

# FAX Transmission

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NMSS/RCNI MATERIALS-002

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**UNIVERSITY OF PITTSBURGH**  
**AUTHORIZED USER CERTIFICATION FOR HUMAN USES OF RADIOACTIVE**  
**MATERIAL AND RADIATION SOURCES**  
**NRC License No. 37-00245-02 and PA License No. PA-190**

☒ New Application

☐ Renewal

**1. PHYSICIAN IDENTIFICATION**

Name: ASHOK MUTHUKRISHNAN Degree: MD, MS  
 Department: Nuclear Medicine, Radiology Title: Asst. Professor  
 Office Location: Room PUH E-177 Building: UPMC Presbyterian  
 Office Phone: (412) 647-0104 E-mail: muthukrishnana@upmc.edu

**2. TRAINING AND EXPERIENCE WITH RADIONUCLIDES AND RADIATION SOURCES**

Submit the following information in support of the qualification requirements for the human use of radioactive material and radiation sources (Required for new applicants only):

- A. Current copy of Curriculum Vitae
- B. Copy of applicable Medical Board Certification(s)
- C. Preceptor/Attestation Statement of physician's classroom, laboratory, and clinical training and experience with radioactive material, signed by the supervising Authorized User (NRC Form 313A).

List recent clinical experience in the use of radionuclides and/or radiation sources for diagnostic and therapeutic procedures (Required for all applicants):

Type of Use	Location	Dates
- Diagnosis (F18-FDG)	UPMC Presbyterian	July 1, 05 till date
- Diagnostic & therapy I-131	UAB Univ. of Alabama	July 2003 - July 2005
- Diagnostic (Tc-99m)	UAB Univ. of Alabama	July 2003 - July 2005
- Y-90 zevalin (therapy)	UAB Univ. of Alabama	July 2003 - July 2005

### 3. AUTHORIZED USES

List the types of medical use for which specific authorization is requested:


- A. Radioactive material for diagnostic human use involving uptake, dilution, and excretion studies (10 CFR 35.100)
- B. Radioactive material for diagnostic human use involving imaging and localization studies (10 CFR 35.200)
- C. Radioactive material for diagnostic and therapeutic use in humans for which a written directive is required (10 CFR 35.300)
- D. Y-90 TheraSpheres, Y-90 SIR-Spheres (10 CFR 35.1000)
- E. \_\_\_\_\_
- F. \_\_\_\_\_

### 4. CONDITIONS ON THE USE OF RADIONUCLIDES AND RADIATION SOURCES

- A. This authorization is limited to the use of radionuclides and radiation sources approved under the UPMC Nuclear Medicine Joint Authorization.
- B. All policies, procedures, and conditions contained in the currently approved UPMC Nuclear Medicine Joint Authorization application must be followed.
- C. Physician must complete internal training and instruction requirements for the use of Y-90 TheraSpheres and Y-90 SIR-Spheres.

## 5. STATEMENT OF AUTHORIZED USER RESPONSIBILITY

As an Authorized User of radioactive material under the University of Pittsburgh's License, I will abide by all regulations, policies and procedures of the U.S. Nuclear Regulatory Commission, the Pennsylvania Department of Environmental Protection - Bureau of Radiation Protection and the University Radiation Safety Committee.

Applicant's Signature:  Date: 05/09/06


## 6. REVIEW AND APPROVAL

Review and approval by the University's Radiation Safety Executive Committee:

Signature: Donna Bucy Date: 06/20/06

Vice Chairperson: \_\_\_\_\_

Chairperson, Subcommittee on  
Human Use of Radioisotopes  
and Radioactive Drug Research:

Radiation Safety Officer:  6/20/06

Health Physicist Paul Katz 6-20-06

This application, signed by the members of the Radiation Safety Committee and Human Use Subcommittee is your authorization to possess and use radioactive materials and radiation sources as indicated in the items above.

Date of Approval 6/20/06

Date of Expiration 5/31/01

# *The American Board of Nuclear Medicine*

*Incorporated 1971*

*Certifies that*

*Ashok Muthukrishnan*

*has met the requirements of this Board and is qualified  
during the period of 2005 through 2015 to practice as a Specialist  
in all aspects of Clinical and Laboratory*

*Nuclear Medicine*

*including but not limited to Radiobioassay, Nuclear Imaging,  
In Vivo Measurements & Therapy with Unsealed Radionuclides*

*Tom R. Miller*

*Chairman*



*07526*

*Number  
United States*

*J. Anthony Parker*

*Secretary-Treasurer*

NRC FORM 313A (10-2005)	U.S. NUCLEAR REGULATORY COMMISSION <b>MEDICAL USE TRAINING AND EXPERIENCE AND PRECEPTOR ATTESTATION</b>	APPROVED BY OMB: NO. 3150-0120 EXPIRES: 10/31/2008	
<b>PART I -- TRAINING AND EXPERIENCE</b>			
<b>Note:</b> Descriptions of training and experience must contain sufficient detail to match the training and experience criteria in the applicable regulation (10 CFR Part 35)			
1. Name of Individual, Proposed Authorization (e.g., Radiation Safety Officer), and Applicable Training Requirements (e.g., 10 CFR 35.50)  ASHOK MUTHUKRISHNAN, MD AUTHORIZED USER			
2. For Physicians, Podiatrists, Dentists, Pharmacists -- State or Territory Where Licensed  PENNSYLVANIA MD LICENSE # MD428793			
<b>3. CERTIFICATION</b>			
a. Provide a copy of the board certification. (Stop here if applying under 10 CFR Part 35, Subpart J or 35.590(a); continue if applying under other subparts.) b. Provide documentation in appropriate Items 4 through 10 of training or clinical case work required by 35.50(e); 35.51(c); 35.290(c)(1)(ii)(G) for AU seeking 35.200 authorization; 35.390(b)(1)(ii)(G); 35.396(d)(1) and 35.396(d)(2); 35.590(c); or 35.690(c). c. Provide completed Part II Preceptor Attestation, Items 11a through 11d.  Stop here after completing items 3a, 3b, and 3c when using board certification to meet 10 CFR Part 35 training and experience requirements.			
<b>4. INDIVIDUALS IDENTIFIED ON A LICENSE OR PERMIT AS RADIATION SAFETY OFFICERS (RSO), AUTHORIZED USERS (AU), AUTHORIZED MEDICAL PHYSICISTS (AMP), OR AUTHORIZED NUCLEAR PHARMACISTS (ANP) SEEKING ADDITIONAL AUTHORIZATIONS</b>			
a. Provide a copy of the license or broadscope permit listing the current authorization and (b) or (c) b. Complete items 6c (and 10 when training is provided by an RSO, AMP, ANP, or AU) and preceptor items 11b through 11d to meet requirements for: RSO in 35.50(c)(2) or 35.50(e); or AU in 35.290(c)(1)(ii)(G) or 35.390(b)(1)(ii)(G) or 35.590(c) or 35.690(c); or AMP under 35.51(c). c. Complete items 5, 6a, 6b, 10, and Preceptor items 11a through 11d to meet AU requirements in 35.396(a).			
<b>5. DIDACTIC OR CLASSROOM AND LABORATORY TRAINING (optional for Medical Physicists)</b>			
Description of Training	Location	Clock Hours	Dates of Training
Radiation Physics and Instrumentation	Univ. of Alabama at Birmingham		July 03 to July 05
Radiation Protection	"		"
Mathematics Pertaining to the Use and Measurement of Radioactivity	"	Total of 200	"
Radiation Biology	"		"
Chemistry of Byproduct Material for Medical Use	"		"
OTHER	"		"

NRC FORM 313A  
(10-2005)

U.S. NUCLEAR REGULATORY COMMISSION

## MEDICAL USE TRAINING AND EXPERIENCE AND PRECEPTOR ATTESTATION (continued)

## 6a. WORK OR PRACTICAL EXPERIENCE WITH RADIATION

Description of Experience	Name of Supervising Individual(s)	Location and Corresponding Materials License Number	Dates and/or Clock Hours of Experience
NUCLEAR MEDICINE RESIDENCY AND	JANIS O'MALLEY, MD MICHAEL YESTER, PhD	Univ of Alabama at Birmingham (UAB) Birmingham, AL 35249	JULY 2003 - JULY 2005
PET-CT FELLOWSHIP	JAMES MOUNTZ, MD, PhD	Univ. of Pittsburgh medical center, Pittsburgh, PA 15213	July 2005- June 2006

## 6b. SUPERVISED CLINICAL CASE EXPERIENCE (describe experience elements in 6a)

Radionuclide	Type of Use	No. of Cases Involving Personal Participation	Name of Supervising Individual	Location and Corresponding Materials License Number	Dates and/or Clock Hours of Experience
Iodine -131	Diagnostic	35	Janis O'Malley, MD	UAB	
Iodine -131	Low dose therapy	20	Janis O'Malley, MD	UAB	
Iodine -131	High dose therapy	15	Janis O'Malley, MD	UAB	
Tc-99m	Diagnostic	1210	Janis O'Malley, MD	UAB	
F-18 FDG	Diagnostic	1327	James Mountz, MD, PhD	UPMC	
Y-90 zevalin	Therapy	3	Janis O'Malley, MD	UAB	
In-111 zevalin	Therapy	10	Janis O'Malley, MD	UAB	
I-131 Bexxar	Therapy	1	Janis O'Malley, MD	UAB	

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MEDICAL USE TRAINING AND EXPERIENCE AND PRECEPTOR ATTESTATION (continued)			
6c. TRAINING FOR SECTIONS 35.50(e), 35.51(c), 35.590(c), or 35.690(c)			
Training Element	Type of Training *	Location and Dates	
* Types of training may include supervised (complete item 10 for 35.50(e), 35.51(c), and 35.690(c)); didactic, or vendor training.			
7. FORMAL TRAINING      Physicians (for uses under 35.400 and 35.600) and Medical Physicists			
Degree, Area of Study or Residency Program	Name of Program and Location with Corresponding Materials License Number	Dates	Name of Organization that Approved the Program (e.g., Accreditation Council for Graduate Medical Education) and the Applicable Regulation (e.g., 10 CFR 35.490)
MD, Nuclear Medicine residency	Univ of Alabama at Birmingham (UAB) Birmingham, AL 35249	7th JULY 2003 - to 8th JULY 2005	ACGME (Accreditation Council for Graduate Medical Education)
8. RADIATION SAFETY OFFICER (RSO) -- ONE-YEAR FULL-TIME EXPERIENCE			
<input type="checkbox"/> YES    Completed 1 year of full-time radiation safety experience (in areas identified in item 6a) under supervision.			
<input checked="" type="checkbox"/> N/A    of _____ the RSO for License No. _____			
9. MEDICAL PHYSICIST -- ONE-YEAR FULL-TIME TRAINING/WORK EXPERIENCE			
<input type="checkbox"/> YES    Completed 1 year of full-time training (for areas identified in item 6a) in therapeutic radiological physics (35.961) or medical physics (35.51) under the supervision of _____			
<input checked="" type="checkbox"/> N/A    who is a medical physicist (35.961) or meets requirements for Authorized Medical Physicists (35.51);			
and			
<input type="checkbox"/> YES    Completed 1 year of full-time work experience (at location providing radiation therapy services described and for topics identified in item 6a) for (specify use or device) _____			
<input checked="" type="checkbox"/> N/A    under the supervision of _____ who is a medical physicist (35.961) or meets requirements for Authorized Medical Physicists (35.51) (specify use or device) _____			

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## MEDICAL USE TRAINING AND EXPERIENCE AND PRECEPTOR ATTESTATION (continued)

## 10. SUPERVISING INDIVIDUAL -- IDENTIFICATION AND QUALIFICATIONS

The training and experience indicated above was obtained under the supervision of (if more than one supervising individual is needed to meet requirements in 10 CFR Part 35, provide the following information for each):

A. Name of Supervisor

JAMES M. MOUNTZ, MD, PhD

B. Supervisor is:



Authorized User



Authorized Medical Physicist



Radiation Safety Officer



Authorized Nuclear Pharmacist

C. Supervisor meets requirements of Part 35, Section(s)

for medical uses in Part 35, Section(s)

35.100, 35.200, 35.300

D. Address

UPMC Presbyterian  
200 Lothrop St.  
P. Hsbuish, PA 15213

E. Materials License Number

37-00245-02

## PART II -- PRECEPTOR ATTESTATION

Note: This part must be completed by the individual's preceptor. If more than one preceptor is necessary to document experience, obtain a separate preceptor statement from each. This part is not required to meet training requirements in 35.590 or Part 35, Subpart J (except 35.980).

I attest the individual named in Item 1.

11a.



has satisfactorily completed the requirements in Part 35, Section(s) and Paragraph(s) 390  
as documented in section(s) of this form.

11b. Select one

meets the requirements in ☐ 35.50(a) ☐ 35.51(c) ☐ 35.390(b)(1)(ii)(G) ☐ 35.690(c) for

N/A types of use, as documented in section(s) of this form.

11c.

has achieved a level of competency sufficient to independently operate a nuclear pharmacy (for 35.980); **OR**

has achieved a level of competency sufficient to function independently as an authorized  
User for 35.200, 200, 300 uses (or units); **OR**



has achieved a level of radiation safety knowledge sufficient to function independently as a Radiation Safety  
Officer for a medical use licensee; **OR**



N/A

11d.

I am an Authorized Nuclear Pharmacist; **OR** ☐ I am a Radiation Safety Officer; **OR**

I meet the requirements of 35.390 section(s) of 10 CFR Part 35

or equivalent Agreement State requirements to be a preceptor ☒ AU or ☐ AMP

for the following byproduct material uses (or units): 35.100, 200, 300

A. Address

B. Materials License Number

C. NAME OF PRECEPTOR (print clearly)

D. SIGNATURE -- PRECEPTOR

E. DATE

JAMES MOUNTZ MD PhD

6-20-06