



3624 Market Street, 5th floor
Philadelphia, PA 19104
Tel. (215) 966-6243
Fax (413) 826-0416
www.avidrp.com

February 18, 2008

NMSB2

Dennis R. Lawyer
Commercial and R&D Branch
Division of Nuclear Materials Safety
Region I
King of Prussia
PA 19406

03032197

Re: Amendment to NRC License (37-31148-01)

Dear Mr. Lawyer:

AVID Radiopharmaceuticals would like to request an amendment to our radioactive material license (37-31148-01). The request involves removing the current RSO, Rajesh Manchanda, and adding Nathaniel Lim, Ph.D. as an authorized user and as the designated Radiation Safety Officer.

Dr. Lim has had formal training in handling radioisotopes such as ^{18}F (up to 500 mCi) and $^{99\text{m}}\text{Tc}$ (up to 10mCi) for over a year at TRIUMF (Canada's National Laboratory for Particle and Nuclear Physics). He has been employed at AVID Radiopharmaceuticals for over a year and has handled radioisotopes such as ^{18}F (up to 1.5 Ci), ^{123}I (up to 200 mCi) and ^{125}I (up to 3 mCi) with an excellent radiation safety record. In addition, he has attended the Radiation Safety Academy's "Radiation Safety Officer Training Course" in Gaithersburg, MD from February 11-15, 2008.

If you have any questions/concerns, please do not hesitate to contact me.

Thanking you in advance,

Sincerely,

Franz F. Hefti, Ph.D.
Chief Scientific Officer

- Enclosures: (1) Nathaniel Lim's Training and Experience Record
(2) Certificates of Training
 2.1. Fundamentals of Radiation Safety
 2.2. Radiation Safety Officer with DOT Certification
 2.3. DOT & NRC Requirements for Shipping and Receiving Radioactive Materials
(3) Radiation Safety Academy course outline for Radiation Safety Officer's Training

141863

NMSS/RGN1 MATERIALS-002

TRAINING AND EXPERIENCE AUTHORIZED USER OR RADIATION SAFETY OFFICER				
1. Name of Proposed Authorized User Nathaniel C. Lim			2. For Physicians, State or Territory where Licensued N/A	
3. Certification				
Specialty Board A	Category B	Month and Year Certified C		
4. Training Received in Basic Radioisotope Handling Techniques				
Field of Training A	Location and Date(s) of Training B	Type and Length of Training		
		Clock Hours in Lecture or Laboratory	Clock Hours of Supervised On-The-Job Experience	
Radiation Safety Officer with DOT Certification Training	Radiation Safety Academy, Gaithersburg, MD February 11-15, 2008	44		
Fundamentals of Radiation Safety	On line training Radiation Safety Academy, Gaithersburg, MD February 11, 2008	4		
DOT, IATA & NRC Requirements for Shipping Limited Quantity Radioactive Material	On line training Radiation Safety Academy, Gaithersburg, MD October 04, 2007	5		
Radiation Refresher Training on Fundamentals	On line training Radiation Safety Academy, Gaithersburg, MD December 22, 2006	3		
TRIUMF Radiation Protection Course	TRIUMF, Vancouver, BC May 24, 2006	16		
Radionuclide Safety and Methodology	University of British Columbia Department of Health, Safety and Environment Vancouver, BC September 20, 2004	16		
5. Experience with Radiation or Radioactive Materials (<i>Actual use of Radioisotopes or Equivalent Experience</i>)				
Isotope	Activity Used at one time (mCi)	Location	Clock Hours	Type of Use
Tc-99m	5-10	University of British Columbia/TRIUMF	300	R&D Radiolabeling
F-18	10-500	University of British Columbia/TRIUMF	400	R&D Radiolabeling
F-18	100- 1500	AVID Radiopharmaceuticals	600	R&D Radiolabeling
I-125	3	AVID Radiopharmaceuticals	30	R&D Radiolabeling
I-123	5	AVID Radiopharmaceuticals	260	R&D Radiolabeling
I-123	200	AVID Radiopharmaceuticals	260	R&D Radiolabeling

Certificate of Training

Awarded To

Nathaniel Lim

Recognizing completion of 4 hours of specialized instruction in

Fundamentals of Radiation Safety

February 11, 2008

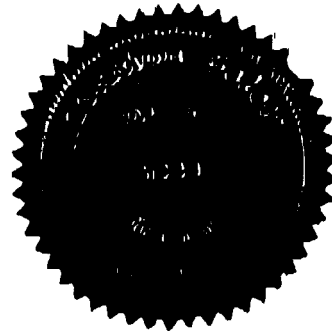
Presented By

Radiation Safety Academy

A Division of Dade Moeller & Associates
481 North Frederick Avenue, Suite 302
Gaithersburg, Maryland 20877



Ray Johnson, MS, PE, FHPS, CHP
Vice President, Training Programs



Certificate of Training

This Certifies That

Nathaniel Lim

has been trained, tested and successfully completed specialized instruction in

DOT & NRC Requirements for Shipping and Receiving Radioactive Materials

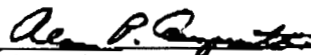
February 15, 2008

Presented By: **Sean M. Austin, Instructor**
Radiation Safety Academy
A Division of Dade Moeller & Associates
481 North Frederick Avenue, Suite 302, Gaithersburg, Maryland 20877
www.RadiationSafetyAcademy.com -- 301-990-6006

Presented For: **Avid Radiopharmaceuticals**

Presented At: **Gaithersburg, MD**

This certifies that the employee named on this certificate has been trained and tested in accordance with the training requirements of 49 CFR 172, Subpart H.



Employer's Signature



Sean Austin, MS, RSO, CHP
Senior Health Physicist

This certificate is valid for 24 months for ICAO/IATA and for three years for U.S. Department of Transportation and U.S. Nuclear Regulatory Commission or Agreement State Agencies

Certificate of Training

Awarded To

Nathaniel Lim

Recognizing completion of 5 days of specialized instruction in

Radiation Safety Officer with DOT Certification

February 15, 2008

Presented By

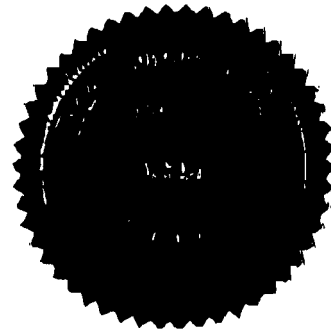
Radiation Safety Academy

A Division of Dade Moeller & Associates
481 North Frederick Avenue, Suite 302
Gaithersburg, Maryland 20877

ABTH has awarded this course 5.0 CM Points, CM Approval # 08-260



Ray Johnson, MS, PE, FHPS, CHP
Vice President, Training Programs





RADIATION SAFETY ACADEMY

A Division of Dade Moseller & Associates*

Serving Those Who Want the Best in Understanding and Assurance of Radiation Safety

Home | About Us | Faculty/Staff | More Info
Search:

Training License/Mgmt Support On-site/Tech Support Lab Analysis Instrumentation Publishing Resources

- Register Now!**
- Also See...
- [RRO Monitoring](#)
- [Testimonials](#)
- [Sample Agenda](#)
- [Corporate Experience](#)
(PDF 10.5 KB)

Radiation Safety Officer (RSO)

40-hour course, US\$ 1,995
with LSC Option, US\$ 2,195
with DOT Certification Option, \$2,195

Newly updated course content and electives

Highly acclaimed by over 2,000 RSOs in the past 10 years

We offer this course monthly with free refresher training for all former RSO students and free online course preview for all students. Our Certified Health Physicist faculty are full time training professionals on staff. Collectively we have over 100 years of practical radiation safety program experience to assure that you will be well prepared to serve as an RSO.

Tailor the Course to Your Needs with Electives

This is not a "one-class-fits-all" course. Throughout the week students can choose electives to tailor the course to their special program needs in research, medicine, biomedical, hospitals, government, universities, irradiators, x-ray machines, sealed source gauges, radiography, and other industrial applications.



Required Subjects

Students must complete 31 hours in the following subjects: radiation and radioactivity, radioactive decay, radiation units, sources of radiation, interaction with matter, health effects, regulations and protection standards, licensing, enforcement, dosimetry, shielding, litigation, radiation instruments, interpreting radiation data, quality assurance, transportation overview, receiving of radioactive materials, developing training programs, radiation safety program management, preparing for inspections, and emergency response.

Elective Subjects

Students must complete at least 9 hours from the following 23 hours of electives: sealed sources and industrial gauges, leak testing, x-ray safety, radioactive wastes and manifests, math review, problem solving, license applications, medical regulations (10CFR35), internal dosimetry, medical radiation safety, practical record-keeping, how to conduct surveys, effective communications for RSOs, and training for the radiation safety trainer.

Emphasis on Practical Knowledge

This is not a course about theory. We emphasize practical knowledge for implementing a good radiation safety program at a reasonable cost and how to assure good radiation safety inspections. Each student will receive extensive reference materials including a specially designed 1,200 page *Radiation Safety Officer Manual*, which includes relevant Federal regulations and selected Regulatory Guides.

Free Online Course Preview

Prior to attending our course, you will be invited to complete our online *Fundamentals of Radiation Safety* course. This free course provides an excellent preview of radiation fundamentals as well as introduces some radiation mathematic concepts.

Free Refresher Training

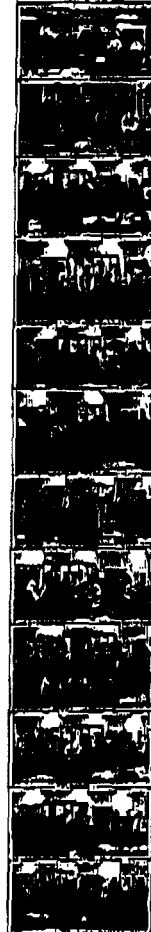
After completing this course, you may return at any time to take part or all of the course over once again as refresher training for free. You will receive all new handout materials.

Certificates

You will be issued a course certificate showing completion of a 40-hour RSO class.

Full-Time Professional Faculty

Photos of Classes from the Past Year (click to see full-size)



Ray Johnson, MS, PE, FHPS, CHP
Dr. Alan Fellman, CHP, RSO
Sean Austin, MS, CHP, RSO
Kelly Austin, MS, CHP

Liquid Scintillation Counting Option

Students selecting this option (additional \$200 fee required) will complete an additional four hours of course work on the fundamentals of liquid scintillation counting (LSC). The objective of this class is to provide students with a basic understanding of the principles of liquid scintillation counting for analysis of surface swipes, biomedical, environmental, waste and other types of samples. This module is conducted at the end of the regular RSO course on Friday afternoon.

DOT HAZMAT Certification Option

Students selecting this option (additional \$200 fee required) will complete an additional four hours of course work on shipping and receiving of radioactive materials. This class is designed to train workers in the requirements of the DOT as specified by 49 CFR 172 Subpart M and the NRC as specified by 10 CFR 71.5 and 10 CFR 20.1906. This module is conducted at the end of the regular RSO course on Friday afternoon and will conclude with an examination. Students who successfully complete the exam will receive an additional certificate documenting this training.

Training Dates

2008
February 11 - 15
March 10 - 14
April 7 - 11
May 5 - 9
June 16 - 20
July 21 - 25
August 18 - 22

January 2008						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				
February 2008						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					
March 2008						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

Course Credits

AAHP - 32 CE Credits
ABFM - 4.5 CM Points or
- 5.0 CM POINTS (with DOT or LSC Option)
SNMT/ARRT - up to 52.25 CEHS

Special Features

- Free Online Course Preview
- Free refresher training (you may take this course once again for free)
- Elective modules for customized training
- Liquid Scintillation Counting Option
- DOT HAZMAT Certification Option

Radiation Safety Officer Sample Agenda

Faculty: Ray Johnson, MS, PE, FHPS, CHP
Alan Fellman, PhD, CHP, RSO
Sean Austin, MS, CHP, RSO
Kelly Austin, MS, CHP

Elective courses are displayed in *italics*. To earn a 40-hour certificate, students must complete all 32 hours of required classes and at least 8 hours of elective classes.

Day 1 | Monday

- 7:30 Continental Breakfast
- 8:00 Introduction, Course Overview, Views on Radiation
- 11:00 Radiation and Radioactivity, Radioactive Decay
- 12:00 Lunch (provided)
- 1:00 Radiation Units, Sources of Radiation, Interaction with Matter

4:00 Health Effects
 5:30 Daily Review
 6:00 *Training for the Radiation Safety Trainer (optional)*
 7:30 Adjourn for the day

Day 2 | Tuesday

7:30 Continental Breakfast
 8:00 Radiation Protection Standards, 10 CFR Part 19 and 20
 10:00 Essential Highlights of 10 CFR Part 2, 30, 31, 33
 12:00 Lunch (provided)
 1:00 License Applications and Amendments
 2:00 External Radiation Protection and Shielding
 3:30 Internal Radiation Protection
 3:30 Sealed Sources & Industrial Gauges
 5:30 Daily Review
 6:00 *Math Review & Radiation Safety Problem Solving (optional)*
 7:30 Adjourn for the day

Day 3 | Wednesday

7:30 Continental Breakfast
 8:00 Radiation Survey Instruments
 12:00 Lunch (provided)
 12:30 Instruments Lab, Applications & Troubleshooting
 2:30 Emergency Response
 3:30 *Radiation Safety Surveys*
 3:30 *Effective Communications for the Radiation Safety Officer as a Manager and Instructor*
 5:00 Daily Review
 5:30 *Hands-on Laboratory Survey and PPE Exercise (optional)*
 7:00 Adjourn for the day



Day 4 | Thursday

7:30 Continental Breakfast
 8:00 Interpreting Radiation Measurements and Quality Assurance
 9:30 Transportation of Radioactive Materials and Package Receiving
 12:00 Lunch (provided)
 1:00 Developing a Training Program
 2:00 Medical Radiation Safety
 2:00 Practical Record-keeping for RSOs
 3:30 Radioactive Waste Management, Mixed Wastes, Waste Manifests
 3:30 X-Ray Safety
 5:30 Daily Review
 6:00 *Reception (Refreshments)*
 7:30 Adjourn for the day

Day 5 | Friday

7:30 Continental Breakfast
 8:00 Legal Implications: Radiation Litigation
 9:00 First Steps for New RSOs
 10:00 Radiation Protection Program Management, Preparing for Regulatory Inspections
 12:00 Presentation of Certificates and Adjourn RSO Course
 1:00 *Fundamentals of Liquid Scintillation Counting*
 (optional module, \$200 additional fee)
 1:00 *DOT HAZMAT Certification Option*
 (optional module, \$200 additional fee)
 5:00 Adjourn Optional Modules

▲ Top

[About Us](#) | [Faculty/Staff](#) | [Contact Us](#)
[Privacy Policy](#) | [Sitemap](#) | [Home](#)

© 1997 - 2008 Radiation Safety Academy
All rights reserved. A Division of Dade Moeller & Associates
01/11/08 481 N. Frederick Ave, Ste 302, Gaithersburg, MD 20877
Phone: 301-990-6006 Fax: 301-990-0878
<http://www.RadiationSafetyAcademy.com>

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

2/18/2008, and to inform you that the initial processing which includes an administrative review has been performed.

AMEND. 37-31148-01
There were no administrative omissions. Your application was assigned to a technical reviewer. Please note that the technical review may identify additional omissions or require additional information.

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

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

Your action has been assigned **Mail Control Number** 141863.
When calling to inquire about this action, please refer to this control number.
You may call us on (610) 337-5398, or 337-5260.