.07.002>
- 163 2015 Sun, S., C. Hu, and J. W. Tunnell Jr. (2015). Surface oil footprint and trajectory of the Ixtoc-I oil spill determined from Landsat/MSS and CZCS observations. *Marine Pollution Bulletin*, 101:632-641. doi:10.1016/j.marpolbul.2015.10.036.
- 162 2015 MacDonald, I. R., O. Garcia-Pineda, A. Beet, S. Daneshgar Asl, L. Feng, G. Graettinger, D. French-McCay, J. Holmes, **C. Hu**, F. Huffer, I. Leifer, F. Muller-Karger, A. Solow, M. Silva, and G. Swayze (2015), Natural and unnatural oil slicks in the Gulf of Mexico, *J. Geophys. Res. Oceans*, 120, 8364-8380, doi:10.1002/2015JC011062.
- 161 2015 Qi, L., C. Hu, J. Cannizzaro, A. A. Corcoran, D. English, and C. Le (2015). VIIRS Observations of a *Karenia brevis* Bloom in the Northeastern Gulf of Mexico in the Absence of a Fluorescence Band. *IEEE Geosci. Remote Sens. Lett.* 12:2213-2217, Doi:10.1109/LGRS.2015.2457773.
- 160 2015 Barnes, B. B., C. Hu, C. Kovach, R. N. Silverstein (2015). Sediment plumes induced by the Port of Miami dredging: Analysis and interpretation using Landsat and MODIS data. *Remote Sens. Environ.*, 170:328-339. doi:10.1016/j.rse.2015.09.023
- 159 2015 Soto, I. M., J. Cannizzaro, F. E. Muller-Karger, **C. Hu**, J. Wolny, and D. Goldgof (2015). Evaluation and optimization of remote sensing techniques for detection of *Karenia brevis* blooms on the West Florida Shelf. *Remote Sens. Environ.*, 170:239-254. doi:10.1016/j.rse.2015.09.026.
- 158 2015 Wang, M., and **C. Hu** (2015). Extracting oil slick features from VIIRS nighttime imagery using a Gaussian filter and morphological constraints. *IEEE Geosci. Remote Sens. Lett.* 12:2051-2055. doi 10.1109/LGRS.2015.2444871.
- 157 2015 Xing, Q., **C. Hu**, D. Tang, L. Tian, S. Tang, X. Wang, M. Lou, and X. Gao (2015). World's largest macroalgal blooms altered phytoplankton biomass in summer in the Yellow Sea: Satellite observations. *Remote Sens.*, 7:12,297-12,313; doi:10.3390/rs70912297.

- 156 2015 Zhang, M., C. Hu, D. English, P. Carlson, F. E. Muller-Karger, G. Toro-Farmer, and S. R. Herwitz (2015). Atmospheric correction of AISA measurements over the Florida Keys optically shallow waters: Challenges in radiometric calibration and aerosol selection. *IEEE J. of Selected Topics in Applied Earth Observations and Remote Sensing (JSTARS)*, 8:4189-4196.
- 155 2015 Lee, Z. P., S. Shang, **C. Hu**, K. Du, A. Weidemann, W. Hou, J. Lin, and G. Lin (2015). Secchi disk depth: A new theory and mechanistic model for underwater visibility. *Remote Sens. Environ.*, 169:139-149.
- 154 2015 **Hu, C., L. Feng, R. F. Hardy, and E. J. Hochberg** (2015). Spectral and spatial requirements of remote measurements of pelagic Sargassum macro algae. *Remote Sens. Environ.* 167:229-246. doi:10.1016/j.rse.2015.05.022.
- 153 2015 Sun, D., **C. Hu**, Z. Qiu, and S. Wang (2015). Reconstruction of hyperspectral reflectance for optically complex turbid inland lakes: test of a new scheme and implications for inversion algorithms. *Optics Express*, 23:A718-A740, doi:10.1364/OE.23.00A718.
- 152 2015 **Hu, C., S. Chen, M. Wang, B. Murch, and J. Taylor** (2015). Detecting surface oil slicks using VIIRS nighttime imagery under moon glint: a case study in the Gulf of Mexico. *Remote Sensing Letters*, 6:295-301. DOI:10.1080/2150704X.2015.1029092.
- 151 2015 Brewin, R. J. W., S. Sathyendranath; D. Müller; C. Brockmann; P.-Y. Deschamps; E. Devred; R. Doerffer; N. Fomferra; B. Franz; M. Grant; S. Groom; A. Horseman; **C. Hu**; H. Krasemann; Z. Lee; S. Maritorea; F. Mélin; M. Peters; T. Platt; P. Regner; T. Smyth; F. Steinmetz; J. Swinton; J. Werdell; and G. White II (2015). The Ocean Colour Climate Change Initiative: III. A round-robin comparison on in-water biooptical algorithms. *Remote Sens. Environ.* 162:271-294. doi:10.1016/j.rse.2013.09.016.
- 150 2015 Mouw, C. B., S. Greb, D. Aurin, P. M. DiGiacomo, Z. Lee, M. Twardowski, C. Binding, **C. Hu**, R. Ma, T. Moore, W. Moses, and S. E. Craig (2015). Aquatic Color Radiometry Remote Sensing of Coastal and Inland Waters: Challenges and Recommendations for Future Satellite Missions. *Remote Sens. Environ.* 160:15-30.
- 149 2015 Le, C., J. C. Lehrter, **C. Hu**, B. Schaeffer, H. MacIntyre, J. D. Hagy, and D. L. Beddick (2015). Relation between inherent optical properties and land use and land cover across Gulf Coast estuaries. *Limnol & Oceanogr.* 60:920-933.
- 148 2015 Barnes, B. B., P. Hallock, C. Hu, F. Muller-Karger, D. Palandro, C. Walter, and R. Zepp (2015). Prediction of coral bleaching in the Florida Keys using remotely sensed data. *Coral Reefs*. 34:491-503.
- 147 2015 Sun, D., **C. Hu**, Z. Qiu, and K Shi (2015). Estimating phycocyanin pigment concentration in productive inland waters using Landsat measurements: A case study in Lake Dianchi. *Opt. Express*, 23, 3055-3074. doi:10.1364/OE.23.003055
- 146 2015 Qi, L., C. Hu, H. Duan, Y. Zhang, and R. Ma (2015). Influence of Particle Composition on Remote Sensing Reflectance and MERIS Maximum Chlorophyll

Index Algorithm: Examples From Taihu Lake and Chaohu Lake. IEEE Geoscience. remote sensing letters. 12 (5): 1136-1140. doi: 10.1109/LGRS.2014.2385800.

- 145 2015 **Hu, C., B. B. Barnes, L. Qi,** and A. A. Corcoran (2015). A harmful algal bloom of *Karenia brevis* in the northeastern Gulf of Mexico as revealed by MODIS and VIIRS: A comparison. *Sensors*, 15:2873-2887, doi:10.3390/s150202873.
- 144 2015 Al-Handal, A., and **C. Hu** (2015). MODIS Observations of Human-Induced Changes in the Mesopotamian Marshes in Iraq. *Wetlands*, 35:31-40, doi 10.1007/s13157-014-0590-6.
- 143 2015 **Barnes, B. B.,** and **C. Hu** (2015). Cross-sensor continuity of satellite-derived water clarity in the Gulf of Mexico: Insights into temporal aliasing and implications for long-term water clarity assessment. *IEEE Trans. Geosci. & Remote Sens.*, 53:1761-1772.
- 142 2015 **Feng, L., C. Hu,** X. Han, X. Chen, and **L. Qi** (2015). Long-term distribution patterns of chlorophyll-a concentration in China's largest freshwater lake: MERIS full-resolution observations with a practical approach. *Remote Sensing*. 7:275-299. doi:10.3390/rs70100275.
- 141 2014 Wall C. C., C. Lembke, **C. Hu,** and D. A. Mann (2014) Fish Sound Production in the Presence of Harmful Algal Blooms in the Eastern Gulf of Mexico. *PLoS ONE* 9(12): e114893. doi:10.1371/journal.pone.0114893.
- 140 2014 Le, C., J. C. Lehrter, **C. Hu,** M. C. Murrell, and **L. Qi** (2014), Spatiotemporal chlorophyll-a dynamics on the Louisiana continental shelf derived from a dual satellite imagery algorithm, *J. Geophys. Res. Oceans*, 119, 7449–7462, doi:10.1002/2014JC010084.
- 139 2014 **Qi, L., C. Hu,** H. Duan, **B. B. Barnes,** and R. Ma (2014). An EOF-based algorithm to estimate chlorophyll a concentrations in Taihu Lake from MODIS land-band measurements: Implications for near real-time applications and forecasting models. *Remote Sens.*, 6:10,694-10,715; doi:10.3390/rs61110694.
- 138 2014 Sun, D., **C. Hu,** Z. Qiu, J. P. Cannizzaro, and **B. B. Barnes** (2014). Influence of a red band-based water classification on chlorophyll algorithms for optically complex estuaries. *Remote Sens. Environ.* 155:289-302. DOI: 10.1016/j.rse.2014.08.035
- 137 2014 Wall, C.C., P. Simard, M. Lindemuth, C. Lembke, D.F. Naar, **C. Hu, B.B. Barnes,** F.E. Muller-Karger, and D.A. Mann (2014). Temporal and spatial mapping of red grouper (*Epinephelus morio*) sound production. *Journal of Fish Biology*. 85(5): 1469—1487. doi: 10.1111/jfb.12500 <http://onlinelibrary.wiley.com/doi/10.1111/jfb.12500/abstract>
- 136 2014 **Qi, L., C. Hu,** H. Duan, J. Cannizzaro, and R. Ma (2014). A novel MERIS algorithm to derive cyanobacterial phycocyanin pigment concentrations in a eutrophic lake: Theoretical basis and practical considerations. *Remote Sens. Environ.*, 154:298-317. <http://dx.doi.org/10.1016/j.rse.2014.08.026>

- 135 2014 Chen, S., and **C. Hu** (2014). In search of oil seeps in the Cariaco basin using MODIS and MERIS medium-resolution data. *Remote Sensing Letters*. 5:442-450, <http://dx.doi.org/10.1080/2150704X.2014.917218>.
- 134 2014 Long, J., **C. Hu**, and L. Robbins (2014). Whiting events in SW Florida coastal waters: a case study using MODIS medium-resolution data. *Remote Sensing Letters*. 5:539-547.
- 133 2014 Zhao, J., M. Temimi, H. Ghedira, and **C. Hu** (2014). Exploring the potential of optical remote sensing for oil spill detection in shallow coastal waters – A case study in the Arabian Gulf. *Opt. Express*. 22:13755-13772. <http://dx.doi.org/10.1364/OE.22.013755>
- 132 2014 Lapointe, B. E., L. E. West, T. T. Sutton, and **C. Hu** (2014). Nutrient excretions by symbiotic fishes support enhanced productivity of pelagic Sargassum in the western North Atlantic Ocean. *Journal of Experimental Marine Biology and Ecology*. 458:46-56.
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- 130 2014 Hu, L., Z. Liu, Z. Liu, **C. Hu**, and M-X. He (2014), Mapping bottom depth and albedo in coastal waters of the South China Sea islands and reefs using Landsat TM and ETM+ data. *Int. J. Remote Sens.*, 35:4156-4172. DOI:10.1080/01431161.2014.916441.
- 129 2014 Feng, L., **C. Hu**, and X. Chen (2014). Dramatic Inundation Changes of China's Two Largest Freshwater Lakes: Natural Process or Influenced by the Three Gorges Dam? A Revisit. *Environmental Science & Technology*. 48:2088-2089.
- 128 2014 He, M-X., L. Hu, and **C. Hu** (2014). Harbour dredging and fish mortality in an aquaculture zone: Assessment of changes in suspended particulate matter using multi-sensor remote-sensing data. *Int. J. Remote Sens.*, 35:4383-4398. DOI:10.1080/01431161.2014.916446
- 127 2014 Pahlevan, N., Z. Lee, **C. Hu**, and J. R. Schott (2014). Diurnal remote sensing of coastal/oceanic waters: A radiometric analysis for Geostationary Coastal and Air Pollution Events. *Appl. Opt.*, 53:648-665.
- 126 2014 **Hu, C.**, and L. Feng (2014). GOES Imager shows diurnal change of a *Trichodesmium erythraeum* bloom on the west Florida shelf. *IEEE Geosci. Remote Sens. Lett.*, 11:1428 – 1432.
- 125 2014 Shang, S., Q. Dong, **C. Hu**, G. Lin, Y. Li, and S. Shang (2014). On the consistency of MODIS chlorophyll a products in the northern South China Sea. *Biogeosciences*, 11, 269-280, doi:10.5194/bg-11-269-2014.
- 124 2014 **Hu, C.**, and C. Le (2014). Ocean color continuity from VIIRS measurements over Tampa Bay. *IEEE Geosci. Remote Sens. Lett.*, 11:945-949. Doi: 10.1109/LGRS.2013.2282599

- 123 2014 Feng, L., C. Hu, X. Chen, and Q. Song (2014). Influence of the Three Gorges Dam on total suspended matters in the Yangtze Estuary and its adjacent coastal waters: Observations from MODIS. *Remote Sens. Environ.*, 140:779-788.
- 122 2014 Barnes, B. B., C. Hu, J. P. Cannizzaro, S. E. Craig, P. Hallock, D. Jones, J. C. Lehrter, N. Melo, B. A. Schaeffer, and R. Zepp (2014). Estimation of diffuse attenuation of ultraviolet light in optically shallow Florida Keys waters from MODIS measurements. *Remote Sens. Environ.* 140:519-532.
- 121 2014 Barnes, B. B., C. Hu, K. L. Holekamp, S. Blonski, B. A. Spiering, D. Palandro, and B. Lapointe (2014). Use of Landsat data to track historical water quality changes in Florida Keys marine environments. *Remote Sens. Environ.*, 140:485-496.
- 120 2014 Lou, X., and **C. Hu** (2014). Diurnal changes of a harmful algal bloom in the East China Sea: Observations from GOCI. *Remote Sens. Environ.*, 140:562-572.
- 119 2014 **Hu, C.**, B. B. Barnes, B. Murch, and P. Carlson (2014). Satellite-based virtual buoy system (VBS) to monitor coastal water quality. *Optical Engineering*. 53(5), 051402. DOI: 10.1117/1.OE.53.5.051402.
- 118 2013 Garcia-Pineda, O., I. MacDonald, **C. Hu**, J. Svejksky, M. Hess, D. Dukhovskoy, and S. Moorey (2013). Detection of floating oil anomalies from the Deepwater Horizon oil spill with synthetic aperture radar. *Oceanography*. 26(2): 124–137, <http://dx.doi.org/10.5670/oceanog.2013.38>.
- 117 2013 Otremba, Z., O. Zielinski, and **C. Hu** (2013). Optical contrast of oil dispersed in seawater under windy conditions. *J. Europ. Opt. Soc. Rap. Public.*, 8, 13051, DOI: <http://dx.doi.org/10.2971/jeos.2013.13051>.
- 116 2013 Le, C., and **C. Hu** (2013). A hybrid approach to estimate chromophoric dissolved organic matter in turbid estuaries from satellite measurements: A case study for Tampa Bay. *Opt Express*. 21: 18849-18871, DOI:10.1364/OE.21.018849.
- 115 2013 Anderson, J. C., J. Wang, J. Zeng, G. Leptoukh, M. Petrenko, C. Ichoku, and **C. Hu** (2013). Long-term Statistical Assessment of Aqua-MODIS Aerosol Optical Depth over Coastal Regions: Bias Characteristics and Uncertainty Sources. *Tellus B*, 65, 20805, <http://dx.doi.org/10.3402/tellusb.v65i0.20805>.
- 114 2013 Feng, L., **C. Hu**, X. Chen, and X. Zhao (2013). Dramatic inundation changes of China's largest freshwater lakes linked to the Three Gorges Dam. *Environmental Science and Technology*. 47:9628-9634.
- 113 2013 Zhao, J., **C. Hu**, J. M. Lenes, R. H. Weisberg, C. Lembke, D. English, J. Wolny, L. Zheng, J. J. Walsh, and G. Kirkpatrick (2013). Three-dimensional structure of a *Karenia brevis* bloom: observations from gliders, satellites, and field measurements. *Harmful Algae*. <http://dx.doi.org/10.1016/j.hal.2013.07.004>.
- 112 2013 Cannizzaro, J. P., P. R. Carlson Jr., L. A. Yarbro, and **C. Hu** (2013). Optical variability along a river plume gradient: Implications for management and remote sensing. *Estuarine, Coastal and Shelf Science*. 131:149-161. <http://dx.doi.org/10.1016/j.ecss.2013.07.012>.

- 111 2013 Lee, Z., **C. Hu**, S. Shang, K. Du, M. Lewis, R. Arnone, and R. Brewin (2013). Penetration of UV-Visible solar radiation in the global oceans: Insights from ocean color remote sensing. *J. Geophys. Res. Oceans*, 118, doi:10.1002/jgrc.20308.
- 110 2013 Le, C., **C. Hu**, J. Cannizzaro, and H. Duan (2013). Long-term distribution patterns of remotely sensed water quality parameters in Chesapeake Bay. *Estuarine, Coastal and Shelf Science*. 128:93-103. doi: 10.1016/j.bbr.2011.03.031.
- 109 2013 Barnes, B. B., **C. Hu**, B. A. Schaeffer, Z. Lee, D. A. Palandro, and J. C. Lehrter (2013). MODIS-derived spatiotemporal water clarity patterns in optically shallow Florida Keys waters: a new approach to remove bottom contamination. *Remote Sens. Environ.*, 134:377-391.
- 108 2013 **Hu, C.**, L. Feng, and Z. Lee (2013). Uncertainties of SeaWiFS and MODIS remote sensing reflectance: Implications from clear water measurements. *Remote Sens. Environ.*, 133:163-182.
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 - 6 2001 **Hu, C.**, Carder, K. L., and Muller-Karger, F. E. (2001), How precise are SeaWiFS ocean color estimates? Implications of digitization-noise errors, *Remote Sens. Environ.* 76:239-249.
 - 5 2001 Andréfouët, S., F. E. Muller-Karger, E. J. Hochberg, **C. Hu**, and K. L. Carder (2001). Change detection in shallow coral reef environments using Landsat 7 ETM+ data. *Remote Sens. Environ.* 78:150-162.
 - 4 2000 **Hu, C.**, Carder, K. L., and Muller-Karger, F. E. (2000), Atmospheric correction of SeaWiFS imagery over turbid coastal waters: a practical method, *Remote Sens. Environ.* 74:195-206.

- 3 2000 **Hu, C.**, Carder, K. L., and Muller-Karger, F. E. (2000), Atmospheric correction of SeaWiFS imagery: assessment of the use of alternative bands, *Appl. Opt.* 39:3573-3581. (cover article)
- 2 1998 **Hu, C.**, and K. J. Voss (1998). Measurement of solar-stimulated fluorescence in natural waters. *Limnol. Oceanogr.* 43:1198-1206.
- 1 1997 **Hu, C.**, and K. J. Voss (1997). In situ measurements of Raman scattering in clear ocean water. *Appl. Opt.* 36:6962-6967.

b. Refereed Book Chapters or Proceedings

- 18 2014 **Hu, C.**, S. Sathyendranath, J. D. Shutler, C. W. Brown, T. S. Moore, S.E. Craig, I. Soto, and A. Subramaniam (2014). Detection of Dominant Algal Blooms by Remote Sensing. In: IOCCG (2014). *Phytoplankton Functional Types from Space*. Sathyendranath, S. (ed.), Reports of the International Ocean-Colour Coordinating Group, No. 15, IOCCG, Dartmouth, Canada.
- 17 2014 **Hu, C.**, and J. Campbell (2014). Oceanic chlorophyll-a content. In: *Biophysical applications of satellite remote sensing* (J. M. Hanes Eds), Springer Remote Sensing/Photogrammetry. Springer-Verlag Berlin Heidelberg 2014.
- 16 2014 Zhang, M., **C. Hu**, and G. Amu (2014). Real-world problem solving in entry-level programming courses: A case study on the Deepwater Horizon oil spill. *Frontiers in Education Conference, 2013 IEEE*, 343 – 348, doi: 10.1109/FIE.2013.6684845
- 15 2012 **Hu, C.** (2012). South Florida marine environments can be assessed with satellite remote sensing. pp. 134-135. In: Kruczynski, W.L. and P.J. Fletcher (eds.). 2012. *Tropical Connections: South Florida’s marine environment*. IAN Press, University of Maryland Center for Environmental Science, Cambridge, Maryland. 492 pp.
- 14 2011 Liu, Y., R. H. Weisberg, **C. Hu**, and L. Zheng (2011), Trajectory forecast as a rapid response to the *Deepwater Horizon* oil spill, in *Monitoring and Modeling the Deepwater Horizon Oil Spill: A Record-Breaking Enterprise*, Geophys. Monogr. Ser., vol. 195, edited by Y. Liu et al., pp. 153–165, AGU, Washington, D. C., doi:10.1029/2011GM001121.
- 13 2011 Liu, Y., R. H. Weisberg, **C. Hu**, C. Kovach, and R. Riethmüller (2011), Evolution of the Loop Current system during the *Deepwater Horizon* oil spill event as observed with drifters and satellites, in *Monitoring and Modeling the Deepwater Horizon Oil Spill: A Record-Breaking Enterprise*, Geophys. Monogr. Ser., vol. 195, edited by Y. Liu et al., pp. 91–101, AGU, Washington, D. C., doi:10.1029/2011GM001127.
- 12 2011 **Hu, C.**, J. Cannizzaro, K. L. Carder, Z. Lee, F. E. Muller-Karger, and I. Soto (2011). Red tide detection in the eastern Gulf of Mexico using MODIS imagery. In: Morales, J., V. Stuart, T. Platt, and S. Sathyendranath (Eds.) (2011). *Handbook of Satellite Remote Sensing Image Interpretation: Applications for Marine Living Resources Conservation and Management*, EU PRESPO and IOCCG, Dartmouth, Canada. p95 – 110.

- 11 2011 He, M.-X., J. Liu, F. Yu, D. Li, and **C. Hu** (2011). Monitoring green tides in Chinese marginal seas. In: Morales, J., V. Stuart, T. Platt, and S. Sathyendranath (Eds.) (2011). *Handbook of Satellite Remote Sensing Image Interpretation: Applications for Marine Living Resources Conservation and Management*, EU PRESPO and IOCCG, Dartmouth, Canada. p111 – 124.
- 10 2011 **Hu, C.**, X. Li, and W. G. Pichel (2011). Detection of oil slicks using MODIS and SAR imagery. In: Morales, J., V. Stuart, T. Platt, and S. Sathyendranath (Eds.) (2011). *Handbook of Satellite Remote Sensing Image Interpretation: Applications for Marine Living Resources Conservation and Management*, EU PRESPO and IOCCG, Dartmouth, Canada. p21 – 34.
- 9 2010 Muller-Karger, F. E., R. Varela, R. C. Thunell, M. I. Scranton, G. T. Taylor, Y. Astor, C. R. Benitez-Nelson, L. Lorenzoni, K. A. Fanning, E. Tappa, M. A. Goni, D. Rueda, and **C. Hu** (2010). CARIACO: A time series of primary production and vertical export in the Cariaco Basin. p454-463. In: *Carbon and Nutrient Fluxes in Continental Margins: A Global Synthesis*. Eds., K.-K. Liu, L. Atkinson, R. Quinones, and L. Talaue-McManus, IGBP Book Series. Springer, Berlin, 744 p + XXVIII.
- 8 2010 **Hu, C.**, I-I Lin, and C-C Lien (2010). Introduction to SeaWiFS/MODIS chlorophyll data products and data analysis tools. p620-624. In: *Carbon and Nutrient Fluxes in Continental Margins: A Global Synthesis*. Eds., K.-K. Liu, L. Atkinson, R. Quinones, and L. Talaue-McManus, IGBP Book Series. Springer, Berlin, 744 p + XXVIII.
- 7 2009 Wilson, C., C. Chen, C. Clark, P. Fanning, M-H. Forget, K. Friedland, E. Howell, **C. Hu**, and others (2009). Chapter 4: Remote Sensing Applications to Marine Resource. In: *Remote Sensing in Fisheries and Aquaculture*. Forget, M.-H., Stuart, V. and Platt, T. (eds.), *Reports of the International Ocean-Colour Coordinating Group, No. 8, IOCCG, Dartmouth, Canada. 2009. pp 43-56.*
- 6 2009 Bundy, A., G. Borstad, J. Field, S. Groom, N. Hoepffner, **C. Hu**, V. Lutz, and C. Wilson (2009). Chapter 7: Building Links with the Fishing, Aquaculture and Management Communities. In: *Remote Sensing in Fisheries and Aquaculture*. Forget, M.-H., Stuart, V. and Platt, T. (eds.), *Reports of the International Ocean-Colour Coordinating Group, No. 8, IOCCG, Dartmouth, Canada. 2009. pp 89-102.*
- 5 2005 Muller-Karger, F. E., **C. Hu**, S. Andréfouët, and R. Varela (2005). The color of the coastal ocean and applications in the solution of research and management problems In: *Remote Sensing of Aquatic Coastal Environments* (R. L. Miller, C. E. Del Castillom, and B. A. McKee eds.), Springer-Verlag, New York, pp 101-127.
- 4 2005 Andréfouët, S., E. J. Hochberg, C. Chevillon, F. E. Muller-Karger, J. C. Brock, and **C. Hu** (2005). Multi-scale remote sensing of coral reefs. In: *Remote Sensing of Aquatic Coastal Environments* (R. L. Miller, C. E. Del Castillom, and B. A. McKee eds.), Springer-Verlag, New York, pp 297-315.

- 3 2005 Biggs, D. C., A. E. Jochens, M. K. Howard, S. F. DiMarco, K. D. Mullin, R. R. Leben, F. E. Muller-Karger, and C. Hu (2005). Eddy forced variations in on-margin and off-margin summertime circulation along the 1000 m isobath of the northern Gulf of Mexico, 2000-2003, and links with sperm whale distributions along the middle shelf. *AGU Geophys Monogr.* (New Developments in the circulation of the Gulf of Mexico), p71-85.
- 2 2004 Neely, M. B., et al. (2004). Florida's black water event. *Harmful Algae 2002. Proceedings of the Xth International Conference on Harmful Algae.* Steidinger, K. A., Landsberg, J. H., Tomas, C. R., and Vargo, G. A. (Eds.). Florida Fish and Wildlife Conservation Commission, Intergovernmental Oceanographic Commission of UNESCO, Florida Institute of Oceanography, pp377-379.
- 1 2000 Neumann, A., Doerffer, R., Krawczyk, H., Dowell, M., Arnone, R., Davis, C., Kishino, M., Tanaka, A., Hu, C., Campbell, J., and Sathyendranath, S. (2000), Algorithm for Case 2 waters. *IOCCG. Remote sensing of ocean color in coastal, and other optically-complex, waters.* Sathyendranath, S. (eds), *Reports of the International Ocean-Colour Coordinating Group, No. 3, IOCCG, Dartmouth, Canada.*

6. Non-Refereed Publications

- 30 2014 Hu, C., Z. Lee, and B. Franz (2014). Minimize CDOM impact on the band-subtraction chlorophyll algorithm through optical weighting: Preliminary results. Oct 27 – 31, 2014, Ocean Optics XXII, Portland, Maine, USA.
- 29 2014 Qi, L., C. Hu, H. Duan, et al. (2014). A novel algorithm to derive cyanobacterial phycocyanin pigment concentrations in a eutrophic lake from MERIS measurements: Theoretical basis and practical considerations. Oct 27 – 31, 2014, Ocean Optics XXII, Portland, Maine, USA.
- 28 2014 English, D., M. Zhang, and C. Hu et al. (2014). Hyperspectral remote sensing of shallow coastal waters in the Florida Keys using Unmanned Aircraft Systems (UAS): Initial results from atmospheric correction and glint correction. Oct 27 – 31, 2014, Ocean Optics XXII, Portland, Maine, USA.
- 27 2013 Johannessen, J. A., M.-X. He, W. Alpers, G. Chen, J.-F. Piolle, Z. Liu, L. Shao, K.-F. Dagestad, B. Chapron, L. Wan, C. Hu, and L. Guan (2013). Dragon in support to harmonizing european and chinese marine monitoring for environment and security system. European Space Agency, (Special Publication) ESA SP Volume 704 SP, 2013, 8p. Dragon 2 Final Results and Dragon 3 Kick-Off Symposium; Beijing; China; 25 June 2012 through 29 June 2012.
- 26 2013 Pahlevan, N., Z. Lee, C. Hu, and J. R. Schott (2013). Analyzing radiometric requirements for diurnal observations of coastal/oceanic waters from geostationary orbits. *Proc. SPIE 8724, Ocean Sensing and Monitoring V*, 87240K (June 3, 2013); doi:10.1117/12.2016279
- 25 2012 Jochens, A. E., M. K. Howard, L. Campbell, R. Mullins-Perry, G. Kirkpatrick, B. Kirkpatrick, C. Simoniello, C. Hu, R. H. Weisberg, C. Lembke, A. Corcoran, J. Ivey, and S. H. Wolfe (2012). Integrating Observing Systems to benefit stakeholders: A case study in the Gulf of Mexico. *Oceans 2012 MTS/IEEE:*

- Harnessing the Power of the Ocean. Virginia Beach, VA; United States, 14 – 19 October 2012.
- 24 2012 Santhyendranath, S., B. Brewin, D. Mueller, et al. (2012). Ocean colour climate change initiative – Approach and initial results. Geoscience and Remote Sensing Symposium (IGARSS), 2012 IEEE International, p2024-2027.
 - 23 2011 Liu, Y., R.H. Weisberg, **C. Hu**, and L. Zheng, 2011: Combining numerical ocean circulation models with satellite observations in a trajectory forecast system: a rapid response to the Deepwater Horizon oil spill, *Proc. SPIE* 8030, 80300K. doi:10.1117/12.887983
 - 22 2011 **Hu, C.**, 2011: Observing MODIS ocean color patterns under severe sun glint. *Proc. SPIE* 8030, 80300M. doi:101117/12.803021.
 - 21 2010 Lee, Z., R. Arnone, **C. Hu**, P. J. Werdell, and B. Lubac. 2011. Quantification of uncertainties in remotely derived optical properties of coastal and oceanic waters. *Proc. SPIE* 7678, 767802.
 - 20 2010 He, M-X., S. He, Q. Yang, Y. Wang, Z. Liu, J. Sha, and **C. Hu** (2010). Overview of Chinese spaceborne ocean observing systems, onboard sensors and data products (1988 - 2025). DRAGONESS Symposium. 12pp.
 - 19 2010 Johannessen, J. A., M-X. He, W. Alpers, G. Chen, J-F Piolle, Z. Liu, L. Shao, K-F Dagestad, B. Chapron, L. Wan, **C. Hu**, and L. Guan (2010). Dagon in support to harmonizing European and Chinese marine monitoring for environment and security system (DRAGONESS). DRAGONESS Symposium, 8pp.
 - 18 2009 **Hu, C.**, Z. Chen, F. Muller-Karger, M. Luther, and C. Kovach (2009). High Temporal Resolution Assessments of Tampa Bay Water Quality Using Satellites. Proceedings of the 5th Bay Area Scientific Information Symposium. 20-23 October 1999. Tampa, Florida. 13 pp.
 - 17 2009 English, D., **C. Hu**, C. Lembke, R. Weisberg, D. Edwards, L. Lorenzoni, G. Gonzalez, and F. Muller-Karger (2009). Observing the 3-dimensional distribution of bio-optical properties of West Florida Shelf waters using gliders and autonomous platforms. 7pp. Oct 26-29, MTS/IEEE Oceans'09 conference, Biloxi, Mississippi. Paper published in conference proceedings (ISBN CD-ROM: 978-0-933957-38-1).
 - 16 2009 Cheng, W., L. O. Hall, D. B. Goldgof, I. Soto, and **C. Hu** (2009). Automatic red tide detection from MODIS satellite images. IEEE International Conference on Systems, Man and Cybernetics, 2009. **ISSN:** 1062-922X, p1864-1868. DOI 10.1109/ICSMC.2009.5346189
 - 15 2009 Gramer, L. J., E. M. Johns, J. C. Hendee, and **C. Hu** (2009). Characterization of biologically significant hydrodynamic anomalies on the Florida Reef Tract. Proceedings of the 11th International Coral Reef Symposium, Ft. Lauderdale.
 - 14 2008 He, M-X., Y. Wang, L. Hu, Q. Yang, S. He, **C. Hu**, and R. Doerffer (2008). Detection of red tides using MERIS 681 nm and 709 nm bands in the East China Sea: A case study. Proc. Dragon 1 Programme Final Results 2004-2007, Beijing, P. R. China, 21-25 April 2008 (ESA SP-655, April 2008).

- 13 2008 **Hu, C.**, and F. E. Muller-Karger (2008). On the connectivity and “black water” phenomena near the FKNMS: A remote sensing perspective. In: Connectivity – Science, People and Policy in the FKNMS (B. D. Keller and F. C. Wilmot eds, 263pp). 47-55.
- 12 2007 Lee., Z. P., **C. Hu**, et al., MERIS-derived bio-optical properties of the US coastal waters. ENVISAT Symposium proceedings, 23-27 April 2007, Montreux, Switzerland.
- 11 2007 He, M.X., S. He, L. Hu, Y. Wang, Q. Yang, T. Zhang, J. Fischer, Z. P. Lee, and **C. Hu**. MERIS performance in the East China Seas: Evaluation of atmospheric correction and optical inversion algorithms. ENVISAT Symposium proceedings, 23-27 April 2007, Montreux, Switzerland.
- 10 2007 **Hu, C.**, Y. Wang, Q. Yang, S. He, L. Hu, and M. X. He. Comparison of ocean color data products from MERIS, MODIS, and SeaWiFS: Preliminary results for the East China Seas. ENVISAT Symposium proceedings, 23-27 April 2007, Montreux, Switzerland.
- 9 2005 Dogliotti, A. I., O. Ulloa, F. E. Muller-Karger, **C. Hu**, B. Murch, et al. (2005). The Antares observation network. SPIE proceedings 5885. (Remote sensing of the coastal oceanic environment, edited by R. J. Frouin, M. Barbin, and S. Sathyendranath).
- 8 2005 Dogliotti, A. I., O. Ulloa, F. Muller-Karger, **C. Hu**, B. Murch, C. Taylor, etc. (2005). The ANTARES observation network. Proc. SPIE 2885, DOI: 10.1117/12.617971, p182-187.
- 7 2003 **Hu, C.**, and F. E. Muller-Karger (2003). MODIS monitors Florida's ocean dispersal of the Piney Point phosphate treated wastewater. *The Earth Observer* (NASA), 15(6):21-23.
- 6 2003 **Hu, C.**, Z.P. Lee, F. E. Muller-Karger, and K. L. Carder (2003). Application of an optimization algorithm to satellite ocean color imagery: A case study in Southwest Florida coastal waters. SPIE proceedings 4892. (*Ocean Remote Sensing and Applications*, edited by R. J. Frouin, Y. Yuan, and H. Kawamura. SPIE, Bellingham, WA, 2003), p 70-79.
- 5 2003 **Hu, C.** (2003). A simple instrument for measurement of remote sensing reflectance in coastal environment. SPIE Proceedings 4897 (*Multispectral and Hyperspectral Remote Sensing Instruments and Applications*, edited by Allen M. Larar, Qingxi Tong, and Makoto Suzuki. SPIE, Bellingham, WA, 2003), p. 219-226.
- 4 2002 **Hu, C.**, I-I Lin, and S. Shang (2002). Ocean color climatology using multiple sensors. Proceedings of the Fifth cross-strait symposium, 14-16 May 2002, Taipei, Taiwan. pp259-261.
- 3 2000 Gasch, J., T. Arvidson, S. N. Goward, S. Andrefouet, **C. Hu**, and F. E. Muller-Karger (2000). Assessment of Landsat 7/ETM+ coverage of coral reefs worldwide. DIG INT GEOSCI REMOTE SENS SYMP(IGARSS), 6:2687-2689.

- 2 2000 **Hu, C.**, K. L. Carder, and F. E. Muller-Karger (2000). Preliminary algorithm to derive chlorophyll pigment concentration and DOM absorption in turbid coastal waters from SeaWiFS imagery. Proceedings of the 4th Pacific Ocean Remote Sensing Conference, Qingdao, China, 28–31 July. P78-82.
- 1 1997 **Hu, C.**, and K. J. Voss (1997). Solar-stimulated inelastic light scattering in clear seawater. *Proc. SPIE* 2963, Ocean Optics XIII, 266 (February 6, 1997); doi:10.1117/12.266453, p266-271.

7. *Invited Talks (updated 12/31/2015)*

Sept 28, 2015, Invited seminar at Texas A&M University Dept of Oceanography & Dept of Atmosphere. “From green tides, oil spills, to global ocean biology: How two coastal events led to a new remote sensing algorithm concept.”

April 27, 2015, Invited talk to celebrate Dr. Howard Gordon’s retirement at University of Miami, Physics Department: “The beauty of subtraction.”

June 4, 2014, Invited talk at Wuhan University, Wuhan, China: “Satellite based virtual buoy system” by C. Hu.

June 10, 2014, Invited seminar at Nanjing Institute of Geography and Limnology, Nanjing, China: “Satellite remote sensing of coastal environment” by C. Hu

September 25, 2013. Invited seminar at University of Massachusetts at Boston: “Remote sensing of coastal water quality and blooms – from research to management decision support”

February 16, 2012. Invited presentation for Sarasota Power & Sail Squadron, Sarasota, Florida: “Monitoring the coastal ocean using optical remote sensing.”

March 8, 2011. Invited seminar at TAMU Galveston: “Satellite remote sensing of coastal environments: New applications using old concepts”

May 16-17, 2011, SECOORA annual meeting, Jacksonville, Florida, Invited talk: “SECOORA satellite remote sensing component”

Dec 13 – 17, 2010, AGU Fall Meeting, San Francisco, California, USA. Invited talk by Weisberg, R.H., Y. Liu, L. Zheng, C. Hu, and C. Lembke: “Rapid Response to Deepwater Horizon Oil Spill from University of South Florida: Numerical Models, Remote Sensing, and In-situ Observations”

Oct 28 – 29, 2010, Hongkong, China, Second International Conference on Global Change and the Environment in Asia and Pacific (GCEAP, 28-29 Oct 2010). Plenary talk: "A remote sensing view of aquatic hazards in East China and the US Gulf Coast"

Oct 14 – 17, 2010, CSDMS Meeting, San Antonio, Texas, USA, Invited keynote talk by Weisberg, R.H., Y. Liu, L. Zheng, and C. Hu: “The Oil Trajectory: How it behaved in the Gulf of Mexico and why, and where might residual oil be heading?”

Sept 27 – Oct 1, 2010, Ocean Optics XX conference, Anchorage, Alaska. Invited talk: “One index, many applications”

May 12 – 13, 2010, Southeast Coastal Ocean Observing Regional Association (SECOORA) 2010 Annual Board & Member Meeting, Savannah, Georgia, USA, Invited keynote talk by Liu, Y., R.H. Weisberg, L. Zheng, and C. Hu: “Tracking Gulf of Mexico Oil Spill with Numerical Models and Satellite Imagery”.

March 5, 2010, Invited seminar at Dalhousie University, Department of Oceanography, Canada, “Satellite remote sensing of coastal environments: Maximizing the power of MODIS”

Feb 4, 2010, Estuarine Nutrient Criteria Workshop, FWCC, St. Petersburg, Florida. Invited talk: “Satellite Chl in Near-shore Waters of the West Florida: Influence of River Discharge”

Dec 18-19, 2009, The 9th National Symposium on Ocean Color Remote Sensing of Case-II Waters, Nanchang, China, invited presentation: “Assessment of blue-green algae blooms in two freshwater lakes of China using MODIS”

Dec 8-10, 2009, NASA Applied Sciences Gulf Workshop, New Orleans, Louisiana, Invited presentation: “An overview of NASA ocean color data products”

Sept 22-24, 2009, NASA GEO-CAPE working group meeting, Columbia, Maryland, Invited presentation: “GEO-CAPE requirements on measurement sensitivity, saturation, and solar angles”

May 6-8, 2009, NASA Ocean Color Research Team meeting, Westin New York at Times Square Hotel, New York, invited presentation: “Coastal ocean color from space: where are we and what’s next”

8. *Projects and Grants (as of 11/10/2016)*

Total Awards: ~ \$78.9M (since 2001); \$74.4M (since 2009).

C. Hu’s portion: \$11.0M (since 2001); \$8.1M (since 2009).

Number of projects since 2009: 41; 22 of which with C. Hu being project PI

9. *Graduate Education and Mentoring*

Courses Taught

OCE6934, Ref#90356, Practical IDL Programming	Spring 2003
OCE6934, Ref# 17172, Optical Oceanography	Spring 2010
OCE6934, Ref# 90356, Practical IDL Programming	Fall 2010
OCE6934, Ref# 16698, Environ. Optics & Remote Sens.	Spring 2011
*OCE4930, Ref# 92020, Deepwater Horizon: Whole Story (UG)	Fall 2011
*OCE6934, Ref# 91966, Remote Sensing in Oceanography	Fall 2011
*OCE6934, Ref# 86692, Deepwater Horizon: Whole Story (G)	Fall 2011
OCE6934, Ref# 21613, Marine Resource Remote Sensing	Spring 2012
OCE6934, Ref# 15656, Optical Oceanography	Fall 2013
OCE6934, Practical IDL Programming	Spring 2014
OCE6934, Readings in Optical Oceanography	Fall 2014
OCE6934, Ref# 94911, Marine Resource Remote Sensing	Fall 2015
OCE6934, Optical Oceanography	Fall 2016
Many Directed Research, Independent Study, MS Thesis, and PhD Dissertation courses from Spring 2009 to Fall 2015	

*courses taught by others where Hu gave lectures

Master's Thesis Advisory Committees

Hu as major or co-major advisor

Junpeng Liu (**graduated at OUC**, co-major advisor: Ming-Xia He of Ocean University of China): Spring 2007 – Fall 2010, thesis title: “A multi-satellite service system to monitor *Ulva prolifera* blooms and their marine environment off Qingdao, China”. 86pp, in Chinese with English abstract.

Feng Yu (**graduated at OUC**, co-major advisor: Ming-Xia He of Ocean University of China): Spring 2007 – Fall 2010, thesis title: “Satellite remote sensing of *Ulva prolifera* in coastal waters off Qingdao, China”. 73 pp, in Chinese with English abstract.

Daniel Sensi (**graduated at USF/CMS**): Fall 2010 – Fall 2012, thesis title: “Optical Detection and Classification of Phytoplankton Taxa through Spectral Analysis”, 71 pp. Manuscript in preparation.

Ryan Lloyd (**graduated at USF/CMS**): Fall 2010 – Fall 2012, thesis title: “Remote Sensing of Whittings in the Bahamas”, 117 pp. Manuscript in preparation.

Robert Hardy (**graduated at USF/CMS**): Spring 2010 – Fall 2014, thesis title: “Assessments of Surface-Pelagic Drift Communities and Behavior of Early Juvenile Sea Turtles in the Northern Gulf of Mexico”. Published 3 papers as co-author and made 2 presentations. Won the Outstanding Thesis and Dissertation (OTD) Award from USF for the 2014-2015 academic year.

Jacqueline Long (**graduated at USF/CMS**): Fall 2013 – Fall 2016, thesis title: Whittings in SW Florida coastal waters. Published a manuscript as 1st author.

Hu as thesis committee member

Ana Odriozola (**graduated at USF/CMS**, major advisor: Frank Muller-Karger of USF), Spring 2003 – Spring 2006, thesis title: “On the Orinoco River plume in the Caribbean”. Published 1 paper as 1st author (Odriozola et al., 2007) and another one as coauthor.

Haiying Zhang (**graduated at USF/CMS**, major advisor: Frank Muller-Karger of USF), Spring 2004 – Fall 2006, thesis title “Remote detection of red tides using a fuzzy k-mean classification”. Manuscript published in a conference proceeding.

Bredan O’Connor (**in progress at USF/CMS**, major advisor: Frank Muller-Karger of USF), Fall 2011 – Summer 2013, thesis title: “Assessment of the Mississippi River diversions and characterization of the oil from the Deepwater Horizon oil spill”. Made a presentation at the GoMRI conference in New Orleans, January 2013.

Lewis Stewart (**in press at USF/CMS**), major advisor: David Naar of USF).

Doctor's Dissertation Advisory Committees

Hu as major or co-major advisor

Kun Yu (**graduated at Nanjing Univ., visiting student at USF 2009 - 2011**, co-major advisor: Ying Wang of Nanjing University, China): Fall 2007 - Spring 2012, dissertation title: “Different lowland plain wetlands formation and a decadal vegetation coverage”. 160 pp, in Chinese with English abstract. Published 2 papers as 1st author (Yu et al., 2011; Yu and Hu, 2013), 1 paper as coauthor, and another one in preparation.

Lian Feng (**graduated at Wuhan Univ., visiting student at USF 2010 - 2012**, co-major advisor: Xiaoling Chen of Wuhan University, China): Fall 2008 - Spring 2013, dissertation title: “Remote sensing of the Poyang Lake and its environment”. Published 7 papers as 1st author and 4 papers as coauthor. Won Top-10 Student Researcher Award (2012) and Top-5 Student Innovation Award (2012) at Wuhan University.

Brian Barnes (**graduated at USF/CMS in Dec 2013**), Fall 2009 – Fall 2013, dissertation title: “On the combined Effects of Light and Temperature on Coral Bleaching: A case study of the Florida Reef Tract using satellite and in situ data”. USF/CMS Knight Fellowship winner (Fall 2012); published 5 papers as 1st author and 3 papers as co-author from dissertation. Won the Outstanding Thesis and Dissertation (OTD) Award from USF for the 2013-2014 academic year. Made numerous presentations in professional meetings such as Ocean Optics XXI (Scotland, October 2012) and Florida Keys regional planning meetings.

Lin Qi (**Graduated at Nanjing Institute of Geography and Limnology in Nov 2014**). Dissertation title: “Remote sensing of phytoplankton pigment concentrations in Taihu Lake: Algorithm development and applications”. Published 3 first-authored papers and 1 coauthored paper. One paper was highlighted by IOCCG in its November 2014 news bulletin.

Mengqiu Wang (**in progress at USF/CMS**): Fall 2013 - , Dissertation topic: phytoplankton functional groups in the Gulf of Mexico. Published two manuscripts as 1st author and two as co-author. USF Knight Fellowship recipient

Shuangling Chen (**in progress at USF/CMS**): Fall 2013 - , Dissertation topic: Remote sensing of surface pCO₂ in the Gulf of Mexico. Published two manuscripts as 1st author and two as coauthor. USGS graduate assistantship recipient 2014 – 2016.

Shaojie Sun (**in progress at USF/CMS**): Fall 2013 - , Dissertation topic: oil spill remote sensing. Published three manuscripts as 1st author and several others as co-author. NASA fellowship recipient since Fall 2016.

Yingjun Zhang (**in progress at USF/CMS**): Fall 2016 – present

Chih-Wei Huang (**in press at USF/CMS**): Fall – present

Hu as dissertation committee member

Bisman Nababan (**graduated at USF/CMS**, major advisor: Frank Muller-Karger of USF), Fall 1998 – Spring 2005, dissertation title: “Bio-optical variability of surface waters in the Northeastern Gulf of Mexico”, 167pp. Published two papers as 1st author and two others as co-author.

- Zhiqiang Chen (**graduated at USF/CMS**, major advisor: Frank Muller-Karger of USF), Fall 2000 – Fall 2006, dissertation title: “Monitoring water quality in Tampa Bay: Coupling *in situ* and remote sensing”. Published 4 papers as 1st author, 4 papers as co-author.
- Marina Marrari (**graduated at USF/CMS**, major advisor: Kendra Daly of USF), Fall 2002 – Spring 2008, dissertation title: “Characterization of the Western Antarctic Peninsula Ecosystem: Environmental Controls on the Zooplankton Community”. 174pp. Published 3 papers as 1st author.
- Carrie Wall (**graduated at USF/CMS**, major advisor: David Mann of USF), Fall 2008 - Fall 2012, dissertation title: “Shelf-scale Mapping of Fish Distribution Using Active and Passive Acoustics”, 164 pp. Published 3 papers from dissertation as 1st author with 2 in preparation, and published 2 papers as coauthor and 2 others in preparation.
- Kara Radabaugh (**graduated at USF/CMS**, major advisor: Ernst Peebles of USF), Fall 2009 – Spring 2013, dissertation title: “Light-Environment Controls and Basal Resource Use of Planktonic and Benthic Primary Production”, 189pp. Published 1 paper as 1st author, submitted 2, and had one in preparation.
- Inia Soto (**graduated at USF/CMS**, major advisor: Frank Muller-Karger of USF), Fall 2006 – Fall 2013, dissertation title: “On the Harmful Algal Blooms of the West Florida Shelf and Campeche Bank: Visualization and Quantification using Remote Sensing Methods”. Published 3 papers as 1st author, 2 as coauthor
- Sennai Habtes (**graduated at USF/CMS**, major advisor: Frank Muller-Karger of USF), Fall 2006 – Fall 2014, dissertation title: “Variability in the Spatial and Temporal Patterns of Larval Scombrid Abundance in the Gulf of Mexico”
- Brian Zielinski (**graduated at USF/CMS**, major advisor: John Paul of USF), Fall 2008 – Fall 2014, dissertation title: “Using Gene Expression as a Tool to Understand Biogeochemical Cycling in Various Marine Communities”, Published 2 papers as co-author, and several others in preparation.
- Maria Vega-Rodriguez (**graduated in fall 2016 at USF/CMS**, major advisor: Frank Muller-Karger of USF), Fall 2010 – Fall 2016, dissertation title: “Influence of temperature and water quality variability on coral reef diversity in the Florida Keys”. Won ARCS Scholar award in 2012.
- Katie Wirt (**defended in February 2016**, major advisor: Pam Muller of USF), Fall 2011 – spring 2016, dissertation title: “Critical Habitat of *Acropora spp.* On reefs of Florida, Puerto Rico and the U.S. Virgin Islands”. Published 1 paper as 1st author.

Mentor of post-doctorate researcher:

- Dr. Jun Zhao, USF/CMS, Fall 2010 – Fall 2012. Focused on algal blooms and light penetration on the West Florida Shelf and Florida Keys, published 3 papers as 1st author and 2 papers as coauthor.

Dr. Chengfeng Le, USF/CMS, Fall 2010 – Spring 2013. Focused on estuarine water quality and blooms to assist management decision support, published 6 papers as 1st author and 1 paper as coauthor.

Dr. Minwei Zhang, USF/CMS, Fall 2013 – . Focused on atmospheric correction of airborne and satellite sensors.

Dr. Brian Barnes, USF/CMS, Spring 2014 – . Focused on ocean color algorithm and data products of coastal oceans as well as their applications in addressing Earth science questions.

Dr. Lian Feng, USF/CMS, Spring 2015 – . Focused on algorithm development and global ocean data quality.

Dr. Lin Qi, USF/CMS, January 2015 – July 2015. Focused on coastal algal blooms and water quality

10. Research Interests

Ocean color remote sensing algorithms and novel products

River plumes, land-ocean interactions, ecosystem connectivity, climate variability

Harmful algal blooms and water quality events

Coastal ocean observing systems

11. Synergistic Activities

2015 – present, co-Editors-in-Chief, *Remote Sensing of Environment*

2008 – 2014, Topical Editor (ocean optics and remote sensing), *Applied Optics*

Member of AGU, AAAS, ASLO, and APS

Visiting professorship at Wuhan University and Ocean University of China

Reviewer of professional journals: *Remote Sensing of Environment*, *Applied Optics*, *International Journal of Remote Sensing*, *Limnology & Oceanography*, *Marine Chemistry*, *Journal of Geophysical Research*, *Geophysical Research Letters*, *Oceanography*, *Progress in Oceanography*, *Journal of Oceanography*, *Chinese Science Bulletin*, *IEEE Geosci. & Remote Sens.*, *Journal of Applied Remote Sensing*, *Journal of Phycology*, *Continental Shelf Research*, etc.

Reviewer and panelist of NASA, NOAA, and NSF proposals

Convener of international conference sessions

Host of two international workshops on HABs research

Host of visiting scholars from India, Trinidad, China, Iraq, Mexico

Developer of Virtual Systems for data processing and information sharing

Service provider (satellite-based data products) to > 60 countries

Member, Products and Service Committee, GCOOS

Member, Data Management Committee, SECOORA

Member, NASA GEO-CAPE mission science definition team

Member, Water Quality and Harmful Algal Blooms Teams, Gulf of Mexico Alliance, 2010 –

Member, Program Committee, Asia-Pacific Remote Sensing Symposium, fall 2012

Member, Program Committee, Second International Conference on Global Change and the Environment in Asia and Pacific (GCEAP, 28-29 Oct 2010)
Member, Advisory Committee of NASA/GSFC Ocean Ecology Lab
Member, USF Honors and Awards Committee, 2011 –
Member, USF Research Misconduct Committee, 2011 –
Member, USF/CMS Faculty Evaluation Committee, spring 2011
Chair, USF/CMS Curriculum Committee, 2011 –
Member, NSF OOI Program Advisory Committee, 2012 –

12. Collaborators (with whom C. Hu has joint publications or projects during the past 5 years)

Kendall Carder, Frank Muller-Karger, Pamela Muller, John Walsh, Robert Weisberg, Yonggang Liu, Liangyuan Zheng, Jason Lenes, Mark Luther, Paula Coble, Kendra Daly, David Mann, Gabe Vargo, Chad Lembke, Don Chambers, USF/CMS
Larry Hall, Dmitry Goldgof, Dept. Computer Science and Engineering, USF/Tampa
Karen Steidinger, David Palandro, Paul Carlson, Jennifer Wolny, FWRI/FWC
Zhongping Lee, University of Massachusetts at Boston
Changsheng Chen, University of Massachusetts at Dartmouth
Brian Lapointe, HBOI/Florida Atlantic University
Charles McClain, Bryan Franz, Jereme Werdell, Antonio Mannino, NASA/GSFC
James Hendee, Libby Johns, Nelson Melo, Peter Ortner, Xiaofeng Li, William Pichel, NOAA
Blake Shaeffer, John Lehrter, Richard Zepp, EPA
Charles Kovach, Florida DEP
Ira Leifer, UC Santa Barbara
Ian MacDonald, Florida State Univ.
Robert Arnone, Naval Research Lab
Doug Biggs and Tom Linton, Texas A&M U
Shubha Santhyendranath and Robert Brewin, New Bedford Inst. Oceanography, Canada
Thomas Rossby, University of Rhode Island
Nan Walker and Eurico D'Sa, Louisiana State Univ
Jinyu Sheng, Department of Oceanography, Dalhousie University, Canada
Shaoling Shang and Huasheng Hong, Xiamen University, China
Ming-Xia He, Ocean University of China, Qingdao, China
Ronghua Ma and Hongtao Duan, Institute of Geography and Limnol., Academia Sinica
Xiaoling Chen, Wuhan University, China
I-I Lin, National Taiwan University
Peter Mumby, University of Queensland, Australia
Johnny Johannessen, Nansen Environmental and Remote Sensing Center, Norway
Bertrand Chapron, IFREMER, France