

## Curriculum vitae

### *Alexander E. Yankovsky*

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### Education

**Ph.D.**, Physical-Mathematical Sciences/Geophysics, 1991, Marine Hydrophysical Inst., Sevastopol, USSR (now Ukraine). Advisor: Prof. Vitaly A. Ivanov.  
**M.S.**, Oceanography, 1986 (with honors), Moscow State Univ., Moscow, USSR. Advisor: Prof. Alexei D. Dobrovol'sky.

### Experience

- Assistant Professor, Department of Earth and Ocean Sciences, USC, 2006 - present.
- Assistant Professor, Nova Southeastern Univ. Oceanogr. Center, 1999 – 2006 (with continuing appointment since 2004).
- Associate Research Scientist, the Graduate College of Marine Studies, Univ. Delaware, 1998 – 1999.
- Postdoctoral Fellow, the Graduate College of Marine Studies, Univ. Delaware, 1996 – 1998.
- Visiting Investigator, Woods Hole Oceanographic Inst. (WHOI), 1994 – 1996.
- Guest Investigator, WHOI, 1993 - 1994.
- Scientist, Marine Hydrophysical Inst., 1992-1994.
- Junior Scientist, Marine Hydrophysical Inst., 1991-1992.
- Graduate Student, Marine Hydrophysical Inst., 1988-1991.
- Engineer-Meteorologist, Air Force, 1986-1988.

### Research Interests

Dynamics on continental shelves, in estuaries, and in marginal seas. Wind- and buoyancy-driven currents, transient and time-variable processes, long waves, wave-current interaction, mesoscale variability, adjustment of waves and currents to topographic and coastline features.

### Publications

#### *Peer-reviewed journals:*

Yankovsky, A. E., L. M. Torres-Garcia<sup>§</sup>, and R. Torres, 2011: Interaction of tidal and fluvial processes in the transition zone of the Santee River, SC, USA. *Submitted to Estuaries and Coasts*.  
Jia<sup>§</sup>, Y., and A. E. Yankovsky, 2011: The impact of ambient stratification on freshwater transport in a river Plume. *Submitted to Journal of Marine Research*.

- Ke<sup>§</sup>, Z., and A. E. Yankovsky, 2011: Relative role of subinertial and superinertial modes in the coastal long wave response forced by the landfall of a tropical cyclone. *Continental Shelf Research*, **31**, 929-938.
- Ke<sup>§</sup>, Z., and A. E. Yankovsky, 2010: The Hybrid Kelvin-Edge Wave and Its Role in Tidal Dynamics. *Journal of Physical Oceanography*, **40**, 2757-2767.
- Yankovsky, A. E., G. M. Maze<sup>§</sup>, and T. J. Weingartner, 2010: Offshore transport of the Alaska Coastal Current water induced by a cyclonic wind field. *Geophysical Research Letters*, **37**, L03604, doi:10.1029/2009GL041939.
- Yankovsky, A. E., 2009: Large-scale edge waves generated by hurricane landfall. *Journal of Geophysical Research*, **114**, C03014, doi:10.1029/2008JC005113.
- Rogers-Cotrone<sup>§</sup>, J., A. E. Yankovsky, and T. J. Weingartner, 2008: The impact of spatial wind variations on freshwater transport by the Alaska Coastal Current. *Journal of Marine Research*, **66**, 899-925.
- Sanay, R., A. Yankovsky, and G. Voulgaris, 2008: Inner shelf circulation patterns and nearshore flow reversal under downwelling and stratified conditions off a curved coastline. *Journal of Geophysical Research*, **113**, C08050, doi:10.1029/2007JC004487.
- Yankovsky, A. E., 2008: Long-wave response of the West Florida Shelf to the landfall of Hurricane Wilma, October 2005. *Journal of Coastal Research*, **24**(4C), 33-39.
- Yankovsky, A. E., 2006: On the validity of thermal wind balance in alongshelf currents off the New Jersey coast. *Continental Shelf Research*, **26**, 1171-1183.
- Walker<sup>§</sup>, R. J., E. O. Keith, A. E. Yankovsky, and D. K. Odell, 2005: Environmental correlates of cetacean mass stranding sites in Florida. *Marine Mammal Science*, **21**, 327-335.
- Yankovsky, A. E., 2004: Interaction of transient shelf currents with a buoyancy-driven coastal current. *Journal of Marine Research*, **62**, 545-563.
- Yankovsky, A. E., E. M. Lemeshko, and Y. P. Ilyin, 2004: The influence of shelfbreak forcing on the alongshelf penetration of the Danube buoyant water, Black Sea. *Continental Shelf Research*, **24**, 1083-1098.
- Yankovsky, A. E., 2003: The cold water pathway during an upwelling event on the New Jersey shelf. *Journal of Physical Oceanography*, **33**, 1954-1966.
- Yankovsky, A. E., B. M. Hickey, and A. K. Münchow, 2001: The impact of variable inflow on the dynamics of a coastal buoyant plume. *Journal of Geophysical Research*, **106**, 19,809-19,824.
- Yankovsky, A. E., 2000: The cyclonic turning and propagation of buoyant coastal discharge along the shelf. *Journal of Marine Research*, **58**, 585-607.
- Yankovsky, A. E., R. W. Garvine, and A. Münchow, 2000: Mesoscale currents on the inner New Jersey shelf driven by the interaction of buoyancy and wind forcing. *Journal of Physical Oceanography*, **30**, 2214-2230.
- Yankovsky, A. E., and R. W. Garvine, 1998: Subinertial dynamics on the inner New Jersey shelf during the upwelling season. *Journal of Physical Oceanography*, **28**, 2444-2458.
- Yankovsky, A. E., and D. C. Chapman, 1997b: A simple theory for the fate of buoyant coastal discharges. *Journal of Physical Oceanography*, **27**, 1386-1401.
- Yankovsky, A. E., and D. C. Chapman, 1997a: Anticyclonic eddies trapped on the continental shelf by topographic irregularities. *Journal of Geophysical Research*, **102**, 5625-5639.
- Yankovsky, A. E., and D. C. Chapman, 1996: Scattering of shelf waves by a spatially varying mean current. *Journal of Geophysical Research*, **101**, 3479-3487.
- Yankovsky, A. E., and D. C. Chapman, 1995: Generation of mesoscale flows over the shelf and slope by shelf wave scattering in the presence of a stable, sheared mean current. *Journal of Geophysical Research*, **100**, 6725-6742.
- Boguslavsky, S. G., V. A. Ivanov, and A. E. Yankovsky, 1996: Peculiarities of inertial currents in the Black Sea. *Morskoy Gidrofiz. Zhurnal\**, No. 3, 58-68.

- Boguslavsky, S. G., V. A. Ivanov, and A. E. Yankovsky, 1995: Peculiarities of the Rim Current regime off the Crimea. *Morskoy Gidrofiz. Zhurnal\**, No. 3, 36-45.
- Kochergin, S. V., and A. E. Yankovsky, 1995: Application of data filtering algorithm for a reconstruction of trapped waves' structure on the Crimean shelf. *Morskoy Gidrofiz. Zhurnal\**, No. 5, 62-65.
- Ivanov, V. A., and A. E. Yankovsky, 1994: Seawater dynamics on the Crimean shelf in summer. *Morskoy Gidrofiz. Zhurnal\**, No. 3, 38-56.
- Yankovsky, A. E., 1993: Scattering of barotropic shelf waves by the changing shelf width. *Izvestiya Acad. Nauk. Fiz. Atm. Okeana\**, **29**, 369-376.
- Ivanov, V. A., and A. E. Yankovsky, 1993: Local Dynamics Experiment in the shelf zone of Southern Crimean coast. *Okeanologiya\**, **33**, 49-56.
- Blatov, A. S., D. L. Vedev, V. A. Ivanov, and A. E. Yankovsky, 1991: Numerical modeling of long waves in the enclosed basins, *Vodnye Resursy\**, No. 4, 89-97.
- Ivanov, V. A., and A. E. Yankovsky, 1991: Influence of bottom topography and mean currents on the parameters of shelf waves. *Izvestiya Acad. Nauk. Fiz. Atm. Okeana\**, **27**, 674-675.
- Ivanov, V. A., and A. E. Yankovsky, 1991: The characteristics of trapped waves in the shelf zone of the South Crimean coast. *Okeanologiya\**, **31**, 200-206.

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 \* These USSR journals are published in Russian and translated into English.

§ Yankovsky's graduate student.

#### ***Books and proceedings:***

- Trembanis, A., S. Nebel, A. Skarke, D. F. Coleman, R. D. Ballard, A. Yankovsky, I. V. Buynevich, and S. Voronov, 2011: Bedforms, coastal-trapped waves, and scour process observations from the continental shelf of the northern Black Sea. In: *Geology and Geoarchaeology of the Black Sea Region: Beyond the Flood Hypothesis*. Edited by I. V. Buynevich, V. Yanko-Hombach, A. S. Gilbert, and R. E. Martin. The Geological Society of America, Special Paper 473, Boulder, CO, 165-178.
- Ivanov, V. A., and A. E. Yankovsky, 1992: *Long-wave motions in the Black Sea*. Naukova Dumka, Kiev, 112 pp (in Russian).
- Ivanov, V. A., and A. E. Yankovsky, 1992: Effect of hydrological conditions in the shelf zone of the Southern Crimean coast on the characteristics of coastally trapped waves. In: *Hydrophys. and hydrochem. research of the Black Sea*. Sevastopol, 58-65 (in Russian).
- Ivanov, V. A., and A. E. Yankovsky, 1992: Water dynamics on the Crimean shelf in summer. In: *Problems of the Black Sea. Plenary reports*. CoMSBlack International Conference, Sevastopol, 136-149.
- Ivanov, V. A., and A. E. Yankovsky, 1990: The generation of long waves in the Black Sea by the wind forcing. In: *Complex oceanographic research of the Black Sea*. Sevastopol, 58-75 (in Russian).

#### ***Selected abstracts:***

- Yankovsky, A., and Z. Ke, 2011: Relative role of subinertial and superinertial long waves in the continental shelf response to the landfall of a tropical cyclone, *Geophysical Research Abstracts*, **13**, EGU2011-3854-1, EGU General Assembly, Vienna, Austria, 3-8 April 2011.
- Jia, Y., and A. Yankovsky, 2011: The impact of ambient stratification on freshwater transport in a river plume, *Geophysical Research Abstracts*, **13**, EGU2011-9186, EGU General Assembly, Vienna, Austria, 3-8 April 2011.
- Yankovsky, A., L. Torres-Garcia, and R. Torres, 2011: Interaction of tides, river discharge and bathymetric forms in the Santee River, SC, USA, *Geophysical Research Abstracts*, **13**, EGU2011-4865-1,

- EGU General Assembly, Vienna, Austria, 3-8 April 2011.
- Torres-Garcia, L., A. Yankovsky, and R. Torres, 2011: Tides at the upstream limit of their propagation in the Santee River, SC, USA; ASLO 2011 Book of Abstracts, p.256, Aquatic Sci. Meet., San Juan, Puerto Rico, 13-18 February, 2011.
- Yankovsky, A. E., G. Maze, J. Rogers-Cotrone, and T. Weingartner, 2010: Offshore delivery of freshwater under conditions of spatially-variable downwelling-favorable winds, *Eos Trans. AGU*, **91**(26), Ocean Sci. Meet. Suppl., Abstract PO34C-03.
- Maze, G., and A. E. Yankovsky, 2010: Buoyant plume from multiple sources of freshwater in the presence of cyclonic wind field, *Eos Trans. AGU*, **91**(26), Ocean Sci. Meet. Suppl., Abstract PO35G-07.
- Ke, Z., and A. E. Yankovsky, 2010: A Numerical Study of the Long Wave Response to an Atmospheric Cyclone Landfall, *Eos Trans. AGU*, **91**(26), Ocean Sci. Meet. Suppl., Abstract PO45N-06.
- Torres, R., and A. E. Yankovsky, 2010: Effects of Tides on River Bathymetry, *Eos Trans. AGU*, **91**(26), Ocean Sci. Meet. Suppl., Abstract IT25F-11.
- Yankovsky, A., G. Maze, and J. Rogers-Cotrone, 2009: Freshwater Transport in the Coastal Buoyancy-Driven Current Affected by Variable Downwelling-Favorable Winds. P09.11/20417, MOCA-09, the IAMAS/IAPSO/ IACS 2009 Joint Assembly, Montréal, Canada, 19-29 July 2009.
- Yankovsky, A. E., J. Rogers-Cotrone, G. Maze, and T. J. Weingartner, 2009: Freshwater transport in the coastal buoyancy-driven current affected by variable downwelling-favorable winds. Geophysical Research Abstracts, **11**, EGU2009-6424-2, EGU General Assembly, Vienna, Austria, 19-24 April 2009.
- Ke, Z., and A. E. Yankovsky, 2009: Hybrid Kelvin-edge wave mode with a zero group velocity and its role in tidal dynamics. Geophysical Research Abstracts, **11**, EGU2009-6521-2, EGU General Assembly, Vienna, Austria, 19-24 April 2009.
- Yankovsky, A. E., 2008: Long period edge waves generated by hurricane landfall. *EOS Trans. AGU*, **89**(53), Fall Meet. Suppl., Abstract OS13D-1225.
- Yankovsky, A. E., 2008: Large-scale edge waves generated by Hurricane Wilma's landfall. Ocean Sciences Meeting, Orlando, FL, March 2-7, 2008, *Meeting Abstracts*, p. 454.
- Rogers-Cotrone, J. D., A. E. Yankovsky, and T. J. Weingartner, 2008: The effects of spatially variable wind forcing on freshwater transport in a buoyancy-driven coastal current. Ocean Sciences Meeting, Orlando, FL, March 2-7, 2008. *Meeting Abstracts*, p. 345.
- Smirnov, S., A. Yankovsky, D. Boyer, and P. Baines, 2008: Coastal-trapped wave propagation in the presence of submarine topography. Ocean Sciences Meeting, Orlando, FL, March 2-7, 2008. *Meeting Abstracts*, p. 378.
- Yankovsky, A. E., 2007: Long-wave response of the West Florida shelf to the landfall of Hurricane Wilma, October 2005. IUGG XXIV General Assembly, Perugia, Italy, July 2-13, 2007, IAMAS, JMS010, p. 976.
- Yankovsky, A., R. Sanay, and G. Voulgaris, 2007: Inner shelf transient downwelling fronts: the effect of curved coastline. IUGG XXIV General Assembly, Perugia, Italy, July 2-13, 2007, IAPSO, PS008, p.6000.
- Sanay, R., A. Yankovsky, and G. Voulgaris, 2007: Inner shelf circulation patterns under downwelling and stratified conditions off a curved coastline. *Eos Trans. AGU*, **88**(23), Joint Assembly, Acapulco, Mexico, 22-25 May 2007, Abstract OS51A-06.
- Yankovsky, A. E., 2004: Interaction of transient wind currents with a buoyant plume. *Eos Trans. AGU*, **84**(52), Ocean Sciences Meeting, Portland, OR, 26-30 January 2004, Abstract OS31B-10.
- Yankovsky, A. E., 2002: The onshore transport of cold water during an upwelling regime on the New Jersey shelf. *Eos Trans. AGU*, **83**(47), AGU Fall Meeting, San Francisco, CA, 6-10 December 2002, Abstract OS52C-0233.
- Yankovsky, A. E., B. M. Hickey, and A. K. Münchow, 2001: The impact of variable inflow on the

- dynamics of a coastal buoyant plume. *Oceanography*, The Oceanography Society Meeting, Miami Beach, FL, 2-5 April 2001, **14**(1), 61.
- Yankovsky, A. E., 2000: The upstream spreading of buoyant coastal discharge. *Eos Trans. AGU*, **80** (49), Ocean Sciences Meeting, San Antonio, TX, January 24-28, 2000, OS277.
- Muenchow, A., A. E. Yankovsky, S. M. Glenn, and R. W. Garvine, 1998: Vertical stratification on an inner shelf induced by upwelling favorable winds. *Eos Trans. AGU*, AGU Fall Meeting, San Francisco, CA, December 6-10, Abstract OS72B-05.
- Yankovsky, A. E., and R. W. Garvine, 1998: Subinertial dynamics on the inner New Jersey shelf during the upwelling season. *Eos Trans. AGU*, **79**(1), Ocean Sciences Meeting, San Diego, CA, February 9-13, 1998, OS61.
- Yankovsky, A. E., and D. C. Chapman, 1996b: A simple theory for the fate of buoyant coastal discharge. *Eos Trans. AGU*, AGU Fall Meeting, San Francisco, CA, December 15-19, Abstract OP12C-01.
- Yankovsky, A. E., and D. C. Chapman, 1996a: Eddy formation by the nonlinear interaction of an unsteady shelf current with a steady slope current near a topographic irregularity. *Eos Trans. AGU*, **76**(3), Ocean Sciences Meeting, San Diego, CA, February 12-16, OS70.
- Yankovsky, A. E., and D. C. Chapman, 1995: Generation of intense meso-scale flows over the continental shelf by shelf wave scattering in the presence of a mean alongshore current. *Rapport du XXXIVe congrès de la CIESM*, La Valetta (Malta), **34**, 199.
- Ivanov, V. A., and A. E. Yankovsky, 1992: Local Dynamics Experiment in the shelf zone of Southern Crimean Coast. *Rapports et proces-verbaux des reunions CIESM*, Trieste (Italy), **33**, 219.

### **Grant Support**

- Co-PI, NSF, Channel Properties Where Fluvial and Tidal Currents Meet. PI: R. Torres. 2011-2014.
- PI, USCRF, MGS, Influence of cyclonic storms on circulation in coastal areas with large freshwater transport. 2009-2010.
- PI, NSF REU Supplemental award. 2008-2009.
- PI, NSF, Large-scale edge waves generated by hurricane landfall. 2008-2011.
- Co-PI, USCRF, Acquisition of a long range HF Radar surface current mapping system. PI: R. Styles, other Co-PIs: S. Bulusu, G. Voulgaris. 2007-2009.
- PI, NSF, SGER: Transient shelf response to the Hurricane Wilma's impact. 2006-2008.
- Co-PI, NSF, Coupled Physical Numerical Models of the Nonlinear Interaction Between Coastal-Trapped Waves, Mean Current and Complex Topography. PI: D. Boyer (Arizona State Univ.), other Co-PI: P. Baines (CSIRO, Australia). 2002-2005.
- PI, NSF, Collaborative Research: Coastal Upwelling Circulation on a Wide Shelf: an Observational Study. In collaboration with R. Garvine and A. Münchow, Univ. Delaware. 2000-2003.
- PI, NSF, Buoyant Discharge on the Shelf in the Presence of Transient Currents: Nonlinear Interaction, Adjustment, Mixing. 1998-2002.

### **Graduate Students**

#### ***Research supervision:***

- Legna Torres-Garcia, PhD Candidate, USC, Geology.
- Yan Jia, MS, 2011, USC, Marine Science.
- Ziming Ke, MS, 2010, USC, Marine Science.
- John Rogers-Cotrone, MS, 2008, USC, Geology.

***Advisory committees:***

- Jessica Chassereau, PhD candidate, USC, Geology.
- Cedric Fichot, PhD candidate, USC, Marine Science.
- Nirnimesh Kumar, PhD candidate, USC, Geology.
- Ebenezer Nyadjro, PhD candidate, USC, Marine Science.
- Ivetta Abramyan, MS Candidate, USC, Marine Science.
- Gwen Simmons, MS Candidate, USC, Marine Science.
- Tim Nelson, MS, 2011, USC, Geology.
- Jason Walker, MS, 2011, USC, Geology.
- Nirnimesh Kumar, MS, 2010, USC, Geology.
- David Heffner, MS, 2008, USC, Geology.
- Peter Gaube, MS, 2007, NSU, Physical Oceanography.
- Rebekah Walker, MS, 2003, NSU, Marine Biology and Coastal Zone Management.

**Teaching**

***University of South Carolina***

***GEOL/MSCI 215*** Coastal Environment of the SE.

***MSCI 305*** Ocean Data Analysis.

***MSCI 312*** Physical and Chemical Oceanography (PO section only).

***MSCI 505*** Senior Seminar.

***GEOL/MSCI 581*** Estuarine Oceanography.

***MSCI 599A*** Waves in the Ocean.

***MSCI/GEOL 784*** Geophysical Fluid Dynamics.

***GEOL/MSCI 785*** Atmospheric Dynamics.

***Nova Southeastern University***

***OCOR 5601*** Concepts of Physical Oceanography.

***MSPO 5210*** Coastal Dynamics.

***MSPO 5260*** Nearshore Processes.

***MSPO 5250*** Waves in the Ocean.