



**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
**NATIONAL OCEAN SERVICE**  
 Center for Coastal Environmental Health and Biomolecular Research  
 219 Fort Johnson Road  
 Charleston, South Carolina 29412-9110

*NMSBZ*

March 30, 2008

Licensing Assistance Team  
 Division of Nuclear Materials Safety  
 U.S. Nuclear Regulatory Commission, Region I  
 475 Allendale Road  
 King of Prussia, PA 19406-1415

Dear Sir:

*03017547*

Our license # 39-19399-02 issued to the National Ocean Service, Coastal Environmental Health and Biomolecular Research, 219 Fort Johnson Road, Charleston SC 29412-9110 has under gone a complete review. Due to a replacement of licensed materials in molecular assays with non radioactive tracking compounds and an overall reduction in the usage of licensed materials the flowing amendments to our license are requested.

- License Section 6 "Byproduct, source and/or special nuclear material"
- 7 "Chemical and/or physical form"
- 8 "Maximum amount that licensee may possess at any one time"

Delete from license:

- B. Cadmium 109
- D. Mercury 203
- E. Selenium 75
- F. Iron 59
- H. Zinc 65
- I. Cadmium 115
- L Phosphorus 33

These licensed materials have not been ordered recently and any remaining in our inventory have been disposed of via waste handler Bionomics, Kingston TN 37763

License Section 11B "Licensed material shall be used by, or under the supervision of"

Delete from license the following people:

Sylvia B. Galloway  
 G. Malcolm Meaburn



*142306*

**REC'D IN LAT** APR 10 2008

NMSS/RGN1 MATERIALS-002


Thomas C. Siewicki  
Cheryl Woodley-Miller  
Patricia A. Fair  
John S. Ramsdell  
Geoffrey I. Scott

Please add the following people as licensed users Section 11 B:

Todd Leighfield  
Maria DeLorenzo

See attachment for qualifications:

If you have any questions or in need of additional information contact b me at:  
Phone (843)- 762-8521, email: [john.bemiss@noaa.gov](mailto:john.bemiss@noaa.gov) or fax: (843)-762-8700

Sincerely:  
  
John Bemiss  
RSO

**APPLICATION FOR MATERIALS LICENSE**

Estimated burden per response to comply with this mandatory collection request: 4.4 hours. Submittal of the application is necessary to determine that the applicant is qualified and that adequate procedures exist to protect the public health and safety. Send comments regarding burden estimate to the Records and FOIA/Privacy Services Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0120), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

**INSTRUCTIONS: SEE THE APPROPRIATE LICENSE APPLICATION GUIDE FOR DETAILED INSTRUCTIONS FOR COMPLETING APPLICATION. SEND TWO COPIES OF THE ENTIRE COMPLETED APPLICATION TO THE NRC OFFICE SPECIFIED BELOW.**

**APPLICATION FOR DISTRIBUTION OF EXEMPT PRODUCTS FILE APPLICATIONS WITH:**

DIVISION OF INDUSTRIAL AND MEDICAL NUCLEAR SAFETY  
OFFICE OF NUCLEAR MATERIALS SAFETY AND SAFEGUARDS  
U.S. NUCLEAR REGULATORY COMMISSION  
WASHINGTON, DC 20555-0001

**ALL OTHER PERSONS FILE APPLICATIONS AS FOLLOWS:**

**IF YOU ARE LOCATED IN:**

ALABAMA, CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, FLORIDA, GEORGIA, KENTUCKY, MAINE, MARYLAND, MASSACHUSETTS, NEW HAMPSHIRE, NEW JERSEY, NEW YORK, NORTH CAROLINA, PENNSYLVANIA, PUERTO RICO, RHODE ISLAND, SOUTH CAROLINA, TENNESSEE, VERMONT, VIRGINIA, VIRGIN ISLANDS, OR WEST VIRGINIA, SEND APPLICATIONS TO:

LICENSING ASSISTANCE TEAM  
DIVISION OF NUCLEAR MATERIALS SAFETY  
U.S. NUCLEAR REGULATORY COMMISSION, REGION I  
475 ALLENDALE ROAD  
KING OF PRUSSIA, PA 19406-1415

**IF YOU ARE LOCATED IN:**

ILLINOIS, INDIANA, IOWA, MICHIGAN, MINNESOTA, MISSOURI, OHIO, OR WISCONSIN, SEND APPLICATIONS TO:

MATERIALS LICENSING BRANCH  
U.S. NUCLEAR REGULATORY COMMISSION, REGION III  
2443 WARRENVILLE ROAD, SUITE 210  
LISLE, IL 60532-4352

ALASKA, ARIZONA, ARKANSAS, CALIFORNIA, COLORADO, HAWAII, IDAHO, KANSAS, LOUISIANA, MISSISSIPPI, MONTANA, NEBRASKA, NEVADA, NEW MEXICO, NORTH DAKOTA, OKLAHOMA, OREGON, PACIFIC TRUST TERRITORIES, SOUTH DAKOTA, TEXAS, UTAH, WASHINGTON, OR WYOMING, SEND APPLICATIONS TO:

NUCLEAR MATERIALS LICENSING BRANCH  
U.S. NUCLEAR REGULATORY COMMISSION, REGION IV  
611 RYAN PLAZA DRIVE, SUITE 400  
ARLINGTON, TX 76011-4005

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REGION I  
2008 APR 10 PM 11:13

PERSONS LOCATED IN AGREEMENT STATES SEND APPLICATIONS TO THE U.S. NUCLEAR REGULATORY COMMISSION ONLY IF THEY WISH TO POSSESS AND USE LICENSED MATERIAL IN STATES SUBJECT TO U.S. NUCLEAR REGULATORY COMMISSION JURISDICTIONS.

<p>1. THIS IS AN APPLICATION FOR (Check appropriate item)</p> <p><input type="checkbox"/> A. NEW LICENSE</p> <p><input checked="" type="checkbox"/> B. AMENDMENT TO LICENSE NUMBER <u>39-19399-02</u></p> <p><input type="checkbox"/> C. RENEWAL OF LICENSE NUMBER _____</p>	<p>2. NAME AND MAILING ADDRESS OF APPLICANT (Include ZIP code)</p> <p>US Dept of Commerce NOAA National Ocean Service 219 Fort Johnson Rd Charleston SC 29412-9910</p>
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<p>3. ADDRESS WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED</p> <p>US Dept of Commerce NOAA National Ocean Service 219 Fort Johnson Rd Charleston SC 29412-9910</p> <p>Hollings Marine Laboratory 331 Fort Johnson Rd Charleston SC 29412-9910</p>	<p>4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION</p> <p>John Bemiss (RSO)</p> <p>TELEPHONE NUMBER</p> <p>843-762-8521</p>
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SUBMIT ITEMS 5 THROUGH 11 ON 8-1/2 X 11" PAPER. THE TYPE AND SCOPE OF INFORMATION TO BE PROVIDED IS DESCRIBED IN THE LICENSE APPLICATION GUIDE.

<p>5. RADIOACTIVE MATERIAL</p> <p>a. Element and mass number; b. chemical and/or physical form; and c. maximum amount which will be possessed at any one time.</p>	<p>6. PURPOSE(S) FOR WHICH LICENSED MATERIAL WILL BE USED.</p>			
<p>7. INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING EXPERIENCE.</p>	<p>8. TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS.</p>			
<p>9. FACILITIES AND EQUIPMENT.</p>	<p>10. RADIATION SAFETY PROGRAM.</p>			
<p>11. WASTE MANAGEMENT.</p>	<p>12. LICENSE FEES (See 10 CFR 170 and Section 170.31)</p> <table border="1"> <tr> <td>FEE CATEGORY</td> <td>AMOUNT ENCLOSED</td> <td>\$</td> </tr> </table>	FEE CATEGORY	AMOUNT ENCLOSED	\$
FEE CATEGORY	AMOUNT ENCLOSED	\$		

13. CERTIFICATION. (Must be completed by applicant) THE APPLICANT UNDERSTANDS THAT ALL STATEMENTS AND REPRESENTATIONS MADE IN THIS APPLICATION ARE BINDING UPON THE APPLICANT.

THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATION ON BEHALF OF THE APPLICANT, NAMED IN ITEM 2, CERTIFY THAT THIS APPLICATION IS PREPARED IN CONFORMITY WITH TITLE 10, CODE OF FEDERAL REGULATIONS, PARTS 30, 32, 33, 34, 35, 36, 39, AND 40, AND THAT ALL INFORMATION CONTAINED HEREIN IS TRUE AND CORRECT TO THE BEST OF THEIR KNOWLEDGE AND BELIEF.

WARNING: 18 U.S.C. SECTION 1001 ACT OF JUNE 25, 1948 62 STAT. 749 MAKES IT A CRIMINAL OFFENSE TO MAKE A WILLFULLY FALSE STATEMENT OR REPRESENTATION TO ANY DEPARTMENT OR AGENCY OF THE UNITED STATES AS TO ANY MATTER WITHIN ITS JURISDICTION.

<p>CERTIFYING OFFICER -- TYPED/PRINTED NAME AND TITLE</p> <p>John A. Bemiss RSO</p>	<p>SIGNATURE</p> <p>John A. Bemiss</p>	<p>DATE</p> <p>03/30/2008</p>
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**FOR NRC USE ONLY**

TYPE OF FEE	FEE LOG	FEE CATEGORY	AMOUNT RECEIVED	CHECK NUMBER	COMMENTS
			\$		
APPROVED BY				DATE	
					142306

*CURRICULUM VITAE for NRC Application*

***Marie Elizabeth DeLorenzo***

NOAA, National Ocean Service  
219 Fort Johnson Road  
Charleston, SC 29412

***EDUCATION***

- 1997 Ph.D. Environmental Toxicology, Clemson University, Clemson, SC
- 1994 M.S. Ecology, Penn State University, University Park, PA
- 1992 B.S. Environmental Resource Management, Minor in Marine Sciences, Penn State University, University Park, PA, *magna cum laude*

***PROFESSIONAL EXPERIENCE***

- 2006-present Research Ecologist, US Dept. Commerce, NOAA, National Ocean Service, Center for Coastal Environmental Health and Biomolecular Research, Marine Ecotoxicology Branch, Charleston, SC
- 1998-2006 Research Assistant Professor, University of South Carolina School of Public Health, Environmental Health Sciences Department & affiliation with US Dept. Commerce, NOAA, National Ocean Service, Center for Coastal Environmental Health and Biomolecular Research, Marine Ecotoxicology Branch, Charleston, SC

***TRAINING in radioisotope use and safety***

- Certification in radioisotope usage and safety. National Marine Fisheries Service, Charleston, SC Laboratory, October, 1995
- Certification in radioisotope usage and safety. Virginia Polytechnic Institute, Blacksburg, VA, July 1996

***ISOTOPES USED***

- <sup>3</sup>H labeled leucine
- <sup>14</sup>C labeled sodium bicarbonate and atrazine

***PUBLICATIONS using radioisotope methods:***

1. Weiner, J.A., **M.E. DeLorenzo**, M.H. Fulton. 2007. Atrazine induced species-specific alterations in the subcellular content of microalgal cells. *Pesticide Biochemistry and Physiology*. 87:47-53.
2. Weiner, J.A., **M.E. DeLorenzo**. 2004. Relationship between uptake capacity and differential toxicity of the herbicide atrazine in selected microalgal species. *Aquat. Toxicol.*68:121-128.
3. **DeLorenzo, M.E.**, M. Leatherbury, J.A. Weiner, A.J. Lewitus, M.H. Fulton. 2004. Physiological factors contributing to the species-specific sensitivity of four estuarine microalgal species exposed to the herbicide atrazine. *J. Aquatic Ecosystem Health & Management*. 7(1):137-146.
4. Downing, H.F., **M.E. DeLorenzo**, J.R. Kucklick, M.H. Fulton, G.I. Scott. 2004. Effects of the agricultural pesticides atrazine, chlorothalonil and endosulfan on south Florida microbial assemblages. *Ecotoxicology*. 13:245-260.
5. **DeLorenzo, M.E.**, A.J. Lewitus, G. I. Scott, P.E. Ross. 2001. Use of metabolic inhibitors to characterize ecological interactions in an estuarine microbial food web. *Microbial Ecology*. 42(3):317-327.
6. **DeLorenzo, M.E.**, G.I. Scott, P.E. Ross. 1999. Effects of the agricultural pesticides atrazine, deethylatrazine, endosulfan and chlorpyrifos on the estuarine microbial food web. *Environmental Toxicology and Chemistry*. 18(12):2824-2835.
7. **DeLorenzo, M.E.**, J. Lauth, P.L. Pennington, G.I. Scott, P.E. Ross. 1999. Atrazine effects on the microbial food web in tidal creek mesocosms. *Aquatic Toxicology*. 46(3-4): 241-251.

***GRADUATE STUDENTS trained and supervised in the use of radioisotopes:***

- Holly Downing, M.S. in Marine Biology, College of Charleston, Charleston, SC, 1998-2001
- Jeannette Weiner, M.S. in Marine Biomedicine and Environmental Sciences, Medical University of South Carolina, Charleston, SC, 1999-2002
- Tye Pettay, M.S. in Marine Biology, College of Charleston, Charleston, SC, 2003-2006
- Whitney Palefsky, Ph.D. in Marine Biology, University of Georgia, Athens, GA, 2006-present

## Tod Leighfield

### Employment

**U.S. DEPARTMENT OF COMMERCE**

**Charleston, South Carolina**

**NOAA - National Ocean Service**

**September 1993 -Present**

***Chemist - Marine Biotoxin Program***

- Worked closely with scientists and administrators to coordinate analysis of samples.
- Coordinated the development of new assays and analytical methods for the quantitative analysis of marine biotoxins.
- Designed experiments and developed long term research goals.
- Managed laboratory inventory and maintained laboratory and field equipment.
- Utilized statistical methods for analysis of scientific data.
- Provided written and oral reports to scientific staff and to scientific partners/collaborators.
- Published research results in peer reviewed journals and presented oral and poster presentations.
- Experienced in shipboard sampling techniques.
- Coordinated activities of undergraduate interns, volunteers, and technical staff.
- Responsible for branch laboratory safety.
- Completed first level of analysis for an AOAC collaborative study using a radio-tracer based receptor binding assay.
- Assisted RSO in performing the duties necessary for the safe operation and maintenance of the radioisotope work area.
- Utilized radioisotopes in research (carbon-14, calcium-45, hydrogen-3, phosphorous-32, and iodine-125).

### Education

**MEDICAL UNIVERSITY OF SOUTH CAROLINA**

**Charleston, South Carolina**

PhD candidate in Molecular and Cell Biology/Marine Biomedicine

**enrolled Fall 2005**

**UNIVERSITY OF CHARLESTON**

**Charleston, South Carolina**

Master of Science Degree in Marine Biology

**December 1999**

President Marine Biology Graduate Student Association, 1996-1997

**NORTHEASTERN UNIVERSITY**

**Boston, Massachusetts**

Bachelor of Science Degree in Biology

**September 1993**

East/West Marine Biology Program: field-based curriculum for minor in Marine Studies

Cooperative Education Award, Dean's List, Intramural Sports.

### Skills, Affiliations & Special Accomplishments

- Use of isotopes in the laboratory for various assays and labeling studies.
- Basic computer skills in most operating environments. Knowledge of many instrument software packages.
- Member Sigma Xi, Phycological Society of America, American Chemical Society.
- Received award from Charleston Area Federal Employees for management of the Marine Biotoxin Analytical Response Team
- Recipient National Ocean Service Employee of the Year Award 2001

### Publications that used Isotopes

Landsberg, JH; Hall, S; Johannessen, JN; White, KD; Conrad, S.; Abbott, JP; Flewelling, LJ; Richardson, RW; Dickey, RW; Jester, ELE; Etheridge, SM; Deeds, JR; Van Dolah, FM; Leighfield, TA; Yinglin Zou; Beaudry, CG; Benner, RA; Rogers, PL; Scott, PS; Kawabata, K. Saxitoxin Puffer Fish Poisoning in the United States, with the First Report of *Pyrodinium bahamenseas* the Putative Toxin Source. October 2006. Environmental Health Perspectives. 114(10):1502-1507.

Leighfield, T.A., Barbier, M., and F.M. Van Dolah. Evidence for a cAMP-dependent kinase in a dinoflagellate, *Amphidinium operculatum*. 2002. Comp. Biochem. and Physiol. Part B. 133:317-324.

Leighfield, T.A. and F.M. Van Dolah. Cell cycle regulation in a dinoflagellate, *Amphidinium operculatum*: identification of the diel entraining cue and a possible role for cyclic AMP. 2001. J. Exp. Mar. Biol. Ecol. 262:177-197.

Van Dolah, F.M., T.A. Leighfield, B.L. Haynes, D.R. Hampson, and J.S. Ramsdell. A microplate receptor assay for the amnesic shellfish poisoning toxin, domoic acid, utilizing a cloned glutamate receptor. 1997. Analytical Biochemistry 245:102-105.

**PERSONAL INFORMATION WAS REMOVED  
BY NRC. NO COPY OF THIS INFORMATION  
WAS RETAINED BY THE NRC.**

This is to acknowledge the receipt of your letter/application dated

3/30/2008, and to inform you that the initial processing which includes an administrative review has been performed.

AMENDMENT 39-19399-02  
There were no administrative omissions. Your application was assigned to a technical reviewer. Please note that the technical review may identify additional omissions or require additional information.

Please provide to this office within 30 days of your receipt of this card

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A copy of your action has been forwarded to our License Fee & Accounts Receivable Branch, who will contact you separately if there is a fee issue involved.

Your action has been assigned **Mail Control Number** 142306.  
When calling to inquire about this action, please refer to this control number.  
You may call us on (610) 337-5398, or 337-5260.

NRC FORM 532 (RI)  
(6-96)

Sincerely,  
Licensing Assistance Team Leader