

**THE UNIVERSITY OF SOUTHERN MISSISSIPPI**  
Department of Marine Science  
Stennis Space Center

**INTER-OFFICE CORRESPONDENCE**

April 4, 2006

**TO:** Rex Gandy  
Dean, College of Science and Technology

**FROM:** Steven E. Lohrenz  
Chair, Department of Marine Science

**SUBJECT:** Department of Marine Science – January through February 2006  
This report outlines the activities of The University of Southern Mississippi's Department of Marine Science for January-February 2006.

**SPECIAL PROGRAMS OR ACTIVITIES**

**Vladimir Kamenkovich** participated in the Alliance for Graduate Education in Mississippi (AGEM) recruitment fair 20 January 2006 in Hattiesburg.

DMS was active at the USM Spring Career Fair at the Payne Center on 14 February 2006. **Dr. Kamenkovich** was accompanied by DMS graduate students **Andrea Neu and David Rosenfield** to help generate interest among students in marine science.

**APPOINTMENTS, HONORS AND AWARDS –**

**Stephan Howden** was appointed by the GCOOS-RA Board of Directors to serve on the GCOOS Observing Systems Committee.

**Stephan Howden** was nominated and elected to serve as Chair of the Division of Marine and Atmospheric Sciences of the Mississippi Academy of Sciences for the year 2006/2007.

**NAMES IN THE NEWS** – none reported

**RESEARCH GRANTS AND CONTRACTS –**

**Asper, V.L., Redalje, D.G., and Shiller, A.M.**, Shared Use Agreement Between the University of Southern Mississippi and Raytheon Polar Services Company for Use of the USM Trace Metal Portable Lab Van, Raytheon Technical Services Company, L.L.C., \$19,500.

**Brunner, C.A.**, Salary for Assistant to the Editor of the Journal of Foraminiferal Research, Cushman Foundation for Foraminiferal Research, \$9,451.

**Caruthers, J.W.**, Research/Side-Scan Sonar for Seafloor-Backscattering Studies and Sediment Classification, U.S. Department of Defense, \$50,000.

**Lohrenz, S.E.**, IPA Assignment for Don Conlee, U.S. Department of Commerce, \$256,892.

**Lohrenz, S.E.** and **Roman, D.A.**, Fusing Multi-Sensor Regional Scale Data to Monitor and Quantify Coastal Processes, U.S. Department of Defense, \$64,512.

**Roman, D.A.**, Project Travel USCG, U.S. Department of Homeland Security, \$5,942.

**Shiller, A.M.**, Repair and Upgrade of High Resolution ICP-MS Facility at the University of Southern Mississippi, National Science Foundation, \$34,046.

**PROFESSIONAL ACTIVITIES** – none reported

## **VISITORS**

Dr. Minsu Kim, of Cornell University met with Chair **Steven Lohrenz** and Visiting Scientist **Bill Philpot** on February 2.

Matthew Stone, a biological prospective student, visited the department 15 February 2006.

## **PRESENTATIONS AND MEETINGS**

**Stephan Howden** and **Don Roman** attended the Gulf of Mexico Coastal Ocean Observing System (GCOOS) Stakeholders Council Meeting and the GCOOS Parties Meeting on 11 January 2006 held at the University of South Alabama.

**Steven Lohrenz** attended a meeting of the Consortium of Oceanographic Research and Education (CORE) Ocean Council Meeting January 9-11 in Washington, D.C. This group is engaged in planning for the merger of CORE and the Joint Oceanographic Institutions (JOI). Both organizations coordinate ocean policy and promote research and education in the ocean sciences.

**Steven Lohrenz** and **Don Roman** attended the Gulf of Mexico Alliance Stakeholder meeting on 1 February held at the Mississippi State University Extension Center on 1 February. Provost Grimes and Vice President Burge also attended the meeting.

**Steven Lohrenz** visited Texas A&M Galveston and presented an invited seminar entitled “Biogeochemical and Ecosystem Processes in a River-Dominated Margin”, on February 7.

**Steven Lohrenz** presented an overview of Department of Marine Science capabilities for disaster response and recovery to representatives of the U.S. Army Research & Development Command - Armaments Research Development and Engineering Center (RDECOM-ARDEC) in the Polymer Science conference room on the Hattiesburg campus on February 15.

Visiting scientist **Bill Philpot** presented a seminar “Sun glint removal and atmospheric correction of a glint-contaminated spectral image” on January 20 at DMS.

**Alan Shiller** presented an invited seminar at the Dept. of Chemistry, Jackson State University entitled “Dissolved and colloidal trace elements in rivers: problems and perspectives” on January 20, 2006.

**Alan Shiller** gave a guest lecture in the Marine Microbiology class taught by Provost Grimes. The lecture was entitled "Water Chemistry".

Several DMS faculty and students attended the Mississippi Academy of Sciences Annual Meeting in Vicksburg, MS 22-24 February. Faculty attendees included **Charlotte Brunner, Stephan Howden, and Vladimir Kamenkovich**. Students presenting included **Colleen Finnegan, Jennifer Kuykendall, Kieran O’Driscoll, and Jens Roth**.

**Finnegan, C., S. Howden, W. Teague** (2006) Characterization of mid-shelf current variability, Mississippi Academy of Sciences Annual Meeting, 22-24 February 2006, Vicksburg, MS.

**Kuykendall, J., C. Brunner**, (2006) The impact of Hurricane Katrina on the Pearl River marsh, Mississippi Academy of Sciences Annual Meeting, 22-24 February 2006, Vicksburg, MS.

Lutken, C., **C. Brunner**, et al., (2006) Comparison of two candidate sites for gas hydrates sea floor monitoring, Mississippi Academy of Sciences Annual Meeting, 22-24 February 2006, Vicksburg, MS.

**O’Driscoll, K., V. Kamenkovich, D. Nechaev**, (2006) Developing a regional model of the Indonesian Seas circulation based on the POM, Mississippi Academy of Sciences Annual Meeting, 22-24 February 2006, Vicksburg, MS.

**Roth, J., P. Hogan, V. Kamenkovich**, (2006) A Numerical Study Of The Mesoscale Variability In The Norwegian Coastal Current, Mississippi Academy of Sciences Annual Meeting, 22-24 February 2006, Vicksburg, MS.

Several DMS faculty and students attended the international Ocean Sciences Meeting February 20-24 in Honolulu, HI. This meeting is one of the most highly attended meeting in the ocean science community. Faculty in attendance included **Vernon Asper, Laodong Guo, Vladimir Kamenkovich, Steven Lohrenz, Dmitri Nechaev, Donald Redalje, and Alan Shiller**. Students attending included **Kieran O’Driscoll, Jens Roth, Ray Pluhar, Pradnya Sawant, and Ingrid Garcia-Hansen Honkala**.

**Asper, V.**, S. Gallager (2006), A Polar Remote Interactive Marine Observatory (PRIMO) Near Palmer Station on the Western Antarctic Peninsula: Rationale and Operation, 2006 Ocean Science Meeting, Honolulu, Hawaii, February 20-24, 2006 (OS44B-01).

Gallager, S., K. Von der Heydt, **V. Asper**, (2006) A Polar Remote Interactive Marine Observatory (PRIMO) Near Palmer Station on the Western Antarctic Peninsula: Power, Sensors and Cyberinfrastructure, 2006 Ocean Science Meeting, Honolulu, Hawaii, February 20-24, 2006 (OS44B-02).

**Guo, L.**, and Macdonald R. (2006), Source and transport of dissolved, colloidal and particulate organic matter from Yukon River waters. 2006 Ocean Science Meeting, Honolulu, Hawaii, February 20-24, 2006 (OS16K-01).

Hung, C., Xu, C., Schwehr, K., Roberts, K., Santschi, P. H., Cai, Y., **Guo, L.**, Tsai, J., and Wei, C., (2006), Re-examination of POC/Th-234 ratios in size-fractionated particles. 2006 Ocean Sciences Meeting, Honolulu, HI, February 20-24, 2006 (OS15B-11).

Kirkpatrick, G., D. Millie, **S. Lohrenz**, M. Moline, I. Robbins, O. Schofield, (2006), An In Situ Sensor of Phytoplankton Community Structure Based on Light Absorption, 2006 Ocean Science Meeting, Honolulu, Hawaii, February 20-24, 2006 (OS52B-03).

**Lohrenz, S.**, W. Cai, X. Chen, M. Tuel, (2006) Bio-Optical Properties of Northern Gulf of Mexico Coastal Waters Following Hurricanes Katrina and Rita, 2006 Ocean Science Meeting, Honolulu, Hawaii, February 20-24, 2006 (OS11K-04).

**Nechaev, D.**, G. Panteleev, M. Yaremchuk, (2006) Two Examples of 4Dvar Data Assimilation Application for Reanalysis and Short Range Forecast: Tsushima Strait and Bering Sea Circulations, 2006 Ocean Science Meeting, Honolulu, Hawaii, February 20-24, 2006 (OS26O-23).

**O'Driscoll, K., V. Kamenkovich, D. Nechaev**, (2006) Modeling the Circulation of the Indonesian Seas with a Regional Model, 2006 Ocean Science Meeting, Honolulu, Hawaii, February 20-24, 2006 (OS26K-19).

Panteleev, G., **D. Nechaev**, et al. (2006) Variational data assimilation as a tool for the reanalysis of climatological data: circulation in the Bering and Kara Seas, 2006 Ocean Science Meeting, Honolulu, Hawaii, February 20-24, 2006 (OS35O-03).

**Pluhar, R. J., D. G. Redalje** (2006) The Effects of Freshwater and an Oyster Reef on Marine Viral Abundance in the Bay of Saint Louis, Mississippi, 2006 Ocean Science Meeting, Honolulu, Hawaii, February 20-24, 2006 (OS35L-08).

**Roth, J.**, V. P. Hogan, **V. Kamenkovich**, Numerical Simulations of Mesoscale Variability in the Norwegian Coastal Current, 2006 Ocean Science Meeting, Honolulu, Hawaii, February 20-24, 2006 (OS36D-28).

**Sawant, P., D. Redalje**, (2006) Climate Oscillations and the Environmental Quality of the Bay of Saint Louis, MS: Emphasizing the Need for an Integrated Coastal Management Plan, 2006 Ocean Science Meeting, Honolulu, Hawaii, February 20-24, 2006 (OS46C-08).

**Shiller, A.M.**, G.R. Bairamadgi, P. Heidingsfelder and L. Gross, (2006), Dissolved trace elements in surface waters of the Northwest Pacific Ocean, 2006 Ocean Science Meeting, Honolulu, Hawaii, February 20-24, 2006 (OS16M-07).

van Dongen, B., **L. Guo** and I. Semiletov and Ö. Gustafsson, (2006), Isotopic and Molecular Investigations of Terrestrial Carbon Exported with the Five Great Russian Arctic Rivers, 2006 Ocean Sciences Meeting, Honolulu, HI, February 20-24, 2006 (OS35P-15).

Von der Heydt, K., S. Gallager, **V. Asper**, G. Packard, (2006) High Resolution Bathymetry and Seafloor Structure in a 4 km Radius of Palmer Station, Antarctica, 2006 Ocean Science Meeting, Honolulu, Hawaii, February 20-24, 2006 (OS36B-21).

## **PUBLICATIONS**

Chen, M., **Guo, L.**, Ma, Q., Qiu, Y.S., Zhang, R., Lv, E., and Huang, Y.P., (2006), Zonal patterns of  $\delta^{13}\text{C}$ ,  $\delta^{15}\text{N}$  and  $^{210}\text{Po}$  in the North Pacific Ocean. *Geophys. Res. Lett.*, 33(4), L04609, doi: 10.1029/2005GL025186.

Guéguen, C., **Guo, L.**, Wang, D. Tanaka, N., and Hung, C.-C., (2006), Chemical characteristics and origin of dissolved organic matter in the Yukon River. *Biogeochemistry*, 77, 139-155.

Belzile, C. and **Guo, L.**, (2006), Optical properties of low molecular weight and colloidal organic matter: Application of the ultrafiltration permeation model to DOM absorption and fluorescence. *Marine Chemistry*, 98, 183-196.

### Published Abstracts

**Asper, V.**, S. Gallager (2006), A Polar Remote Interactive Marine Observatory (PRIMO) Near Palmer Station on the Western Antarctic Peninsula: Rationale and Operation, *Eos Trans. AGU*, 87(36), Ocean Sci. Meet. Suppl., Abstract OS44B-01.

**Finnegan, C., S. Howden**, W. Teague (2006) Characterization of mid-shelf current variability, *Journal of the Mississippi Academy of Sciences*, Vol 51, No. 1, January 2006, pp 86-87.

Gallager, S., K. Von der Heydt, **V. Asper**, (2006) A Polar Remote Interactive Marine Observatory (PRIMO) Near Palmer Station on the Western Antarctic Peninsula: Power, Sensors and Cyberinfrastructure, *Eos Trans. AGU*, 87(36), Ocean Sci. Meet. Suppl., Abstract OS44B-02.

**Guo, L.**, and Macdonald R. (2006), Source and transport of dissolved, colloidal and particulate organic matter from Yukon River waters. *Eos Trans. AGU*, 87(36), Ocean Sci. Meet. Suppl., Abstract OS16K-01.

Hung, C., Xu, C., Schwehr, K., Roberts, K., Santschi, P. H., Cai, Y., **Guo, L.**, Tsai, J., and Wei, C., (2006), Re-examination of POC/Th-234 ratios in size-fractionated particles. *Eos Trans. AGU*, 87(36), Ocean Sci. Meet. Suppl., OS15B-11.

Kirkpatrick, G., D. Millie, **S. Lohrenz**, M. Moline, I. Robbins, O. Schofield, (2006), An In Situ Sensor of Phytoplankton Community Structure Based on Light Absorption, *Eos Trans. AGU*, 87(36), Ocean Sci. Meet. Suppl., Abstract OS52B-03.

**Kuykendall, J., C. Brunner**, (2006) The impact of Hurricane Katrina on the Pearl River marsh, *Journal of the Mississippi Academy of Sciences*, Vol 51, No. 1, January 2006, pp 57-58.

**Lohrenz, S.**, W. Cai, X. Chen, M. Tuel, (2006) Bio-Optical Properties of Northern Gulf of Mexico Coastal Waters Following Hurricanes Katrina and Rita, *Eos Trans. AGU*, 87(36), Ocean Sci. Meet. Suppl., Abstract OS11K-04.

Lutken, C., C. Brunner, et al., (2006) Comparison of two candidate sites for gas hydrates sea floor monitoring, *Journal of the Mississippi Academy of Sciences*, Vol 51, No. 1, January 2006, pp 57-58.

**Nechaev, D.**, G. Panteleev, M. Yaremchuk, (2006) Two Examples of 4Dvar Data Assimilation Application for Reanalysis and Short Range Forecast: Tsushima Strait and Bering Sea Circulations, *Eos Trans. AGU*, 87(36), Ocean Sci. Meet. Suppl., Abstract OS26O-23.

**O'Driscoll, K., V. Kamenkovich, D. Nechaev**, (2006) Developing a regional model of the Indonesian Seas circulation based on the POM, *Journal of the Mississippi Academy of Sciences*, Vol 51, No. 1, January 2006, pp 86-87.

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**Pluhar, R. J., D. G. Redalje** (2006) The Effects of Freshwater and an Oyster Reef on Marine Viral Abundance in the Bay of Saint Louis, Mississippi, *Eos Trans. AGU*, 87(36), Ocean Sci. Meet. Suppl., Abstract OS35L-08.

**Roth, J.**, P. Hogan, **V. Kamenkovich**, (2006) A Numerical Study Of The Mesoscale Variability In The Norwegian Coastal Current, *Journal of the Mississippi Academy of Sciences*, Vol 51, No. 1, January 2006, pp 86-87.

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**Sawant, P., D. Redalje**, (2006) Climate Oscillations and the Environmental Quality of the Bay of Saint Louis, MS: Emphasizing the Need for an Integrated Coastal Management Plan, *Eos Trans. AGU*, 87(36), Ocean Sci. Meet. Suppl., Abstract OS46C-08.

**Shiller, A.M.**, G.R. Bairamadgi, P. Heidingsfelder and L. Gross, (2006), Dissolved trace elements in surface waters of the Northwest Pacific Ocean. *Eos, Trans. AGU* 87(36) Ocean Sci. Meeting Suppl., Abstract OS16M-07.

van Dongen, B., **L. Guo** and I. Semiletov and Ö. Gustafsson, (2006), Isotopic and Molecular Investigations of Terrestrial Carbon Exported with the Five Great Russian Arctic Rivers. 2006 Ocean Sciences Meeting, Honolulu, HI, February 20-24, 2006 Abstract OS35P-15.

Von der Heydt, K., S. Gallagher, **V. Asper**, G. Packard, (2006) High Resolution Bathymetry and Seafloor Structure in a 4 km Radius of Palmer Station, Antarctica, Eos Trans. AGU, 87(36), Ocean Sci. Meet. Suppl., Abstract OS36B-21.

### **STUDENT ACTIVITIES**

DMS graduate students attended scientific meetings and made presentations. See above for more information.

DMS graduate students **David Rosenfield, Jennifer Kuykendall, and Andrea Neu** attended the Alliance for Graduate Education in Mississippi (AGEM) Recruitment Fair on 20 January 2006 in Hattiesburg, MS.

DMS graduate students **Kevin Martin, Becky Schilling, Allie Mojzis, and Andrea Neu** participated in science fair judging at Little Oak Middle/Boyett, Jr. High School in Slidell, LA on 27 January 2006.

DMS graduate student **Andrea Neu** attended President's Council on 8 February 2006.

## **UPCOMING EVENTS**

DMS seminars:

20 April (Dr. Amanda Demopoulos, Scripps Institution of Oceanography)

21 April (Dr. Jim Krest, University of South Florida)

27 April (Dr. Catherine Johnson, the University of British Columbia)

4 May (Dr. Karen Orcutt, University of Maine)

xc: Ms. Leslie Butler, COST  
Ms. Fran Flexter, COST  
Ms. Chinika Hughes-Hood, News and Marketing  
Ms. Margaret Jepson, Marketing and Public Relations  
Mr. Christopher Mapp, News and Marketing  
Mr. David Tisdale, News and Marketing  
Dr. Pat Joachim, Associate Provost for the Gulf Coast  
Dr. Jeff Lotz, Coastal Sciences  
Dr. Skeeter Dixon, Geography and Geology  
Student Oceanography Society President  
Marine Science Faculty and Research Staff