

**Queens College Tenure, Promotion Process  
 Professorial Titles  
 Candidate's Curriculum Vitae and Personal Statement  
 Revised 2/2/15**

**NAME:** Gillian Stewart

**COLLEGE:** Queens

**HIGHER EDUCATION**

**A. Degrees**

<b>Institution</b>	<b>Dates Attended</b>	<b>Degree/Major</b>	<b>Dates Conferred</b>
Stony Brook University	2000-2005	Ph.D. Marine and Atm. Science	5/05
Stony Brook University	1999-2000	M.Phil Coastal Oceanography	9/00
Harvard University	1994-1997	B.A. Biology, Magna Cum Laude	5/97

**EXPERIENCE**

**A. Teaching**

<b>Institution</b>	<b>Dates</b>	<b>Rank</b>	<b>Department</b>
Macaulay Honors College, CUNY	2014	Instructor	BT URM STEM Course
Queens College	1/1/11 - Present	Assoc. Prof.	SEES
Queens College	9/05 - 12/10	Assist. Prof	SEES
Suffolk County Comm. College	9/03 - 5/05	Adjunct	Biology
Acadia Inst. of Oceanography	7/03 - 9/03	Field Instr.	Oceanography
Stony Brook University	9/99 - 5/01	TA	Oceanography
York Preparatory School	9/97 - 5/99	HS Teacher	Math
Harvard University	9/93 - 5/94	TA	Biology

**B. Other Than Teaching**

<b>Institution</b>	<b>Dates</b>	<b>Title</b>
Queens College	2014	Associate Dean, MNS
Macaulay Honors College CUNY	2013	BioBlitz Coordinator
UC Santa Cruz	2012	Visiting Scientist
Jamaica Bay Institute, NPS	2007	BioBlitz Coordinator
Marine Sciences Research Center	1999 - 2005	Research Assistant
Universitat Autònoma de Barcelona	2003	Visiting Scientist
UN IAEA MEL Laboratory	2002	Intern
Scripps Inst. of Oceanography	1997	Research Fellow
Harvard University	1995 - 1997	Research Assistant
Nat'l Park of Ecuador (Galapagos)	1996	Researcher, Intern
American Museum of Natural History	1996	Intern

## **RECORD OF APPOINTMENT IN EACH TITLE AT QUEENS COLLEGE**

<b>Dates</b>	<b>Rank</b>
1/11 – Present	Associate Professor
9/10	Awarded Tenure
9/05 – 12/10	Assistant Professor

## **ACADEMIC AND PROFESSIONAL HONORS**

2013 – Present: Elected to the Board of the Assoc. of Scientists in Limnol. And Oceanog.  
2012 – Present: Queens College representative to New York Marine Science Consortium  
2010 – Present: Appointed to Long Island Sound Study Sci. and Tech. Advisor Committee  
2006, 2007, 2008, 2010, 2011, 2012, 2013 Salute to Scholars, CUNY  
2004 – 2005 American Association of University Women Dissertation Fellowship  
1999 – 2004 Stony Brook Graduate Council Fellowship  
1999 – 2002 Dept. of Defense Nat'l Defense Sci. and Engineer. Grad. Fellowship (NDSEG)  
2004 Sigma Xi Fellowship for Educational Travel  
2004 Outstanding Student Poster Award at ASLO/TOS meeting, Honolulu HI  
2003 Tinker Field Research Grant to conduct research in Spain  
1999 – 2000 Okubo Award at MSRC, Stony Brook University  
1999 Stony Brook University Fellowship  
1997 Derek Bok Teaching award for outstanding undergraduate teaching (Harvard)  
1997 Phi Beta Kappa Society finalist (Harvard)  
1994 – 1997 Agassiz prize every semester at Harvard  
1994 – 1997 John Harvard award every semester at Harvard  
1994 – 1996 National Merit Scholar

## **MEMBERSHIP IN PROFESSIONAL SOCIETIES**

Member of the American Geophysical Union  
Member of the Association of Scientists in Limnology and Oceanography (ASLO)  
2013-2016 Board Member of ASLO Executive Board  
Past ASLO Minority Student Mentor (ASLOMP)  
Past ASLO Early Career Committee Chair  
GEOTRACES Inter-calibration Team  
Advisory Committee for SUNY Maritime Environmental Science Program  
Past Fellow of the American Association of University Women  
Past Member of the Society of Environmental Toxicology and Chemistry (SETAC)  
Past Member of The Oceanography Society (TOS)  
Past Member of the Women's Aquatic Network (WAN)  
Past Junior Council member at the American Museum of Natural History  
Founding Member of the Stony Brook Center for Environmental Molecular Science  
Member of the Sigma Xi Honor Society

## TEACHING EFFECTIVENESS STUDENT EVALUATION

(For several of the questions in sections A and B: 1=Strongly disagree, 2= Disagree, 3= Somewhat disagree, 4= Agree and 5=Strongly agree)

Question	Ensci 100	Ensci 100	Geo 383	Ensci 100
<b>A. General Questions</b>				
1. Did you receive a detailed syllabus during the first week of class? (1=Yes/2=No)	1.00	1.00	1.00	1.00
2. The instructor presents the course material in a clear and lucid manner (1=Strongly disagree, 5=Strongly agree)	4.47	4.50	4.50	4.20
3. The instructor interacts well with students. (1=Strongly disagree, 5=Strongly agree)	4.47	4.29	5.00	4.28
4. The instructor provides useful feedback (e.g., comments on written work and exams, informal feedback inside/outside class). (1=Strongly disagree; 5=Strongly agree)	4.40	4.29	4.50	4.00
5. The instructor returns assignments/exams in a timely fashion. (1=Strongly disagree; 5=Strongly agree)	4.53	4.50	4.50	3.84
6. The instructor is available outside of class. (1=Strongly disagree; 5=Strongly agree)	4.33	4.29	4.00	4.04
7. Reading assignments were valuable. (1=Strongly disagree; 5=Strongly agree)	3.80	4.14	3.50	3.60
8. How difficult is the course? ( 1= Not at all difficult, 5= Extremely difficult)	2.33	2.57	4.50	2.64
9. What is your overall evaluation of the Instructor, as distinct from the course?(1=Poor, 5= Excellent)	4.40	4.14	4.00	4.04
10. What is your overall evaluation of the Course, as distinct from the Instructor?(1=Poor, 5= Excellent))	4.00	3.93	4.00	3.80

	Course	Year/Semester	# Students Registered	# Respondents
<b>Course 1</b>	Ensci 100	Fall 2012	20	15
<b>Course 2</b>	Ensci 100	Fall 2012	20	14
<b>Course 3</b>	Geo 383	Fall 2013	21	2
<b>Course 4</b>	Ensci 100	Spring 2014	100	25

### **COURSES TAUGHT** (generally 2 courses per term, average 200 students per term)

Ensci 799.3: Plankton Ecology (12 graduate students, MA and Ph.D), taught twice  
 Ensci 100: Our Planet in the 21<sup>st</sup> Century (100-300 undergrads, non-majors, with lab), 6 times  
 Geo 383: Advanced Oceanography and the Carbon Cycle (9 undergrads, 10 MA/Ph.D students)  
 Geology 25: Natural Resources (50 undergrad, non-major students, no lab), taught 4 times  
 Geology 795.2: Independent Study (3 Ph.D. students, readings on Estuaries and Coasts)  
 Ensci 799.3: Env. Biogeochem. (12 graduate students, MA and Ph.D.), taught twice  
 Ensci 791.3: Independent Study (2 Ph.D students, Tracers in the Sea), taught twice  
 Ensci 111: Introduction to the Environment (200 undergrad, non-majors, with lab), 5 times  
 Geology 08: Intro to Oceanography (90 undergrad, non-major students, no lab), 4 times  
 Ensci 799.3: Environmental Science Course Design (20 graduate students)  
 Ensci 111: (team taught) Introduction to the Environment (500 students, with lab), 3 times  
 HNRS 228: Science and Tech. in NYC (Macaulay Honors Sem., 20 undergrads), 3 times  
 HMNS 102: Honors in Math and Nat. Sciences (4 HMNS students, professor-directed research)  
 Geo 373: Long Island Sound (15 masters students, diversity students from all of CUNY)

## MENTORING

I have mentored numerous High School students, many of whom have won Intel and Westinghouse awards, as well as scholarships to pursue STEM disciplines in college.

### *Undergraduates*

2014-: Adrianna Sirinian, QC Undergrad/Macaulay (Dust experiments, plankton culturing)  
2012-: Ebrahim Afshinnekoo, QC Undergrad/Macaulay (Polonium-210 sample processing, Dust)  
2012- 2014: Victoria Tarasova, Hunter Undergrad/Macaulay (Polonium-210 sample processing)  
2012- 2013: Yevgeniy Ostravskiy, Hunter Undergrad/Macaulay (Global Inventory of 210Po)  
2011- 2013: Amy Kirchner, QC Undergrad (Phytoplankton growth and decomposition)  
2010- 2012: Annakerina Marinos, QC Undergrad (Diatom toxicity to Copepods)  
2009- 2010: Vadim Acosta, QC Undergraduate/prospective MA student (Trace metal analysis)  
2009- 2010: Nathalie Diaz, QC Undergraduate (Lab maintenance, Fecal pellet decomposition)  
2008- 2012: Jennifer Niyruz, CUNY Honors College student (Dust and reproduction in copepods)  
2008- 2010: Raquel Henry-Singh, QC undergraduate (Lab maintenance, plankton growth)  
2008- 2010: Elizabeth Bisbee, QC undergraduate (Lab maintenance, Coulter Counter)  
2008- 2010: Richard Bubbico, QC undergraduate (Lab maintenance, copepod feeding experiments)  
2006- 2008: Bonnie Quach Wong, Bronx Science student doing an INTEL project (Hudson River)  
2006- 2007: Luis Deverez, QC Geology major working in lab (Phytoplankton cultures)  
2006: Maria Rosa, CCNY Biology student working in lab (Diversity and hypoxia in WLIS)  
2006-2007: Latisha Williams, QC Ensci major working in lab (Oxygen and benthos in WLIS)

### *Graduate Students*

Yi Tang, CUNY EES Ph.D., Thesis Advisor 9/13 –  
Jane Hauptman, CUNY EES Ph.D., Thesis Advisor 12/13 –1/15  
*“Dust as zooplankton roughage: Assessing the influence of mineral particles on copepod feeding and the potential for carbon burial”* M.A. thesis  
Jim Rice, CUNY EES Ph.D., Thesis Advisor 9/08 – graduated 2/14  
*“Long-term warming and the size and phenology of Long Island Sound plankton”* Ph.D. thesis  
Yan Choi, Masters of Arts in Earth and Environmental Sciences, graduated 6/12  
*“Seasonal polonium-210 flux and plankton community in the NE subarctic Pacific”* M.A. thesis  
Vadim Acosta, Masters of Arts in Earth and Environmental Sciences, graduated 6/11  
*“Biodilution of copper and zinc in the food web of Meadow Lake, NY”* M.A. thesis  
Lily Leon, QC Geology Masters, Po/Pb in WLIS, graduated 5/09  
*“Application of natural radionuclides 210Po and 210Pb in Western Long Island Sound: Characterization of particles in an highly urbanized estuary”* M.A. thesis  
Crystal Pearl, QC Geology Masters student, Thesis Committee, graduated 12/06  
YiYi Wong, EES Ph.D. Thesis Advisor 7/09 – 7/10  
Dustin Herlich, QC SEES Ph.D., Thesis Advisor 9/07 -9/08  
George Jackman, QC Biology Ph.D., Thesis Committee 08/08 - present  
David Seebaugh, CSI Biology Ph.D., Thesis Committee 8/07 – Graduation 2012  
Caitlyn Nichols, CSI Biology PH.D., Thesis Committee 9/08 – Graduation 2012  
Tiffany Johnson, QC Biology Ph.D., Thesis Committee 5/07 – Graduation 2010  
Katherine Paccione, QC Biology Masters student, Thesis Committee, graduated 5/09  
Corrinna Singleman, QC Biology Ph.D., Thesis Committee 9/11 - present  
Simon Lax, QC Earth and Environmental Sciences MA, Thesis Committee, graduated 5/12  
Suzanne Young, QC Earth and Environmental Sciences MA, Thesis Committee, graduated 5/12

Outside doctoral thesis committee member for Weilei Wei, Stony Brook University 08/13 – 3/15

## WORKLOAD DATA

### Fall 2012 and Spring 2013 Workload

Semester/Year	Cr/Hr	Course Number	Course Title or Duty
Fall 2012	3/6	Ensci 100	Intro to Env. Science: Our Planet in 21 <sup>st</sup> Century (large class: 100 students)
Fall 2012	3	Ensci 100	Coordination of Ensci 100 labs
Fall 2012	1.5		Re-Assigned Time for research (papers and grants)
Fall 2012	0.6	EES 799.3	Doctoral Advising (Rice)
Fall 2012	0.2	EES 792.3	MA Advising (Choi)
Fall 2012			Academic Senate
Fall 2012			SEES P&B Committee
Fall 2012			EES Exec. Committee GC
<i>Spring 2013</i>	<i>10.5</i>		<i>Sabbatical</i>
<b>Total</b>	<b>21.8</b>		

### Fall 2013 and Spring 2014 Workload

Semester/Year	Cr/Hr	Course Number	Course Title or Duty
Fall 2013	3/4	Geo 383	Advanced Oceanography
Fall 2013	3/3	Ensci 100	Coordination of Ensci 100 labs
Fall 2013	3/3	HNRS 102	MNS Research
Fall 2013	0.5		SEES P&B Committee
Fall 2013	0.6	EES 810	Doctoral Advising (Rice, Tang)
Fall 2013	0.4	GEO 793.2	Doctoral Advising (Hauptman)
Fall 2013	1.5		Re-Assigned Time for research (papers and grants)
Spring 2014			Academic Senate
Spring 2014			SEES P&B Committee
Spring 2014	3/6	Ensci 100	Intro to Env. Science: Our Planet in 21 <sup>st</sup> Century (large class: 100 students)
Spring 2014	3	Ensci 100	Coordination of Ensci 100 labs
Spring 2014	1.5		Re-Assigned Time for research (papers and grants)
Spring 2014	0.6	EES 810	Doctoral Advising (Tang)
Spring 2014	0.4	GEO 793.2	Doctoral Advising (Hauptman)
Spring 2014			EES Exec. Committee GC
Spring 2014			Academic Senate
Spring 2014			SEES P&B Committee
<b>Total</b>	<b>24.5</b>		

## SCHOLARSHIP AND CREATIVE WORK

Key:

# Indicates advised or co-advised student as co-author

**PI or Co-PI** Indicates funding or proposal writing as PI or Co-PI

**Conc** = % Research Conception and Design

**Analy** = % Analysis and Evaluation of Data

**Writ** = % Writing

### (A) BOOKS and other MONOGRAPHS

1. Published since most recent of: initial appointment or last promotion.

2. Published prior to most recent of: initial appointment or last promotion.

### (B) JOURNAL ARTICLES All articles in refereed journals

1. Since most recent of: initial appointment or last promotion.

In Prep, In Review, or In Press:

**Stewart G.**, Burd A., Moran S.B., and Lomas M. (in prep) Connecting plankton community to  $^{210}\text{Po}$ ,  $^{234}\text{Th}$  and  $^{210}\text{Pb}$  export. Planned submission at *Nature Geoscience*

Burd, A. and **G. Stewart** (in prep) Interpreting vertical profiles of short-lived, particle reactive radionuclides in the ocean. Planned submission at *Marine Chemistry*

#(PI) **Stewart G.**, Choi H.-Y., Moran S.B., Lomas M., and Kelly R.P. (in prep) Comparing the radionuclide pairs  $^{210}\text{Po}/^{210}\text{Pb}$  and  $^{234}\text{Th}/^{238}\text{U}$  as POC export tracers along Line P. Planned submission at *Deep Sea Research*

#(PI) Rice E.J. and **G. Stewart** (in review) Altered copepod phenology in a Mid-Atlantic Estuary without earlier grazing: the limits of top-down control in a warming ocean. *Limnology and Oceanography*

Conc: 20%      Analy: 15%      Writ: 40%

#(Co-PI) Mackinson B., Moran S.B., Lomas M. **Stewart G.**, Kelly R.P. (in review) Estimates of micro-, nano-, and picoplankton contributions to particle export in the northeast Pacific. *Biogeosciences* (Accepted for publication with revisions)

Conc: 20%      Analy: 10%      Writ: 20%

Published:

\*(Co-PI) Rigaud S., **Stewart G.**, Baskaran M., Marsan D., Church T. (2015)  $^{210}\text{Po}$  and  $^{210}\text{Pb}$  distribution along the North Atlantic GEOTRACES GAO3 section. *Deep-Sea Research II* (published on-line for a print journal, but not yet assigned page numbers)  
<http://dx.doi.org/10.1016/j.dsr2.2014.11.003>

Conc: 30%      Analy: 25%      Writ: 20%

\*#(PI) Choi H.-Y., Lomas M., Moran S.B., Kelly R., **Stewart G.** (2014) Linking the distribution of  $^{210}\text{Po}$  and  $^{210}\text{Pb}$  with plankton community along Line P, Northeast Subarctic Pacific. *Journal of Environmental Radioactivity* 138: 390-401

Conc: 80%      Analy: 50%      Writ: 40%

\*#(PI) Rice E.J., Dam H., **Stewart G.** (2013) Impact of climate change on estuarine zooplankton: Surface water warming in Long Island Sound is associated with changes in copepod size and community structure. *In Estuaries and Coasts* 38(1): 13-23

Conc: 45%      Analy: 35%      Writ: 30%

\*#(PI) Rice, E. J. and **G. M. Stewart** (2013) Analysis of interdecadal trends in chlorophyll and temperature in the Central Basin of Long Island Sound. *Estuarine, Coastal and Shelf Science* 128: 64-75

Conc: 50%      Analy: 40%      Writ: 60%

\*#(Co-PI) T. Church, Rigaud S., Baskaran M., Kumar A., Friedrich, J., Masque, P., Puigcorbe V., Kim, G., Radakovitch, O., Hong G., Choi, H-Y., **Stewart G.** (2012) Intercalibration studies of  $^{210}\text{Po}$  and particulate seawater sample. *Limnology and Oceanography Methods* 10: 776-789

Conc: 15%      Analy: 10%      Writ: 15%

\*#(PI) Rice, E.J., Panzeca, C., **Stewart G.M.** (2012) Temperature-induced microbubbles within natural marine samples may inflate small-particle counts in a Coulter Counter. *Marine Ecology Progress Series* 450: 275-280

Conc: 35%      Analy: 15%      Writ: 45%

\*#Seebaugh DR, Wallace WG, L'Amoreaux WJ, **Stewart GM** (2012) Assimilation of elements and digestion in grass shrimp pre-exposed to dietary mercury. *Archives of Environmental Contamination and Toxicology* 63(2): 230-240

Conc: 10%      Analy: 10%      Writ: 25%

\*#Seebaugh, D.R., W.G. Wallace, W.J. L'Amoreaux, **G.M. Stewart** (2011) Carbon Assimilation and Digestive Toxicity in Naive Grass Shrimp (*Palaemonetes pugio*) Exposed to Dietary Cadmium. *Bulletin of Environmental Contaminant Toxicology* 88: 449-455

Conc: 20%      Analy: 10%      Writ: 25%

## 2. Prior to most recent of: initial appointment or last promotion.

\*(PI) **Stewart, G.**, Moran, S.B., Lomas M., and Kelly, R.P. (2010) Direct comparison of  $^{210}\text{Po}$ ,  $^{234}\text{Th}$  and POC particle-size distributions and export fluxes at the Bermuda Atlantic Time-series Study (BATS) site. *Journal of Environmental Radioactivity* 102 (5): 479-489 (invited)

Conc: 75%      Analy: 70%      Writ: 90%

\*(PI) **Stewart, G.**, Moran, S.B., and Lomas, M. (2009) Seasonal POC fluxes at BATS estimated from  $^{210}\text{Po}$  deficits. *Deep-Sea Research I*, 57(1): 113-124

Conc: 75%      Analy: 80%      Writ: 90%

\*#Verdeny, E., Masqué P., Garcia-Orellana, J., Hanfland, C., Cochran, J.K., **Stewart, G.** (2008) POC export from ocean surface waters by means of  $^{234}\text{Th}/^{238}\text{U}$  and  $^{210}\text{Po}/^{210}\text{Pb}$  disequilibria: a comparison of two radiotracer pairs. *Deep-Sea Research II* 56: 1502-1518

Conc: 20%      Analy: 40%      Writ: 50%

\*#Engel, A., Abramson, L., Szlosek, J., Liu, Z., **Stewart, G.**, Hirschberg, D., Lee, C. (2008) Investigating the effect of ballasting by  $\text{CaCO}_3$  in *Emiliania huxleyi*: II. Decomposition of particulate organic matter. *Deep-Sea Research II* 56: 1408-1419

Conc: 25%      Analy: 35%      Writ: 25%

\*#Cochran, J.K., Miquel, J.-C., Fowler, S., Gasser, B., Hirschberg, D., Szlosek, J., Rodriguez y Baena, A.M., Armstrong, R., **Stewart, G.**, and Masqué, P. (2008) Time-series measurements of  $^{234}\text{Th}$  in water column and sediment trap samples from the Northwestern Mediterranean. *Deep-Sea Research II* 56: 1487-1501

Conc: 20%      Analy: 20%      Writ: 30%

\*#**Stewart G.M.**, J.K. Cochran, J. Xue, C. Lee, S. Wakeham, R.A. Armstrong, P. Masque, and J.C. Miquel (2007) Exploring the connection between Po-210 and organic matter in the northwestern Mediterranean. *Deep Sea Research I* 54: 415 – 427

Conc: 50%      Analy: 80%      Writ: 85%

\*#**Stewart G.M.**, P. Masque, J.K. Cochran, J.C. Miquel, J. Szlosek, A.M. Rodriguez, S.W. Fowler, B. Gasser, and D.J. Hirschberg (2007) Comparing POC flux estimates from  $^{210}\text{Po}/^{210}\text{Pb}$  water column profiles with estimates from sediment traps and  $^{234}\text{Th}/^{238}\text{U}$  profiles, 0-200 m northwest Mediterranean. *Deep Sea Research I* 54: 1459-1570

Conc: 50%      Analy: 70%      Writ: 90%

\*Buesseler K., Benitez-Nelson C., Moran S. B., Burd A., Charette M., Cochran J.K., Coppola L., Fisher N., Fowler S., Gardner W., Guo L., Gustafsson O., Lamborg C., Masque P., Miquel J.-C., Passow U., Santschi P., Savoye N., **Stewart G.**, Trull T., (2006) An assessment of particulate organic carbon to thorium-234 ratios in the ocean and their impact on the application of  $^{234}\text{Th}$  as a POC proxy. *Marine Chemistry* 100: 213-233

Conc: 15%      Analy: 10%      Writ: 15%

\***Stewart G.M.**, S.W. Fowler, J.L. Tessyie, O. Cotret, and N.S. Fisher (2005) Contrasting the transfer of polonium-210 and lead-210 across three trophic levels in the marine plankton. *Marine Ecology Progress Series* 290: 27-33

Conc: 80%      Analy: 90%      Writ: 85%

\*Liu X.F., **G.M. Stewart**, J.K. Cochran, C. Lee, R.A. Armstrong, D. Hirschberg, J.C. Miquel, and B. Gasser (2005) Constraints on the differences between POC measured in samples from Niskin bottles and in-situ pumps. *Deep Sea Research I* 52(7): 1324-1344

Conc: 20%      Analy: 30%      Writ: 75%

\***Stewart G.M.** and N.S. Fisher (2003) Experimental studies on the accumulation of polonium-210 by marine phytoplankton. *Limnology and Oceanography* 48(3): 1193-1201

Conc: 80%      Analy: 90%      Writ: 90%

\***Stewart G.M.** and N.S. Fisher (2003) Bioaccumulation of polonium-210 in marine copepods. *Limnology and Oceanography* 48(5): 2011-2019

Conc: 80%      Analy: 90%      Writ: 90%

## (C) CHAPTERS IN BOOKS/ANTHOLOGIES Indicate refereed chapters with \*

1. Since most recent of: initial appointment or last promotion.

2. Prior to most recent of: initial appointment or last promotion.

\***Stewart, G. M.**, N. S. Fisher, and S. W. Fowler. Chapter 8: Bioaccumulation of U/Th isotopes in marine organisms (2008), in *U/Th Series Radionuclides in Aquatic Systems*, S. Krishnaswami and J. K. Cochran, editors. pp. 269-305

Conc: 40%      Analy: 50%      Writ: 80%



**(D) ARTICLES IN CONFERENCE PROCEEDINGS (Full articles only)** Indicate refereed proceedings with \*. In case of joint authorship, indicate the presenting author by # sign.

**(E) EXHIBITIONS, PERFORMANCES**

**(F) REVIEWS (by the candidate, of others' performances or scholarly works)**

I have been on three NSF review panels, and review regularly for scholarly journals including: Limnology and Oceanography, Marine Chemistry, Deep Sea Research, Journal of Environmental Radioactivity, Biogeosciences, Estuaries, Estuarine, Coastal and Shelf Sciences, Earth and Planetary Science Letters, Marine Ecology Progress Series, Global Change Biology, Journal of Marine Research etc. I generally review about 2 papers each month.

**(G) REVIEWS (by others, of the candidate's performances or scholarly works)**

**(H) ORAL PRESENTATIONS, ADDRESSES, AND MASTER CLASSES** Indicate whether these were refereed (\*), or invited (\*\*). In case of joint presentations, indicate presenting author by # sign. Do not list presentations included in (D).

**1. Since most recent of: initial appointment or last promotion.**

(\*\*) University of Georgia Department of Marine Science, Invited Seminar, September 2014  
"The unique natural radionuclide  $^{210}\text{Po}$  and its application as a carbon tracer in the ocean."  
**Stewart G.**

(\*) ASLO Ocean Sciences Meeting, Honolulu HI February 2014. "Particulate Po-210 and Pb-210 along the North Atlantic GEOTRACES transect: bioreactive vs. particle-reactive tracers." #**Stewart G.**, Baskaran M., Church, T. and S. Rigaud

(\*\*) US GEOTRACES North Atlantic Data workshop, Old Dominion, VI March 2013. "Particulate  $^{210}\text{Po}$  and  $^{210}\text{Pb}$ " #**Stewart G.**, Church, T., Baskaran, M., and S. Rigaud,

(\*\*) US GEOTRACES North Atlantic Data workshop, Old Dominion, VI March 2013. "Modeling the dissolved and particulate  $^{210}\text{Po}$  and  $^{210}\text{Pb}$ " #Rigaud, S., Church, T., **Stewart, G.**, and Baskaran, M.

(\*\*) Second International Conference on  $^{210}\text{Po}$  and Radioactive Pb Isotopes, Mangalore, India. Invited Keynote Address, February 2013. "The global distribution of Po-210 in the world's oceans and implications for the use of Po/Pb as carbon export tracers" **Stewart, G.**

(\*) ASLO Aquatic Sciences Meeting New Orleans, LA February 2013. "Connecting Plankton Community Structure with Po-210/Pb-210 Distributions along Line P, Subarctic Pacific" #**Stewart G.**, Choi H-Y, Lomas M, Moran SB.

(\*) ASLO Aquatic Sciences Meeting New Orleans, LA February 2013. "The roughage effect on zooplankton grazers and ocean particle flux" **Stewart, G.**

(\*) ASLO Aquatic Sciences Meeting New Orleans, LA February 2013. "Seasonality of long term warming in Long Island Sound and zooplankton community changes." #Rice E.J. and **G. Stewart**

(\*\*) UC Santa Cruz, Ocean Sciences Seminar Series, April 2012, "Understanding the variability in the biological pump using Polonium-210" **Stewart, G.**

(\*\*) UC Santa Cruz, Whole Earth Seminar, Earth and Planetary Sciences Dept., March 2012, "Polonium, Zooplankton, Dust and Carbon Export in the Ocean" **Stewart, G.**

(\*) Goldschmidt Conference, Montreal Canada, June 2012, "Tracing particulate fluxes using  $^{210}\text{Po}$

and  $^{210}\text{Pb}$  during North Atlantic GEOTRACES” #Rigaud, S., Church, T., Baskaran, M., **Stewart, G.**, Choi, H.Y., Puigcorbe, V.m Masque, P.

(\*) ASLO Ocean Sciences Meeting, Salt Lake City, UT, February 2012 Poster, “Increased Temperature and Flagellates Associated with Increased Chlorophyll in Long Island Sound” #Rice, E.J., **Stewart, G.**

(\*) ASLO Ocean Sciences Meeting, Salt Lake City, UT, February 2012 Poster, “Summer  $^{210}\text{Po}$  and  $^{210}\text{Pb}$  distributions and plankton community structure in the Northeast Pacific” # H. Y. Choi, **G. M. Stewart**, M. W. Lomas, S. B. Moran, R. P. Kelly

(\*\*) Queens College Presidential Roundtable, October 2011, “Utilizing tracers to understand the marine carbon cycle.” **G. Stewart**

(\*) ASLO Aquatic Sciences, San Juan, Puerto Rico, February 2011, “Shifts in Long Island Sound zooplankton size and diversity reflect climate change” #Rice, E.J., **Stewart, G.**

(\*) ASLO Aquatic Sciences, San Juan, Puerto Rico, February 2011, “Concentration of Cu and Zn in the Food Web of Meadow Lake, Flushing NY” #Acosta, V., **Stewart, G.**

(\*\*) CUNY Environmental Forum, New York, NY, November 2010, “Increasing suspended lithogenic material in the surface ocean and impacts on the Biological Pump” **Stewart, G.**

(\*) Long Island Sound Foundation meeting, Stamford CT, October 2010, “Long-term changes in copepod diversity in Long Island Sound” #Rice, E.J., **Stewart, G.**

(\*\*) Arctic GEOTRACES Planning Meeting, NSF, Washington D.C., September 2010. “Exopolymeric substances, POC flux, and short-lived natural radionuclides ( $^{210}\text{Po}$ ,  $^{234}\text{Th}$ ) in the Arctic” **Stewart, G.**

(\*\*) SEES Colloquium, Queens College, CUNY, September 2010 “Climate Change and Decadal Changes of Zooplankton Community in Long Island Sound.” #Rice, E.J, **Stewart, G.**

## **2. Prior to most recent of: initial appointment or last promotion.**

First Annual  $^{210}\text{Po}$  and Lead Isotope Meeting, Sevilla Spain, October 2009, “Accumulation of  $^{210}\text{Po}$  and  $^{210}\text{Pb}$  in Marine Organisms.” **Stewart, G.**

Chemical Oceanography Gordon Research Conference, Tilton, NH, August 2009 Poster “Size fractionated  $^{210}\text{Po}$  and  $^{210}\text{Pb}$  data confirms association with sinking organic matter under oligotrophic conditions at Bermuda Atlantic Time Series site (BATS)” **Stewart G.**, Moran B., Lomas M.

ASLO Aquatic Sciences Meeting, Nice, France, January 2009 “Deficit of Po-210 predicts POC flux at BATS from winter through spring.” **Stewart G.**, Moran B., Lomas M.

ASLO Aquatic Sciences Meeting, Nice, France, January 2009, “Examining the effect of mesoscale eddies on particle flux using  $^{234}\text{Th}$  and  $^{210}\text{Po}$ .” Verdeny E., Masque P., Benitez-Nelson C., **Stewart G.**, Villa M.

ASLO Ocean Sciences Meeting, Orlando FL, March 2008 Poster “The cellular distribution of phytoplankton Po and Pb and zooplankton vertical migration.” **Stewart G.**, Masque, Verdeny and Tovar- Sanchez

ASLO Ocean Sciences Meeting, Orlando FL, March 2008 – ASLO Minority Student Symposium “The natural radionuclides Po and Pb as tracers of circulation in Long island Sound” Leon L., **Stewart G.**, Marchese P.

ASLO Ocean Sciences Meeting, Orlando FL, March 2008, “Medflux: Using 3D plots from principal component analysis to visualize degradation trajectories of organic matter.” Xue, Armstrong, Lee, Liu, Wakeham, Goutx, **Stewart G.**

Marine Sciences Colloquium, University of South Carolina, Columbia SC, February 2008 “The marine biogeochemistry of polonium-210 in estuaries and coastal systems,” **Stewart G.**

Gordon Conference, Chemical Oceanography, Tilton NH, August 2007 Poster “Po and Pb dynamics off the Canary Islands; Insights into eddies,” **Stewart G.**, Masque, and Verdeny

Brookhaven Radionuclides and Environment Symposium, New York July 2007 Invited talk “Po-210 and Pb-210: Novel Tools to Connect Ecosystems and Aquatic Biogeochemistry,” **Stewart G.**

CIESM Bi-annual Congress, Istanbul Turkey April 2007 Invited talk “Particle composition, sinking rate, and organic carbon at the DYFAMED site in the NW Mediterranean,” **Stewart G.**, Cochran, Lee, Wakeham, Armstrong and Masque

10<sup>th</sup> Annual Urban University Conference, City College CUNY April 2007, Two student posters presented: Lily Leon, Latisha Williams

Rutgers University, Institute of Marine and Coastal Studies, New Brunswick NJ February 2007 Invited talk “Uranium series isotopes as carbon tracers in the ocean,” **Stewart G.**

Hunter College, CUNY Geography Department, NY November 2006. Invited talk “Polonium to lead ratios describe trophic roles in marine planktonic systems,” **Stewart G.**

American Geophysical Union Fall Meeting, San Francisco, December 2006. “The roughage effect of dust on carbon assimilation in grazers, and potential implications for atmospheric CO<sub>2</sub>” **Gillian Stewart**, Karen Kohfeld, Andreas Schmittner, Zanna Chase, Adina Paytan, Andy Ridgwell

Annual Biomedical Research Conference for Minority Students (ABRCMS), Anaheim CA, November 2006. “Chemical and Geological Effects on Abundance and Distribution of Macrobenthos in Western Long Island Sound” Maria Rosa, **Gillian Stewart**, Cecilia McHugh, Marie-Helene Cormier

Long Island Sound Meeting, New London October 2006 “Can Natural Radionuclides Recognize the Extent of Hypoxia in Western Long Island Sound?” Lily Leon, **Gillian Stewart**, Cecilia McHugh, Paul Marchese, and Yan Zheng

AGU and ASLO Ocean Sciences Meeting, Honolulu February 2006-- Minority Student Mentor for this meeting--“Comparing <sup>210</sup>Po/<sup>210</sup>Pb ratio profiles in samples from sediment traps, in situ pumps, and Niskin bottles during MEDFLUX: An investigation of mesopelagic remineralization and scavenging” **G. Stewart**, P. Masque, K. Cochran, J. Miquel, B. Gasser, D. Hirschberg, A. Rodriguez y Baena, S. Fowler

AGU and ASLO Ocean Sciences Meeting, Honolulu February 2006 “Importance of Calcareous Shells in Aggregate Formation and Particle Decomposition for the Coccolithophore *Emiliana Huxleyi*” A. Engel, J. Szlosek, L. Abramson, Z. Liu, **G. Stewart**, D. Hirschberg, C. Lee

AGU and ASLO Ocean Sciences Meeting, Honolulu February 2006 “MEDFLUX: Particulate Organic Carbon –Th<sub>234</sub> Relationships in Particles Separated by Settling Velocity in the Northwest Mediterranean” J Szlosek, J.K. Cochran, J.C. Miquel, S Fowler, B. Gasser, D. Hirschberg, P. Masque, **G.Stewart**, A. Rodriguez y Baena, T. Toubal

Women In Science Conference, Queens College, NY November 2005 Poster “The biogeochemistry of Polonium 210 and implications for its use as a tracer,” **Stewart G.**

New York Nature Conference, Queens College, NY December 2005 Poster “Using radionuclides to trace organic contaminants in the Hudson River Estuary” **Stewart G.**

Queens College, CUNY Biology Department Colloquium, October 2005 Invited talk “Accumulation of Po-210 and Pb-210 in marine planktonic systems” **Stewart G.**

2005 DISCO XIX (Dissertation Symposium on Chemical Oceanography) Sponsored by NSF and NOAA, Kona, HI, “The Biogeochemical Cycling of Polonium-210 in the Ocean.” **Stewart, G.**

2005 American Society of Limnology and Oceanography Summer Meeting, Santiago de Compostela, Spain “Particle composition and polonium-210 and lead-210 content in the MEDFLUX

study: Implications for the use of Po as a tracer of particle flux,” **Stewart G.**, Cochran, Masque, Lee

2004 Center for Environmental Molecular Science’s “Brown-bag Lunch” seminar Series, Stony Brook, NY, “Environmental Applications of  $^{210}\text{Po}$ .” **Stewart G.**

2004 Queens College School of Earth and Environmental Science, Flushing, NY, Wednesday Colloquium. “Polonium, Plankton, and Carbon Flux – Oh My!” **Stewart G.**

2004 “Wally’s Seminar Series” at Lamont-Doherty Earth Observatory, Palisades, NY, “The Biogeochemistry of  $^{210}\text{Po}$  in Surface Waters.” **Stewart G.**

2004 International Commission for the Scientific Exploration of the Mediterranean Sea meeting (CIESM) Barcelona, Spain: “The bioaccumulation of  $^{210}\text{Po}$  in plankton and its potential use as an organic carbon tracer at the DYFAMED site in the Northwestern Mediterranean” **Stewart et al.**

2004 International Commission for the Scientific Exploration of the Mediterranean Sea meeting (CIESM) Barcelona, Spain: “ $^{210}\text{Po}$  and  $^{210}\text{Pb}$  concentrations, fluxes, particle settling velocities, and organic carbon at the DYFAMED Site, Northwestern Mediterranean” **Stewart et al.**

2004 American Society of Limnology and Oceanography / The Oceanography Society’s Ocean Science meeting, Honolulu, HI Poster “MEDFLUX:  $^{210}\text{Po}$  as a tracer for organic carbon in the Northwest Mediterranean” **Stewart**, Masque, Fisher, and Cochran. \*\*Outstanding Student Poster Award.

2004 Center for Environmental Molecular Science Graduate Student Conference, Stony Brook, NY “ $^{210}\text{Po}$  concentrations and fluxes at the DYFAMED site, Northwestern Mediterranean” **Stewart**, Masque, Armstrong, Lee and Cochran. \*\*One of ten organizers of the meeting.

2003 American Society of Limnology and Oceanography’s Aquatic Science meeting, Salt Lake City, UT, “Radioactive polonium, lead, and thorium as tracers of organic carbon flux in the surface ocean” **Stewart**, Cochran, Fisher, Lee

2002 American Society of Limnology and Oceanography’s summer meeting, Victoria, B.C “Uptake and trophic transfer of polonium in marine plankton.” **Stewart**, Fisher, and Baines

## **(I) REPORTS**

**1. Since most recent of: initial appointment or last promotion.**

**2. Prior to most recent of: initial appointment or last promotion.**

*Update from the Early Career Committee.*

Limnology and Oceanography Bulletin, Volume 17 (2) June 2008, p. 52-55

Summary of the Jamaica Bay BioBlitz 2007:

<http://www.nps.gov/gate/jamaica-bay-bioblitz.htm>

*Assessment of Coastal Water Resources and Watershed Conditions in Gateway National Recreation Area, NY/NJ.* Report of the NPS, DOI Water Resources Division and Natural Resources Program. Technical Report NPS/NRWRD/NRTR -2008/XXX

*Assessment of Coastal Water Resources and Watershed Conditions in and around Fire Island National Seashore, NY.* Report of the NPS, DOI Water Resources Division and Natural Resources Program. Technical Report NPS/NRWRD/NRTR -2007/XXX

*Assessment of Coastal Water Resources and Watershed Conditions in Sagamore Hill National Historic Site, NY.* Report of the NPS, DOI Water Resources Division and Natural Resources Program. Technical Report NPS/NRWRD/NRTR -2007/XXX

Stewart, G.M., N.S. Fisher, J.K. Cochran, S.W. Fowler, and P. Masqué (2004) *The bioaccumulation of  $^{210}\text{Po}$  in plankton and its potential use as an organic carbon tracer at the DYFAMED site in the*

*Northwestern Mediterranean*. Rapp. Comm. Int. Mer. Medit. 37: 245.

Stewart, G.M., J.K. Cochran, P. Masqué, R.A. Armstrong, J.-C. Miquel, A. Rodriguez, S.W. Fowler, M. Peterson, and N.S. Fisher (2004) *<sup>210</sup>Po and <sup>210</sup>Pb concentrations, fluxes, particle settling velocities, and organic carbon at the DYFAMED site, Northwestern Mediterranean*. Rapp. Comm. Int. Mer. Medit. 37: 246.

Benitez-Nelson, C. and the participants of FATE 2004 *Future Applications of <sup>234</sup>Th in Aquatic Ecosystems (FATE) (2004)* EOS 85 (45):471-472.

## **(J) OTHER WORKS (Abstracts, Editorials, Extended Abstracts, Encyclopedia Entries, Posters, Etc.)**

**(K) SUBMITTED WORKS AND WORKS IN PROGRESS.** Specify stage of progress and magnitude of work. Include number of manuscript pages for each submitted work.

## **GRANTS**

### **(1) Grants Pending Research**

(Medical Leave in Fall 2014 so no proposals submitted this winter)

### **(2) Grants in Progress Research**

*Collaborative Proposal: GEOTRACES – <sup>210</sup>Po and <sup>210</sup>Pb distribution at Eastern Pacific Interface Regimes* **NSF OCE** (9/1/12 – 8/31/16) \$326,079 PI: Baskaran, Co-PI: **Stewart**

### **(3) Grants Completed Research**

*Collaborative Research: GEOTRACES – Application of <sup>210</sup>Pb and <sup>210</sup>Po distribution at North Atlantic interface regime* **NSF OCE** (4/1/10 -3/31/13) \$287,887 PI: Church, Co-PIs: **Stewart** and Baskaran

*Collaborative Proposal: Testing linkages between plankton community structure and export of C, Po, and Th: Field and Lab Experiments in the NE Subarctic Pacific* **NSF OCE** (1/1/10 – 12/31/12) \$799,713 PI: **Stewart**, Co-PIs: Moran and Lomas

*The Roughage Effect of Mineral Material on Marine Grazers: Potential Implications for the Global Carbon Cycle* **ACS PRF** (01/01/08 – 12/31/09) \$50,000 PI: **Stewart**

*Assessment of natural resources and watershed conditions in and/ adjacent to Gateway National Recreation Area, Sagamore Hill National Historic Site, and Fire Island National Seashore* **National Park Service USGS** (6/01/06 – 12/31/07) \$12,200 to CUNY, PI: McElroy, CoPIs: Waldman, Swanson, Bennotti, **Stewart**

*Collaborative Research-Track 1: Partnership to Enhance Diversity in Marine Geosciences: Holocene Climate and Anthropogenic Changes in Long Island Sound, NY* **NSF GEO**, (5/15/05 to 5/14/07) \$59,819 PI:C. McHugh Co-PIs: Y. Zheng, M. Cormier, P. Marchese, **G. Stewart**

*Remolinos Oceanicos y Deposición Atmosférica (RODA) en el Corriente de Canarias (Atlántico Este subtropical): monitorización, efectos biológicos y biogeoquímicos, y flujos hacia el océano*

*profundo* **MEC Spain** (11/28/05 to 12/01/08) ~\$7,500 to CUNY from PIs Javier Arístegui Ruiz, Pere Masque, and Susana Agusti.

*Seafloor mapping and habitat assessment of Western Long Island Sound* **ENTERGY** (6/06 – 6/07) \$30,000 co-PIs Cecilia McHugh, Marie-Helene Cormier, Gillian Stewart

*Jamaica Bay BioBlitz* Jamaica Bay Institute, **Gateway National Recreation Area and North Atlantic Coast CESU** (8/01/06 – 9/30/07) \$9987 PI: **Stewart**, CoPI: Waldman

*The impact of changing particle loads on the assimilation of carbon by marine copepods: an enhanced biological pump or collapse of marine grazers?* **CUNY Collaborative Incentive** (9/01/07 – 8/31/08) \$38,995 PI: **Stewart**, co-PI: Wallace

*Investigating the relationship between PCB bioconcentration and the natural radio-tracer polonium-210 in Hudson River plankton* **PSC CUNY** (7/01/06 - 9/30/07) \$6000 PI: **Stewart**

## **Institutional**

*IGERT: Returning the Radio to Chemistry: Integrating Radiochemistry into a Chemistry Ph. D. Program.* **NSF IGERT CHEM** (09/01/10 – 08/31/15) \$3,000,000, approx. \$150,000 to QC CUNY, PI: Francesconi. **Stewart** is a “non PI major participant”

*SEES SAW: School of Earth and Environmental Sciences Sampling in Air and Water.* **CUNY Graduate Research and Teaching Incentive 14** (9/1/11 – 8/31/13) \$38,600 PI: **Stewart**, CoPI: Bird, McHugh, O’Mullan

*Hypoxia, Toxic Substances and Living Resources in the Bays and Basins of Western Long Island Sound (WLIS),* **CUNY Research Enhancement Initiative** (1/1/11 -12/31/12) \$6600 PI: **Stewart** co-PI: Zheng

*Long Island Sound Study Science and Technology Advisory Committee Fellowship* **NY SeaGrant** (10/09 – 09/10) \$19,500 PI: **Stewart**, Fellowship to Edward Rice

*Elemental analysis of CHNS-O in Terrestrial and Marine Ecosystems* **Queens College, CUNY Research Award** (6/01/07) \$15,720 Co-PIs: Bird, **Stewart**, McHugh

*Mineral Dust Controls on Carbon Export in Marine Ecosystems.* **Queens College Research Enhancement Initiative 2007**, \$20,000 (to purchase Coulter Counter) PI: **Stewart**

## **(4) Grants Submitted, but not Funded**

**Research** (*only included recent major proposals – all possible re-submissions*)

Collaborative Research: GEOTRACES Arctic Section: Sampling and analysis of <sup>210</sup>Po and <sup>210</sup>Pb in seawater, sediments, sea ice, and aerosols in the western Arctic Ocean (Submitted 2/14) PLR/OCE NSF \$259,801 PI: **Stewart**, CoPI: Moran

Collaborative Research: Uranium-series radionuclide interactions with marine plankton: Implications for paleoceanography and particle flux (Submitted 2/13) OCE NSF \$205,396 PI: Cochran, CoPIs: **Stewart**, Lee, Armstrong, Black

Collaborative Research: The impact of mineral particles on zooplankton carbon assimilation and implications for the efficiency of the biological pump (Submitted 2/13) OCE NSF \$485,758 PI: **Stewart**, CoPI: Paytan

## SERVICE

### (A) COLLEGE/UNIVERSITY. Include dates of each service activity.

#### *Department*

May 13 to September 14: Deputy Chair of the School of Earth and Environmental Sciences  
Spring 12 – Visiting Faculty at UC Santa Cruz  
Fall 11 – Search Committee Chair for New Hire  
Summer 10, Summer 11, Summer 12, Summer 13 – Acting Chair of SEES  
Fall 09 – Search Committee for Dean of Math and Natural Sciences  
Spring 09 – present: SEES Personnel and Budget Committee  
Spring 09 – Attended NSF sponsored Workshop in “Strengthening Geosciences Departments”  
Spring 08 – Faculty Search Committee  
Spring 08 – Development of PLAS Ensci 100  
Spring 06 – Fall 08 Coordinate SEES Colloquium Series  
Spring 06 – Initiated SEES Colloquium Series

#### *Queens College*

September 2014 – present: Associate Dean, Division of Math and Natural Sciences  
Fall 13 – present: QC Academic Senate (Divisional Rep.)  
Fall 11 – appointed primary representative to NY Marine Sciences Consortium  
Fall 10 – appointed to Long Island Sound Science and Technology Advisory Committee  
Fall 08 – appointed Alternative Representative for QC to NY Marine Sciences Consortium  
Spring 09 – Strategic Planning Committee for plan #8: Increase strength of sciences at QC  
Fall 06 – Fall 12: QC Academic Senate (Departmental Rep.)

#### *CUNY*

Spring 2014 – CUNY Leadership Academy (one of 28 faculty from all of CUNY, nominated by both Macaulay Honors College and Queens College)  
Fall 13 – present: Macaulay Honors College Curriculum Committee  
Spring 11 – present: Macaulay Honors College Council  
Spring 2006 - Present – Graduate (Ph.D.) faculty of Chemistry, Biology and Earth and Environmental Sciences (CUNY-wide)  
Spring 09 – CIRG, CUNY Collaborative Review Panel  
Fall 08 – Fall 12 EES Admissions Committee (at CUNY Graduate Center)  
Fall 07 – present: EES Executive Committee (at CUNY Graduate Center)

### (B) PROFESSION. Include dates of each service activity.

#### *Member of the Board of Directors (2013 – 2016)*

Association of Scientists in Limnology and Oceanography (ASLO)  
<http://aslo.org/information/board.html>

#### *Session Coordinator*

2014 Chaired Session on Climate Change and Coastal Plankton at ASLO (Portland)  
2011 Chaired Session on Multiple POC proxies at ASLO (San Juan)  
2009 Chaired Session on Short-lived Natural Radionuclides at ALSO (Nice, France)  
2005 – 2009 Expand Your Horizon Conference (Annual), Workshop Leader (NY, NY)  
2006 Minority Student Mentor at ASLO Ocean Sciences Meeting (Honolulu, HI)

*Reviewer*

**Member of Arctic Research Panel for NSF** (BEST, 2007)  
**Member of Chemical Oceanography Panel for NSF** (2009, invited but could not attend 2014)  
**Funding Agencies** – EUR-Oceans, National Science Foundation (Chem Oce., Polar Prog., Bio. Oce.)  
**Refereed Journals** – *Deep-Sea Research, Limnology and Oceanography, Marine Ecology Progress Series, Marine Chemistry, Journal of Environmental Radioactivity, Coastal Estuarine and Shelf Research, Journal of Marine Research, Earth and Planetary Science Letters, Global Change Biology, etc.*,  
**EUROceans** Graduate and Post Doc Selection Committee 2007  
**College of Reviewers for Canada Research Chairs Program** 2008  
**CIRG CUNY Collaborative Proposal Review Panel** 2009

*Committee Member*

SUNY Maritime Environmental Science Advisory Board  
 Long Island Sound Study Science and Technical Advisory Committee  
 NY Marine Sciences Consortium  
 GEOTRACES Intercalibration Team

*Oceanographic Research Cruise Experience*

GEOVIDE (Porquia Pas?) Cruise 2014  
 GEOTRACES East Pacific Cruise 2013  
 Line P Cruises (CGCS Tully) 2010-2012  
 GEOTRACES North Atlantic Cruise 2011  
 WLIS Cruise (RV Hugh Sharp) June 2006  
 RODA Canary Island Cruise August-Sept 2006  
 MEDFLUX cruises 2002-2005

**(C) COMMUNITY. Last five years only. Include dates for each service activity. Examples: unpaid member of board of trustees for school or library; activities in non-college or university settings; unpaid consultantships.**

*Current:* Developing COSEE webinar on short-lived radionuclide tracers, as part of GEOTRACES  
*Spring 2012:* Visiting Research Faculty, UC Santa Cruz  
*March 2011 and January 2014:* Invited to talk at Stony Brook Recruiting event  
*April 2011:* Invited to talk and co-host at Macaulay Honors College Event  
*October 2008:* Invited to participate in Jamaica Bay Education Coordinating Committee

**Jamaica Bay BioBlitz:** Coordinated and managed a 24 hour species inventory of the 25,000 acres in Jamaica Bay. Brought together scientists, experts, naturalists, educators, outreach groups, volunteer organizations and the public for a celebration of the diversity in our own “backyard.” <http://nbii-nin.ciesin.columbia.edu/jamaicabay/bioblitz/BioBlitz.html>

**Expand Your Horizons:** Session coordinator yearly since 2006 for a public program to engage 7<sup>th</sup> grade girls in math and science. Sponsored by the American Association of University Women. <http://www.aauw-eyhconference.com/index.htm>

**Globe Program:** May 2008, gave lectures on Climate Change and conducted hands-on activity for 27 NYC Public School teachers through the Globe Project.

**CUNY Week:** 2006, 2007, 2008, 2010, 2012, 2013, 2014 gave lectures to 60+ local Queens seventh graders about Biodiversity as part of CUNY Week activities. Gave Lab tours of Marine Biogeochemistry lab at QC



## STATEMENT OF CANDIDATE

I started teaching at Queens College in 2005, 6 days after turning in my Ph.D thesis. Since then I have established a state-of-the-art biogeochemistry lab (one of three in the United States that can measure natural alpha radiation) and published 2-3 papers per year. During that time, I have been funded consistently, supported by grants from the American Chemical Society, three unique projects from the National Science Foundation, and grants from the US Geological Survey and National Park Service. At Queens, I have taught over 2000 students in classes from introductory courses through doctoral levels, mentored over 20 students in my lab, and graduated 5 graduate students. I have also worn a variety of administrative hats, such as Deputy Chair of my department and, most recently, being appointed as Associate Dean of the Division of Mathematics and Natural Sciences. My professional reputation is demonstrated by frequent requests to review manuscripts and grants, invitations to speak at conferences including making the keynote address at the Second International Conference on  $^{210}\text{Po}$  and Radioactive Pb Isotopes in Mangalore, India, chairing sessions at international meetings, participating in two unique National Science Foundation funding panels, and most recently, serving in a leadership role on the Board of Directors of my professional society, The Association for Scientists in Limnology and Oceanography (ASLO) which has 4000 international members ([www.aslo.org](http://www.aslo.org)).

**Research:** The fundamental question of my research is how the amount of carbon sequestered in various ocean basins is mediated by the presence of diverse planktonic communities. This is a critical issue in an era where climate change is a global concern. My doctoral thesis began as a study of the trophic transfer of the only biomagnified natural radionuclide, polonium-210. I was the first to observe the bio-accumulation of a natural radionuclide across three trophic levels (e.g. Stewart and Fisher 2003a, 2003b, Stewart et al. 2005). I developed this research into the application of the radionuclide pair  $^{210}\text{Po}/^{210}\text{Pb}$  as a tracer of carbon uptake in the surface ocean. I continued this work at Queens College, expanding the application of the tracer pair in the Mediterranean, Canary Islands, Bermuda, and eventually in the sub-Arctic Pacific. I improved the sampling and analytical methods and continue to investigate new aspects of the linkages between the plankton community and particle composition. This development of a novel biochemical tracer resulted in a comparison of the application of the radionuclide pair  $^{210}\text{Po}/^{210}\text{Pb}$  with the more commonly applied pair  $^{234}\text{Th}/^{238}\text{U}$  to trace carbon export in the surface ocean (e.g. Stewart et al. 2007, Verdeny et al. 2008, Stewart et al. 2010). My goal is to fully understand how the packaging of carbon can determine its fate from uptake and production in the surface layer of the ocean down through decomposition in the marine twilight zone (e.g. Engel et al. 2008, Seebaugh et al. 2011, Choi et al. 2014).

Understanding the distribution of  $^{210}\text{Po}$  in the oceans and applying it as a carbon tracer requires placing  $^{210}\text{Po}$  in the context of multiple other elements. I therefore became involved in the GEOTRACES project ([www.geotraces.org](http://www.geotraces.org)) in 2007. GEOTRACES is an ambitious multi-national, multi-cruise project designed to map and understand the distribution of all elements in the world's ocean. I have been funded to measure three transects of  $^{210}\text{Po}$  and  $^{210}\text{Pb}$  profiles across the Subtropical and Northern Atlantic Ocean, as well as the Eastern Pacific. Personally, I (or my students) have made over 40% of the total number of  $^{210}\text{Po}$  measurements in the top 500m of the world's oceans. As part of GEOTRACES, I have been directly involved in international intercalibrations (Church et al. 2012) and the methodology of particle sampling (Rice et al. 2012). Recently, my doctoral student participated in a GEOTRACES research cruise across the North Atlantic from Lisbon to Greenland, and eventually to Canada utilizing additional funding from the National Science Foundation (an out-of-cycle request to the Program Officer) and funding provided by the Governments of Spain and France.

In addition to my research on polonium, at Queens College I have had the opportunity to develop other novel and local projects with my graduate and undergraduate students. Most recently, I successfully guided a doctoral student in studying the effect of climate change on the plankton community in Long Island Sound. We found that warming waters resulted in smaller and more mobile phytoplankton (Rice and Stewart 2013), and smaller and less diverse zooplankton (Rice et al. 2013). Both of these findings have major implications for the ecosystem health of the Sound. This research inspired me to organize and chair a well-attended session at the 2014 Aquatic Sciences Meeting (Portland, OR) on the influence of climate change on anthropogenically-impacted coastal systems. It also resulted in a change of the Connecticut Department of Environmental Protection (CT DEP) plankton sampling protocol.

I am now pursuing funding in order to develop a new understanding of the role of dust in the packaging of carbon in the surface ocean. Inspired by observations of Saharan dust in the Mediterranean during my doctoral thesis, I have become increasingly convinced that lithogenic material can provide a crucial physical factor in protecting organic matter from assimilation by consumers and degradation in sinking waste (primarily copepod fecal pellets). I currently have multiple undergraduates and graduate students pursuing this line of research in my lab. Up until now, most oceanographers have considered dust primarily as a source of chemical nutrients to surface phytoplankton, and have not considered its effect on grazing zooplankton. Combining the physical and chemical influence of dust on carbon processing could help refine future climate models, wherein the world is predicted to be significantly dustier (e.g. Tegen 2005). In my work with a biogeochemical climate modeler, we found that the effect of reduced carbon assimilation in marine planktonic grazers seen in the lab (which I coined “The Roughage Effect”) could cause increased carbon burial in the ocean and a reduction of atmospheric carbon dioxide by approximately 40ppm over 100 years. I am extremely excited by this new avenue of research, and will pursue it in conjunction with my foundational work on  $^{210}\text{Po}$  and  $^{210}\text{Pb}$  and my continued participation in GEOTRACES.

**Teaching:** I believe that teaching occurs both in the classroom and in the research laboratory. I regularly teach two courses a semester and have taught large classes (300+ students) and small seminars. From advanced topics (e.g. Plankton Ecology, Isotope Geochemistry, and Environmental Biogeochemistry) to introductory classes, my sections are usually the first to fill due to my reputation as a rigorous and engaging professor, and I recruit approximately 10% of my introductory survey course into our major. I am consistently highly rated by the students and colleagues who evaluate my teaching. Having taught at a NYC high school, and at Harvard, SUNY Stony Brook, Suffolk Community College, and Macaulay Honors College (MHC), I have found teaching at Queens College the most rewarding because of the diversity and ambition of the student body. Outside of the classroom, I worked with underrepresented high school students in a pilot program to recruit them to the sciences at CUNY. We explored the waterways around New York City with a series of hands-on activities and presentations. I am honored to mentor these diverse high school students as well as undergraduates and graduate students in the Queens College community, using my lab and local ecosystems to expand the walls of the traditional classroom.

**Service:** I am dedicated to my administrative roles at Queens College and in my professional societies. At Queens, I served on the School of Earth and Environmental Sciences (SEES) Personnel and Budget Committee, and have been SEES Deputy Chair as well as Acting Chair for 4 summers. I served in the Academic Senate as Departmental Senator and now Divisional Senator at Large, and I am currently the Associate Dean of the Division of Mathematics and Natural Sciences (<http://www.qc.cuny.edu/Academics/Degrees/DMNS/Pages/StaffDirectory.aspx>). At the CUNY Graduate Center, I represent my department on the Executive Committee of the Doctoral Program in Earth and Environmental Sciences, and am also a member of the Doctoral faculty of both Biology and Chemistry. I represent STEM disciplines on both the College Council and Curriculum Committee of MHC at CUNY. The Provost of Queens College and the Provost of MHC nominated me to participate in a recent Leadership Program at CUNY Central. I was one of about 30 faculty members identified from the 19 CUNY institutions as a potential future administrator, and the only one to be nominated by two CUNY institutions.

I have represented Queens College on many panels and championed the cause of women in science. I am a founding member of the New York Marine Science Consortium (NYMSC; <http://you.stonybrook.edu/nymsc/>) and am a member of the Long Island Sound Study Science and Technical Advisory Committee (LISS STAC; <http://longislandsoundstudy.net/about/committees/science-technical-advisory-committee/>). My dedication to education, research, and environmental concerns was evidenced by my role as PI in the first-ever Jamaica Bay BioBlitz. Queens College used a photograph of me at the event in their advertisement “Queens College is the Place for Discovery” in the college ranking edition of *US News and World Report*. I have helped coordinate BioBlitzes in Washington, D.C. and in Central Park. My election to the Board of Directors of my professional organization, ASLO, has resulted in myriad opportunities and accomplishments including managing publications, organizing large meetings and conferences around the world, recruiting and retaining membership, and balancing a large budget for the benefit of the global community of limnologists and oceanographers.