

MATERIALS LICENSE

Amendment No. 07

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter I, Parts 30, 31, 32, 33, 34, 35, 36, 39, 40, and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations, and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

OFFICIAL RECORD COPY

Licensee

1. Ramapo College of New Jersey
2. 505 Ramapo Valley Road
Mahwah, New Jersey 07430-1680

In accordance with the letter dated
November 20, 1996,
3. License Number 29-15627-01 is amended in
its entirety to read as follows:

4. Expiration Date June 30, 2002

5. Docket or
Reference No. 030-094806. Byproduct, Source, and/or
Special Nuclear Material7. Chemical and/or Physical
Form8. Maximum Amount that Licensee
May Possess at Any One Time
Under This License

A. Hydrogen 3
B. Carbon 14
C. Iodine 125

A. Any
B. Any
C. Any

A. 100 millicuries
B. 20 millicuries
C. 2.5 millicuries

9. Authorized use

A. through C. Research and development as defined in 10 CFR 30.4. Teaching and training of students.

CONDITIONS

10. Licensed material shall be used only at licensee's facilities, 505 Ramapo Valley Road, Mahwah, New Jersey.

11. A. Licensed material listed in Item 6 above is authorized for use by the following individual(s) for the materials and uses indicated:

Angela Cantelmo-Christini, Ph.D.

Hydrogen 3 and Carbon 14

Leonard L. Ciaccio, Ph.D.

Hydrogen 3, Carbon 14, and Iodine 125

Joseph Dallon, Jr., Ph.D.

Hydrogen 3, Carbon 14, and Iodine 125

William J. Makofske, Ph.D.

Hydrogen 3, Carbon 14, and Iodine 125

Edward Saiff, Ph.D.

Hydrogen 3 and Carbon 14

Elaine Winshell, Ph.D.

Hydrogen 3 and Carbon 14

B. The Radiation Safety Officer for this license is Angela Christini, Ph.D.

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**MATERIALS LICENSE
SUPPLEMENTARY SHEET**

License Number

29-15627-01

Docket or Reference Number

030-09480

Amendment No. 07

12. Licensed material shall not be used in or on human beings.
13. The licensee shall not use licensed material in field applications where activity is released except as provided otherwise by specific condition of this license.
14. The licensee shall conduct a physical inventory every six months to account for all sealed sources and devices containing licensed material received and possessed under the license.
15. The licensee is authorized to hold radioactive material with a physical half-life of less than 65 days for decay-in-storage before disposal in ordinary trash, provided:
 - A. Waste to be disposed of in this manner shall be held for decay a minimum of ten half-lives.
 - B. Before disposal as ordinary trash, the waste shall be surveyed at the container surface with the appropriate survey instrument set on its most sensitive scale and with no interposed shielding to determine that its radioactivity cannot be distinguished from background. All radiation labels shall be removed or obliterated.
 - C. A record of each such disposal permitted under this License Condition shall be retained for three years. The record must include the date of disposal, the date on which the byproduct material was placed in storage, the radionuclides disposed, the survey instrument used, the background dose rate, the dose rate measured at the surface of each waste container, and the name of the individual who performed the disposal.
16. The licensee is authorized to transport licensed material in accordance with the provisions of 10 CFR Part 71, "Packaging and Transportation of Radioactive Material."
17. Except as specifically provided otherwise in this license, the licensee shall conduct its program in accordance with the statements, representations, and procedures contained in the documents including any enclosures, listed below. The Nuclear Regulatory Commission's regulations shall govern unless the statements, representations and procedures in the licensee's application and correspondence are more restrictive than the regulations.
 - A. Application dated March 30, 1990
 - B. Letter dated April 6, 1990
 - C. Application dated June 7, 1990
 - D. Letter dated December 23, 1991
 - E. Letter dated November 20, 1996

For the U.S. Nuclear Regulatory Commission

Original Signed By
James M. Bondick

By

Nuclear Materials Safety Branch
Region I
King of Prussia, Pennsylvania 19406

JAN 27 1997

Date _____

JAN 27 1997

Elaine Winshell, Ph.D.
Associate Dean
Ramapo College of New Jersey
School of Theoretical & Applied Science
505 Ramapo Valley Road
Mahwah, NJ 07430-1680

Dear Dr. Winshell:

This refers to your license amendment request. Enclosed with this letter is the amended license. Please note that as part of this amendment, in accordance with 10 CFR 30.36, effective February 15, 1996, the expiration date of your license has been extended by a period of five years. Your new expiration date is stated in Item 4 of the license.

Please review the enclosed document carefully and be sure that you understand and fully implement all the conditions incorporated into the amended license. If there are any errors or questions, please notify the U.S. Nuclear Regulatory Commission, Region I Office, Licensing Assistance Team, (610) 337-5093 or 5239, so that we can provide appropriate corrections and answers.

Enclosed are both original versions of the curriculum vitae for Dr. Cristini that contain personal information.

Thank you for your cooperation.

Sincerely,
Original Signed By
James M. Bondick

James M. Bondick
Health Physicist
Division of Nuclear Materials Safety

License No. 29-15627-01
Docket No. 030-09480
Control No. 123935

Enclosures:

1. Amendment No. 07
2. Two Original Curriculum Vitae
for Dr. Cristini

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E. Winshell, Ph.D.
Ramapo College of New Jersey

-2-

DOCUMENT NAME: R:\WPS\MLTR\L2915627.01

To receive a copy of this document, indicate in the box: "C" = Copy w/o attach/encl "E" = Copy w/ attach/encl "N" = No copy

OFFICE	DNMS/RI	<input checked="" type="checkbox"/> N	DNMS/RI	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NAME	JBondick/jmb <i>JB</i>						
DATE	01/07/97	01/ /97	01/ /97	01/ /97	01/ /97	01/ /97	01/ /97

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Q-6

CURRICULUM VITAE

29-15627-01

PERSONAL:

NAME: Angela Cristini
OFFICE ADDRESS: Ramapo College of New Jersey
505 Ramapo Valley Road
Mahwah, N.J. 07430
OFFICE TELEPHONE: (201) 529 - 7724 **FAX** (201) 529 - 7508
E-mail acristin@ramapo.edu

EDUCATION:

Ph.D. City University of New York, NY, NY. Jan. 1977
B.A. Northeastern University, Boston, Mass. June 1971

EXPERIENCE:

9/88-Present Full Professor, Ramapo College of New Jersey
Mahwah, N.J.
9/90-9/94 Director, Institute for Environmental
Studies, Ramapo College of New Jersey.
7/87-1/89 Assistant Director of Environmental Research
in the Division of Science and Research, New
Jersey Department of Environmental Protection
(Sabbatical leave from RCNJ).
9/83-9/88 Associate Professor, RCNJ.
9/77-9/83 Assistant Professor, RCNJ.

SCIENTIFIC INTERESTS:

Comparative physiology and ecology of invertebrates; effects of
pollutants on marine organisms; endocrinology and mechanisms of
ionic regulation of crustaceans.

OTHER ACADEMIC INTERESTS:

Teacher education in science and enrichment programs for women
and minorities in science.

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JAN - 6 1997

GRANTS:

National Science Foundation. "Revitalizing Science Teaching Using Remote Sensing Technology" II - Watershed project. May 1996 - May 1999.

New Jersey Department of Education. "Revitalizing Science Teaching Using Remote Sensing Technology" - Expansion. February 1996 - January 1997.

National Science Foundation. "Revitalizing Science Teaching Using Remote Sensing Technology". June 1994 - August 1996.

NOAA - National Sea Grant. "The Effects of Sound on the Control of Predation by Decapod Crustaceans on Cultured Clams". (1993).

New Jersey Sea Grant. "The Effects of Sound on the Control of Predation by Callinectes sapidus on Cultured Mercenaria mercenaria". Development grant, (1992).

New Jersey Department of Environmental Protection. "The Distribution of Dioxins in the Tissues of Lobsters and Blue Crabs from Raritan Bay", (1991).

New Jersey Department of Environmental Protection. "The Physiological Effects of #6 Oil on Growth and Molting in the Blue Crab, Callinectes sapidus", (1990).

US Environmental Protection Agency. "Synthesis of the Distribution of Benthic Invertebrates in the Hudson/Raritan Harbor Estuary", (1989).

New Jersey Department of Environmental Protection. "Physiological Effects of Dioxins on Aquatic Organisms", (1987-1989).

New Jersey Department of Environmental Protection. "Histopathology of Tissues from Crabs and Lobsters from Northern New Jersey Waters", (1985).

National Oceanographic and Atmospheric Administration, National Marine Fisheries Service. "In situ Studies on the Physiology of the Soft Shell Clam, Mya arenaria in an Estuarine System", (1983).

New Jersey Department of Environmental Protection. "Effects of Hydrocarbons on the Physiology of the Blue Crab", (1981-1982).

New Jersey Department of Environmental Protection. "In situ Studies on the Physiology of Invertebrates in a Fresh Water System", (1981-1982).

New Jersey Department of Environmental Protection. Two awards for "Studies on the Effects of Benzene and Dimethyl naphthalene on Decapod Crustaceans", (1979-1983).

SCIENTIFIC AND SCIENCE EDUCATION ACTIVITIES:

The following is a partial list of activities.

1994 Named by Governor Whitman to the Dredged Materials Management Team for the State of New Jersey.

1994 Invited speaker for a briefing of the NJ Congressional Delegation on chemical contamination of the sediments in NJ waters by the Coast Alliance in Washington, DC.

1993-1995 Invited Keynote speaker for the CTY - Science Symposium; part of the Johns-Hopkins University program "Center for Talented Youth" for 6-8th grade students.

1994 Invited field leader/lecturer for "The Fair Lawn Environmental Project"; a grant to Fair Lawn, NJ from the NJ Department of Environmental Protection for including environmental education in the curriculum of the third grade.

1994 Invited field leader/lecturer for Fair Lawn HS-ninth grade environmental science project on the Passaic River.

1993-1995 Invited member of the panel of scientists to determine the research directions of the new NOAA/NJDEP Marine Laboratory at Sandy Hook, NJ.

1992-1994 Science Co-ordinator and lecturer for "Project ET"; NSF Teacher Enhancement grant to Hunter College for teachers in New York City.

1992 Organized and participated in a symposium for the Hudson-Delaware Chapter of SETAC on the dioxin contamination of the sediments and biota of Newark Bay NJ, at Rutgers University, New Brunswick, NJ.

1993 Invited speaker at the Society of Invertebrate Pathology - Annual Meeting in Asheville, NC. "Effects of Pollutants on Molting and Limb Regeneration in Crustacea".

1992-1993 Invited participant in "Project Y"; a NJ Department of Education Grant to Ramapo College for teacher enrichment in minority school districts in NJ.

1990-1993 Invited participant in "Minority Saturday Science Project"; a NJ Department of Education Grant to Ramapo College for minority high school students from three school districts in NJ.

1992 Invited speaker NJDEP - Hazardous Waste Research Symposium in Trenton, NJ. "The Effects of Exposure to #6 Fuel Oil on Molting and Limb Regeneration in Juvenile Blue Crabs."

1989-1991 Invited participant in the "Saturday High School Program", supported by Ramapo College to enrich science for women and minority high school students.

1989-1991 Invited participant in the "Scientist in Schools Program" of the New York Academy of Science; visits to elementary schools in New York City to enrich science education.

1990 Invited Speaker at EPA - Hudson River Symposium: Characterizing the Estuary in New York City. "The Effects of Toxicants on Benthic Organisms".

1990 Invited keynote speaker at Montclair State College - Toxicology Symposium XI in Montclair, NJ. "Toxic Effects of #2 Fuel Oil Spills on Marine Organisms".

1990 Invited speaker at NY/NJ Harbor Estuary Program - Issues Meeting at HMDC Environmental Center, NJ. "Overview of the Tidal Hackensack and Passaic Rivers and Newark Bay".

1990 Invited speaker at NOAA - Estuarine Programs Office's Hudson/Raritan Bays Seminar in Washington, DC. "The Effects of Contaminants on Organisms from the Hudson/Raritan Ecosystem."

1990 Invited Participant at symposium on "The Compleat Crab", American Society of Zoologists.

1989 Organized and moderated a panel for the New Jersey Public Health Association - Symposium on Critical Environmental Hazards, in New Brunswick, NJ. on "Coastal Ocean Pollution: Human Health Concerns."

1989 Invited lecturer in marine science for Diamond Foundation grant to Hunter College for teacher/student groups from New York City elementary schools (Summer and school year).

SCHOLARSHIP:

The following is a partial list of publications (1975-1982 publications under former name-Cantelmo).

Pearce, J.B., Cristini, A. 1995. Coastal Ocean Resources and Pollution: A Tragedy of the Commons. In: Technology and Global Environmental Issues. Edited by W.J. Makofske and E.F. Karlin. Harper Collins, NY, pp 191-214.

Cristini, A., Anderson, P., and Halpern, T. 1994. Pest Control in Bivalve Aquaculture: the Effects of Sound on the Control of Predation by Decapod Crustaceans on Cultured Clams. World Aquaculture 24(4).

Cooper, K.R., and Cristini, A., 1994. The Effects of Oil Spills on Bivalve Mollusks and Blue Crabs. In: Before and After an Oil Spill - The Arthur Kill. Edited by Joanna Burger. Rutgers University Press, NJ, pp 142-169.

Zongwei Cai, Giblin, D.E., Ramanujam, V.M.S., Gross, M.L. and Cristini, A. 1994. Mass Profile Monitoring in Trace Analysis: Identification of Polychlorodibenzothiophenes in Crab Tissues from Raritan/Newark Bay System. Environmental Science and Technology, 28:8, 1528-1534.

Zongwei Cai, Ramanujam, V.M.S., Gross, M.L. and Cristini, A. 1994. Mass Profile Monitoring in Trace Analysis: Polychlorinated Dibenzop-Dioxins and Dibenzofurans in Crab Tissues from Raritan/Newark Bay System. Environmental Science and Technology, 28:8, 1535-1539.

Cristini, A. and Cooper, K., 1992. The Distribution of 2,3,7,8-TCDD in Juvenile Blue Crabs, Callinectes sapidus, and the Physiological Effects of Consumption of Food from a Polluted Environment on this Species. In: Persistent Pollutants in the Marine Environment. Edited by D. Livingstone and C. Walker. Pergamon Press, NY. pp 49-62.

Weis, J.S. Cristini, A. and Rao, K.R. 1992. Effects of Pollutants on Molting and Regeneration in Crustacea. Amer. Zool., 32:495-500.

Cristini, A. 1987. In situ Studies of the Physiology of Mya arenaria from Long Island Sound and Raritan Bay. In: Pollution Physiology of Estuarine Organisms. Edited by W.B. Vernberg, A. Calabrese, F. Thurberg, and F.J. Vernberg. U.S.C. Press, Columbia, SC. pp 37-56.

Cantelmo-Cristini, A., Hospod, F., and Lazell, R.J. 1985. An in situ Study on the Adenylate Energy Charge of Corbicula fluminea in a Fresh Water System. In: Marine Pollution and Physiology: Recent Advances. Edited by F.J. Vernberg, F.P. Thurberg, A. Calabrese, and W.B. Vernberg, U.S.C. Press, Columbia, SC, pp 45-62.

Cantelmo, A.C. et.al. 1982. The Effects of Benzene and Dimethylnapthalene on Physiological Processes in Juveniles of the Blue Crab, Callinectes sapidus. In: Physiological Mechanisms of Marine Pollutant Toxicity. Edited by W.B. Vernberg, A. Calabrese, F. Thurberg and F. J. Vernberg. Academic Press, NY pp. 349-390.

Garie, H.L., Cantelmo, A.C., and Lutz, R. 1982. The Development of an Early Warning Biological Monitoring Program in New Jersey. Meeting of the Society of Environmental Toxicology and Chemistry.

Cantelmo, A.C. et.al. 1975. Osmoregulatory Ability of the Common Rock Crab, Cancer irroratus, Under Osmotic Stress. Comp. Biochem. Physio. 51:537-542.

SOCIETIES:

Society for Environmental Toxicology and Chemistry

* President - Hudson Delaware Chapter 1990-2, Treasurer - 1993-4.

American Society of Zoology

New York Academy of Sciences

Estuarine Research Federation

New England Estuarine Research Society

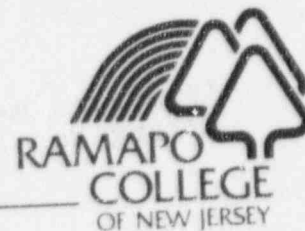
Association for Women in Science

American Association for the Advancement of Science

TELEPHONE CONVERSATION RECORD		Date: 12/18/96	Time: 11:00 a.m.
Mail Control No.: 123935		License No.: 29-15627-01	Docket No.: 030-09480
Person Called: Dr. Elaine Winshell, Assoc. Dean		Organization: Ramapo College of New Jersey	Telephone Number: 529- 7728(direct dial)
Person Calling: J. Bondick		Organization: NRC	Telephone Number: 6951
Subject: Sensitive information with Nov. 20, 1996 amend request			
Summary: Dr. Winshell will have a sanitized version of the request resent ASAP, fax and hard copy.			
Action Required/Taken: MS 15: wait for fax and hard copy			
Signature: <i>Bondick</i>		Date: 12/18/96	

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505 Ramapo Valley Road, Mahwah, New Jersey 07430-1680 • (201) 529-7500; FAX: (201) 529-7508

November 20, 1996

Dr. Donald A. Cool, Director
Division of Industrial and Medical Nuclear Safety
Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Dear Dr. Cool:

RE: Change in Radiation Safety Officer
License Number 29-15627-01

This is to inform you that the Radiation Safety Officer for Ramapo College of New Jersey will be Dr. Angela Cristini. I am currently listed as the RSO.

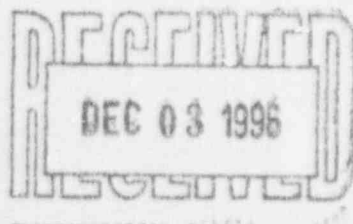
Dr. Cristini's vita is attached. Please send any and all future correspondence to her.

Thank you.

Sincerely,

Elaine B. Winshell

Elaine Winshell, Associate Dean
School of Theoretical & Applied Science



EW:sec

Enc.

cc: V. Bruni
A. Cristini

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123935

(FOR LFMS USE)
INFORMATION FROM LTS

BETWEEN:

License Fee Management Branch, ARM
and
Regional Licensing Sections

Program Code: 03620
Status Code: 0
Fee Category: EX 3M
Exp. Date: 20020630
Fee Comments: 170.11(A)(4)
Decom Fin Assur Req'd: N

LICENSE FEE TRANSMITTAL

A. REGION

1. APPLICATION ATTACHED

Applicant/Licensee: RAMAPO COLLEGE OF NEW JERSEY
Received Date: 961203
Docket No: 3009480
Control No.: 123935
License No.: 29-15627-01
Action Type: Amendment

2. FEE ATTACHED

Amount:
Check No.:

3. COMMENTS

Signed
Date

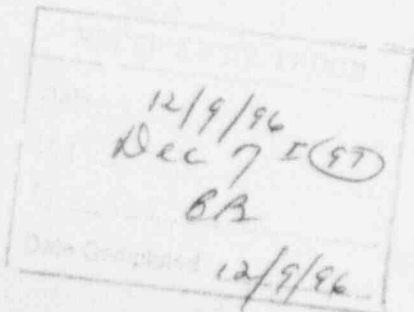
M Moriarty
12-4-96

B. LICENSE FEE MANAGEMENT BRANCH (Check when milestone 03 is entered 1)

1. Fee Category and Amount: EX 3M 170.11(A)(4)
2. Correct Fee Paid. Application may be processed for:
Amendment
Renewal
License

3. OTHER

Signed
Date



1996 DEC -5 PM 1:30

FEE EXEMPT