KARL H. SZEKIELDA

Adjunct Professor at City University of New York (CUNY) Hunter College and Doctoral Faculty of the Earth and Environmental Sciences of the Graduate School and University Center. Fulbright Specialist at the Ateneo de Manila University 2019. Fulbright Scholar Award in teaching and research at the University of the Bahamas for six months 2017-2018. Awarded USAID Science, Technology, Research and Innovation for Development Project (2016) and US Fulbright Specialist (2012 and 2015) at the Ateneo de Manila, Philippines. Held position of Adjunct/Research Professor at following institutions: NOAA's Cooperative Remote Sensing Science and Technology Center, CCNY'S Department of Electrical Engineering, CUNY (2000-2003), Marine Science of Long Island University (LIU), Southampton (2001), School of Continuing and Professional Studies of New York University (NYU) (1999-2001), Department of Physics, LIU Brooklyn (1998). In addition, was honorary Visiting Professor at Academia Sinica in Beijing (1988) and Visiting Full Professor, University of Hamburg (1976-1978), Assistant Professor in the College of Marine Studies, University of Delaware (1971-1975). Conducted seminars in Berlin, Beijing, Buenos Aires and Warsaw while with the United Nations. Main areas of teaching are in marine and coastal environment and management, small island developing states, environmental hazards, international pollution issues, sustainable development and environment, remote sensing and satellite monitoring of the earth with emphasis on the oceans.

INTERNATIONAL AFFAIRS:

At the United Nations Headquarters, New York (1974-76; 1978-1996), as chief of section and later as head of branch, carried out technical assistance programs on natural resources development, remote sensing and on outer space matters in cooperation with various governments. In 1996 was Chief of Branch in the Environment and Natural Resources Management Division of the Economic Commission for Southeast Asia and the Pacific (ESCAP), Bangkok.

AWARDS/ RESEARCH:

Fulbright Specialist, Ateneo de Manila University, Philippines, November 22 to December 18, 2019 with invited lectures on:
Environmental Management for Sustainability
Introduction to Environmental Science
Environmental Pollution
Public presentation:
Fluctuations of the Marine Environment around the Philippines
Panelist:
International Centre for Theoretical Physics (ICTP)/ Ateneo de Manila University
International Workshop on Distilling Climate Information for Sectoral Applications, December 9-14, 2019

Fulbright Specialist, Ateneo de Manila University, Philippines
August 22 to October 3, 2015.
June 15 to July 31, 2012.

Fulbright Scholar, Fulbright Scholar Program, University of the Bahamas, August 20 2017 to November 24, 2017; January 7 to March 31, 2018.

Visiting Professor, USAID STRIDE, Ateneo de Manila University, Philippines, June 2016.

As ONR/ASEE Senior Faculty Fellow at the Naval Research Laboratory, Washington, D.C, carried out analysis of hyperspectral data obtained from aircraft and satellite altitudes over the oceans, monitoring spatial and temporal events, summers, 2006-2010.

Under CUNY Research Foundation and Suffolk County Department of Health, was Principal Investigator for study on brown tides, 2006-2008.

Anastasia Van Burkalow Distinguished Service Award, 2004.
NOAA CREST research focused on remote sensing of coastal environment and detection of photosynthetic pigments and harmful algae blooms, 2000-2003.

Research Associate at Columbia University Earth Engineering Center, 1997.

As National Academy of Science Fellow under NASA's Goddard Space Flight Center, did research with Nimbus satellite data, 1969-1971.

PUBLICATIONS:

Author of book: *Satellite Monitoring of the Earth*, John Wiley and Sons, Inc. New York, 1988.

Publications, solo-authored, first–authored and refereed:
Salinity fluctuations around New Providence Island in response to Hurricane Irene. K. H. Szekielda, V. Toppin, J. Chisholm-Lightbourne. *Caribbean Journal of Earth Science*, Geological Society of Jamaica. July 16, 2019, 51, pp.1-6. caribjes.comCJESpdf/CJESS-1-SzekieldaSalinity.pdf.

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Scale of Eutrophication in Coastal Waters. *International Journal of Geology, Earth and Environmental Sciences*. September-December 2015, Vol. 5(3), 127-138, ISSN: 2277-2081.

Eutrophication of Manila Region. Karl H. Szekielda, Emilyn Espiritu, Nofel Lagrosas. *International Journal of Geology, Earth and Environmental Sciences*. September-December 2014, Vol. 4(3), 38-50, ISSN: 2277-2081.

Heterogeneity of an Oil Spill. Karl H. Szekielda, Karen W. Patterson, Jeffrey H. Bowles, Michael R. Corson. *International Journal of Geology, Earth and Environmental Sciences*, January-April 2014, Vol. 4 (1), 28-36, ISSN: 2277-2081.

Spatial Distribution Patterns of Chlorophyll-*a* and Suspended Matter in the Yangtze Estuary and the Hangzhou Bay as Observed with the Hyperspectral Imager for the Coastal Ocean (HICO). Karl H. Szekielda, Wesley J. Moses, Jeffrey H. Bowles, Michael R. Corson, Ellen J. Wagner and Rong R. Li. *International Journal of Geology, Earth and Environmental Sciences*, May-August 2013, Vol. 3 (2), 63-68, ISSN: 2277-2081.

Chlorophyll Concentrations in Response to Monsoonal Changes along the West Coast of Luzon, Philippines, *International Journal of Geology, Earth and Environmental Sciences*, January-April 2013, Vol. 3 (1), 63-68, ISSN: 2277-2081.

Hyperspectral Observations of Internal Waves. Karl Szekielda. *International Journal of Geology, Earth and Environmental Sciences*, January-April 2012, Vol. 2 (1), 79-82, ISSN: 2277-2081.

High Spatial Resolution Spectrometry of rafting macroalgae (Sargassum). Karl Szekielda, George O. Marmorino, Jeffrey H. Bowles, David Gillis. *Journal of Applied Remote Sensing*, SPIE Digital Library, Vol. 4, 043529, 2010, 13 pp.

Patch Recognition of Algal Blooms and Macroalgae. K. H. Szekielda, J. H. Bowles, D. B. Gillis, W. Snyder and W. D. Miller, *SPIE Proceedings*, Vol. 7678, Ocean Sensing and Monitoring II, Weilin (Will) Hou; Robert A. Arnone, Editors, 20 April 2010,

Interpretation of Absorption Bands in Airborne Hyperspectral Radiance Data. Karl Szekielda, Jeffrey H. Bowles, David B. Gilles and W. David Miller, *Sensors*, 9 (4), 2009, 2907-2925.

Airborne hyperspectral imaging of cyanobacteria accumulations in the Potomac River, Karl Szekielda, George Marmorino, Shelia J. Maness, Timothy Donato, Jeffrey H. Bowles, W. David Miller, W. Joseph Rhea. *Journal of Applied Remote Sensing*, vol. 1, 2007, 1-14.

Use of the first and second chlorophyll absorption bands for marine biogeochemical patch recognition. *Indian Journal of Marine Sciences,* Special Issue: Ocean Color, vol. 34 (4), December 2005, pp. 387-395.

Pattern recognition of marine provinces. *International Journal of Remote Sensing,* Vol. 26, No. 7, London, 2005, pp. 1499-1503.

Spectral Reflectance measurements of estuarine waters, with C. Gobler, F. Moshary, B. Gross and S. Ahmed, co-authors. *Ocean Dynamics*, 53, 2003, pp. 98-102.

Contributions to books/special issues:

Spatial Variability of River Plumes and Eutrophication, with D. McGinnis, co-author. In: *Biogeochemistry of Major World Rivers,* ed. by E.T. Degens et al., John Wiley and Sons, Inc., Chichester, 1991, pp. 1-24.

New Concepts in Patch Recognition of Suspended Matter in Coastal Areas, with D. McGinnis and R. Carey, co-authors. In: *Facets of Modern Biogeochemistry*, ed. by V. Ittekot, et al., Springer Verlag, Berlin 1990, pp. 155-174.

Satellite Observations Over the North Sea, with D. McGinnis, P. Mc Clain and D. Clark, co-authors. In: *Biochemistry and Distribution of Suspended Matter in the North Sea and Implications to Fisheries Biology*, ed. by S. Kempe et al., Geological-Paleontological Institute, University of Hamburg, 1988, pp. 1-33.

Investigations with Satellites on Eutrophication of Coastal Regions, Response of the Somali Upwelling onto Monsoonal Changes. In: *Transport of Carbon and Minerals in Major World Rivers,* ed. by E.T. Degens et al., University of Hamburg, 1987, pp. 93-112.

The Changjian Regime, with D. McGinnis and E.T. Degens, co-authors. In: *Transport of Carbon and Minerals in Major World Rivers*, ed. by E.T. Degens et al., University of Hamburg, 1987, pp. 171-174.

Investigations with Satellites on Eutrophication of Coastal Regions, Part III: the Patch Concept. In: *Transport of Carbon and Minerals in Major World Rivers, Part III*, ed. by E.T. Degens et al., *SCOPE/UNEP* Special Issue, 58, University of Hamburg, 1985, pp. 33-49.

Investigations with Satellites on Eutrophication of Coastal Regions, Part IV: the Changjiang River and the Huanghai Sea, D. McGinnis, co-author. In: *Transport of Carbon and Minerals in Major World Rivers, Part III,* ed. by E.T. Degens et al., *SCOPE/UNEP* Special Issue, 58, University of Hamburg, 1985, pp. 49-85.

Eutrophication of Coastal Regions, Part V: Note on the Amazon Saltwedge. In: *Transport of Carbon and Minerals in Major World Rivers, Part III*, ed. by E.T. Degens et al., *SCOPE/UNEP* Special Issue, 58, University of Hamburg, 1985, pp. 85-91.

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Eolian Dust Into the Northeast Atlantic. In: *Oceanography and Marine Biology: an Annual Review*, ed. by M. Barnes, Aberdeen, Aberdeen University Press, 16, 1978, pp. 11-41.

Spacecraft Oceanography. In: *Oceanography and Marine Biology: an Annual Review*, ed. by M. Barnes, Aberdeen, Aberdeen University Press, 14, 1976, pp. 99-166.

Edited:
Satellite Remote Sensing for Resources Development, Graham and Trotman, Ltd., London, 1986, 221 pp., with contribution on General Aspects of the use of Satellite Remote Sensing for Resources Exploration in Developing Countries, 1-21.

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Publications in scientific journals/ proceedings/reports:
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Pattern Recognition of Suspended Material, J.T. Duvall, co-author, *Journal du Conseil Permanent International pour l'Exploration de la Mer,* 36, 1976, pp. 205-216.

Chlorophyll Determination of Phytoplankton: a Comparison of *in vivo* Fluorescence with Spectrophotometric Absorption, M. Marker, co-author, *Journal du Conseil Permanent International pour l''Exploration de la Mer*, 36, 1976, pp. 217-219.

Use of Satellite Data in Coastal Zone Programmes, *Ocean Management*, 3, 1976 pp. 31-56.

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Variability of Sea Surface Temperatures in the Southern Indian Ocean, W. Shenk and V.V. Salomonson, co-authors, *Journal du Conseil Permanent International pour l''Exploration de la Mer*, 35, 1974, pp. 143-148.

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The Hot Spot in the Ross Sea: Upwelling During Wintertime, *Tethys*, 6, 1974, pp. 105-110.

Observation of Suspended Material from Spacecraft Altitudes, *Deutsche Hydrographische Zeitschrift*, 27, 1974, pp. 159-170.

Chemical Aspects in Delaware Bay, *Delaware Bay Report Series*, 4, 145, 1973, p. 170.

Heterogeneities in Salinity in a River Plume, with S. Kupferman, co-author, *Estuarine and Coastal Marine Science*, I, 1973, pp. 419-424.

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Nordwestkuste von Africa beobachtet durch ERTS-1, *Umschau*, 73, 1973, text to cover page.

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Nimbus Observations of Oceanic Upwelling. In: *Significant Accomplishments in Sciences*, NASA Goddard Space Flight Center, Greenbelt, Maryland, 1972, pp. 14-17.

Chlorophyll Structure in the Ocean, R.J. Curran, co-author. In: *Earth Resourcoes Technology Satellite-1*, NASA Goddard Space Flight Center, Greenbelt, Maryland, 1972, pp. 139-141.

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Ozeanische Strukturen in Satellitenbildern, *Umschau*, 72, 1972, pp. 95-97.