



**Richard E. Dunn, Director**  
**Air Protection Branch**  
 4244 International Parkway  
 Suite 120  
 Atlanta, Georgia 30354  
 404-363-7000

**RADIOACTIVE MATERIALS PROGRAM  
 GEORGIA RADIOACTIVE MATERIALS LICENSE**

Pursuant to the Georgia Radiation Control Act O.C.G.A. 31-13 (H.B. 947) 1990 and the Georgia Department of Natural Resources Rules and Regulations, designated Chapter 391-3-17, and in reliance on statements and representations heretofore made by the licensee designated below, a license is hereby issued authorizing such licensee to transfer, receive, possess, and use the radioactive material(s) designated below; and to use such radioactive materials for the purpose(s) and at the place(s) designated below. This license is subject to all applicable rules and regulations of the Georgia Department of Natural Resources and orders issued by the Department, now or hereafter in effect, and to any condition specified below.

		<b>Amendment No.5</b>
1. Name: SAVANNAH STATE UNIVERSITY	3. License Number: GA 1102-1	Renewal in its Entirety
2. Address: P. O. BOX 20600 SAVANNAH, GA 31404	4. Expiration Date: Feb. 28, 2022	
	5. Telephone Number: (912) 358-4277	
	Fax Number:	

6.	Radioactive Material (Element and Mass Number)	7.	Chemical and/or Physical form	8.	Maximum Quantity Licensee May Possess at One Time
A.	Phosphorus-32	A.	Any form:	A.	0.50 millicurie(s) total.
B.	Hydrogen-3	B.	Any form:	B.	0.50 millicurie(s) total.
C.	Carbon-14	C.	Any form:	C.	0.50 millicurie(s) total.
D.	Sulfur-35	D.	Any form:	D.	0.50 millicurie(s) total.
E.	Calcium-45	E.	Any form:	E.	1.0 millicurie(s) total.
F.	Chromium-51	F.	Any form:	F.	1.0 millicurie(s) total.
G.	Iodine-125	G.	Any form:	G.	0.50 millicurie(s) total.
H.	Cadmium-109	H.	Sealed source(s):	H.	50 millicurie(s) total. No single source to exceed 50 millicurie(s)
I.	Cesium-137	I.	Any form:	I.	5 microcurie(s) total.
J.	Cobalt-60	J.	Any form:	J.	1 microcurie(s) total.
K.	Polonium-210	K.	Any form:	K.	0.1 microcurie(s) total.
L.	Strontium-90	L.	Any form:	L.	0.1 microcurie(s) total.
M.	Thallium-204	M.	Any form:	M.	1 microcurie(s) total.

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CONDITIONS

9. Authorized use.

A. Biomedical research involving in vitro experiments. The experiments include: radioligand binding assays, enzymatic determination, membrane receptor binding, and protein binding and labeling, in animal and plant tissues.

B. Biomedical research involving in vitro experiments. The experiments include: radioligand binding assays, enzymatic determination, membrane receptor binding, and protein binding and labeling, in animal and plant tissues.

C. Biomedical research involving in vitro experiments. The experiments include: radioligand binding assays, enzymatic determination, membrane receptor binding, and protein binding and labeling, in animal and plant tissues.

D. Biomedical research involving in vitro experiments. The experiments include: radioligand binding assays, enzymatic determination, membrane receptor binding, and protein binding and labeling, in animal and plant tissues.

E. Biomedical research involving in vitro experiments. The experiments include: radioligand binding assays, enzymatic determination, membrane receptor binding, and protein binding and labeling, in animal and plant tissues.

F. Biomedical research involving in vitro experiments. The experiments include: radioligand binding assays, enzymatic determination, membrane receptor binding, and protein binding and labeling, in animal and plant tissues.

G. Biomedical research involving in vitro experiments. The experiments include: radioligand binding assays, enzymatic determination, membrane receptor binding, and protein binding and labeling, in animal and plant tissues.

H. In Niton X11/XLP series to analyze thin and bulk samples in lead paint

I. Measuring Background radiation and radiation of standard Alpha, Beta and Gamma Radiation producing Samples using Spectech ST 360 G-M Tube and Counter.

J. Measuring Background radiation and radiation of standard Alpha, Beta and Gamma Radiation producing Samples using Spectech ST 360 G-M Tube and Counter.

K. Measuring Background radiation and radiation of standard Alpha, Beta and Gamma Radiation producing Samples using Spectech ST 360 G-M Tube and Counter.

L. Measuring Background radiation and radiation of standard Alpha, Beta and Gamma Radiation producing Samples using Spectech ST 360 G-M Tube and Counter.

M. Measuring Background radiation and radiation of standard Alpha, Beta and Gamma Radiation producing Samples using Spectech ST 360 G-M Tube and Counter.

10. Radioactive materials shall only be used at the following location(s):

Savannah State University, 3219 College Street  
Savannah, GA 31404

Radioactive materials in 6H. shall be for storage only and not be used at temporary job sites.

11. The following shall be responsible for the licensee's radiation protection program

Chellu S. Chetty                      Radiation Safety Officer

Harshavardhan Kenche            Radiation Safety Officer

RSO for Niton X11/XLP

12. Radioactive material listed in Item 6 above is authorized for use by individuals for the materials and uses described as follows:

Radioactive material shall be used by or under the supervision of an individual listed below:

Chellu S. Chetty Ph.D.              Subitem(s) A, B, E, G

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Dionne Hoskins Ph.D.	Subitem(s) C
Harshavardhan Kenche	Subitem(s) H
Elissa T. Purnell Ph.D.	Subitem(s) G
Kenneth Sajwan Ph.D.	Subitem(s) C, F
Kai Shen Ph.D.	Subitem(s) C
Paramasivam Sivapatham Ph.D.	Subitem(s) I, J, K, L, M

13. In accordance with DNR Board Policy adopted June 25, 2013 the fees associated with this license fee category, I are:

Nominal Annual Fee                      \$3,219.00

Checks for the fees should be made payable to the Department of Natural Resources, Radioactive Materials Program, and mailed to the following address:

Radioactive Materials Fees  
P.O. Box 101161  
Atlanta, GA 30392

Mail license applications and amendment requests to the following address:

Radioactive Materials Program  
4244 International Parkway, Suite 120  
Atlanta, Georgia 30354

All license applications, amendments and fee payments should be mailed the same day. Annual fees are billed by the Department at the beginning of each fiscal year.

14. The licensee shall comply with the provisions of Georgia Department of Natural Resources Rule 391-3-17-.03, "Standards for Protection Against Radiation. Amended.", Rule 391-3-17-.06, "Transportation of Radioactive Material. Amended.", Rule 391-3-17-.07, "Notices, Instructions and Reports to Workers: Inspections. Amended.", and Rule 391-3-17-.10, "Administration. Amended."
15. Radioactive material shall not be used in or on human beings or in products distributed to the public.
16. This license does not authorize commercial distribution of radioactive material.
17. The licensee shall conduct a physical inventory every 6 months to account for all licensed material received and possessed under this license. The records of inventories shall be maintained for inspection by the Department and shall include the quantities and kinds of radioactive material, the manufacturer, model and serial number, location of sealed sources, the date of the inventory, and the name of the individual performing the inventory.
18. The licensee shall store the radioactive material, until used, in the original shipping container or in a container providing equivalent radiation protection.
19. The licensee shall not transfer the radioactive material authorized by this license except to persons authorized to receive it pursuant to a specific license issued by this Department, the U.S. Nuclear Regulatory Commission, or an Agreement State, nor shall the licensee transfer the radioactive material in any manner other than in the unopened, labeled shipping container as received from the supplier.
20. The licensee is authorized to hold radioactive material with a physical half-life of less than 120 days for decay-in-storage before disposal in ordinary trash, provided:
- A. Radioactive waste to be disposed of in this manner shall be held to decay a minimum of 10 half-lives.
  - B. Before disposal as normal waste, radioactive waste shall be surveyed to determine that its radioactivity cannot be distinguished from background. All radiation labels shall be removed or obliterated.
  - C. A record of each 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 radioactive 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.

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21. The licensee shall not transfer possession and/or control of materials or products containing radioactive material as a contaminant except:
  - A. By transfer of waste to an authorized recipient;
  - B. By transfer to a specifically licensed recipient; or
  - C. As provided otherwise by a specific condition of this license pursuant to the requirements of (13) of Rule 391-3-17-.03.
22. Radioactive material shall not be used in field applications except as provided otherwise by a specific condition of this license.
23. The licensee may receive, possess, and use radioactive material for check, calibration, and reference sources as authorized by Rule 391-3-17-.05(32).
24. Radioactive material will not be used in animals.
25. Sealed sources containing radioactive material shall not be opened or removed from their respective source holders by the licensee.
26.
  - A. The licensee shall perform required tests for leakage or contamination at intervals not to exceed six (6) months in accordance with Rule 391-3-17-.03(6). Analysis of the tests shall be performed by persons specifically authorized by the Department, the U.S. Nuclear Regulatory Commission, or an Agreement State to perform such services.
  - B. The periodic leak test required by this condition does not apply to sealed sources that are stored and not being used. The sources excepted from this test shall be tested for leakage prior to any use or transfer to another person unless they have been tested within six (6) months prior to the date of use or transfer. No sealed source shall be stored for a period of more than 2 years without being tested for leakage or contamination.
27. All records or copies of records pertaining to Radioactive Material License GA 1102-1 shall be maintained by the Radiation Safety Office at the licensee's address stated in item 2 above.
28. Each portable gauge shall have a lock or outer locked container designed to prevent unauthorized or accidental removal of the sealed source from its shielded position. The gauge or its container must be locked when in transport, storage, or when not under the direct surveillance of an authorized user.
29. Except for maintaining labeling as required by 391-3-17-.03, the licensee shall obtain authorization from the Department before making any changes in the sealed source, device, or source-device combination that would alter the description or specifications as indicated in the Sealed Source Registry issued either by the Department, an Agreement State or the Nuclear Regulatory Commission.
30. The licensee shall possess and use radioactive material described in Items 6, 7 and 8 of this license according to the most restrictive of the Georgia Radiation Protection Regulations; this license or statements; representations; and procedures contained in the following documents.
  - A. Application dated February 9, 2017, with attachments, and signed by Chellu S. Chetty, Ph.D. Radiation Safety Officer.
  - B. The electronic mail dated April 3, 2017, from Chellu S. Chetty, Ph.D., Radiation Safety Officer.
  - C. The electronic mail dated April 14, 2017, with attachments from Chellu S. Chetty, Ph.D., Radiation Safety Officer.
  - D. The electronic mail dated April 20, 2017, with attachments from Chellu S. Chetty, Ph.D., Radiation Safety Officer.
  - E. The electronic mail dated April 24, 2017, with attachments from Chellu S. Chetty, Ph.D., Radiation Safety Officer.
  - F. The electronic mail dated May 16, 2017, with attachments from Chellu S. Chetty, Ph.D., Radiation Safety Officer
  - G. The electronic mail dated May 19, 2017, with attachments from Chellu S. Chetty, Ph.D., Radiation Safety Officer


The Georgia Department of Natural Resources' Regulations shall govern unless the statements, representations and procedures in the licensee's application and correspondence are more restrictive than the Regulations.

**FOR THE DEPARTMENT OF NATURAL RESOURCES**

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Date Jun. 09, 2017

By: 

**Shatavia Walker**  
**Environmental Compliance Specialist**