



CONNECTICUT
ONCOLOGY & HEMATOLOGY

May 24, 2011
Connecticut Oncology & Hematology
220 Kennedy Drive
Torrington, CT 06790

br 1

Sandra Gabriel
NRC
475 Allendale Road
King of Prussia, PA 19406

03038340

Dear Dr. Gabriel,

We are writing in reference to license #06-31418-01 to request a change in the RSO from Paul Steinmeyer to Sadek Nehmeh. Enclosed please find NRC form 313A, as well as Dr. Nehmeh's CV and DABR certificate outlining his credentials.

We would also like to request adding the capability to use radiopharmaceuticals, specifically beta emitters in group 35.300 for therapy. Our authorized user, Dr. Go is listed on another license authorized for 35.300.

If we can provide any additional information, please do not hesitate to ask.

Thank you for your attention.

Sincerely,

Jedd Levine MD Managing Partner

- Debra S. Brandt, DO**
- Anne C. Chiang, MD**
- Gerard Kruger, MD**
- Jedd F. Levine, MD**
- Ivan S. Lowenthal, MD**
- Michael C. Magnifico, MD**
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- Catherine Hosterman, APRN**

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NMSS/RGN1 MATERIALS-002

REC'D IN LAT
MAY 27 2011

**RADIATION SAFETY OFFICER TRAINING AND EXPERIENCE
AND PRECEPTOR ATTESTATION
[10 CFR 35.50]**

APPROVED BY OMB: NO. 3150-0120
EXPIRES: 3/31/2012

Name of Proposed Radiation Safety Officer

SADEK NEHMEH PhD

Requested Authorization(s) *The license authorizes the following medical uses (check all that apply):*

- 35.100 35.200 35.300 35.400 35.500 35.600 (remote afterloader)
 35.600 (teletherapy) 35.600 (gamma stereotactic radiosurgery) 35.1000 (_____)

**PART I -- TRAINING AND EXPERIENCE
(Select one of the four methods below)**

*Training and Experience, including board certification, must have been obtained within the 7 years preceding the date of application or the individual must have obtained related continuing education and experience since the required training and experience was completed. Provide dates, duration, and description of continuing education and experience related to the uses checked above.

1. Board Certification

- a. Provide a copy of the board certification.
- b. Use Table 3.c. to describe training in radiation safety, regulatory issues, and emergency procedures for all types of medical use on the license.
- c. Skip to and complete Part II Preceptor Attestation.

OR

2. Current Radiation Safety Officer Seeking Authorization to Be Recognized as a Radiation Safety Officer for the Additional Medical Uses Checked Above

- a. Use the table in section 3.c. to describe training in radiation safety, regulatory issues, and emergency procedures for the additional types of medical use for which recognition as RSO is sought.
- b. Skip to and complete Part II Preceptor Attestation.

OR

3. Structured Educational Program for Proposed Radiation Safety Officer

a. Classroom and Laboratory Training

Description of Training	Location of Training	Clock Hours	Dates of Training*
Radiation physics and instrumentation			
Radiation protection			
Mathematics pertaining to the use and measurement of radioactivity			
Radiation biology			
Radiation dosimetry			

Total Hours of Training:

RADIATION SAFETY OFFICER TRAINING AND EXPERIENCE AND PRECEPTOR ATTESTATION (continued)

3. Structured Educational Program for Proposed Radiation Safety Officer (continued)

b. Supervised Radiation Safety Experience

(If more than one supervising individual is necessary to document supervised work experience, provide multiple copies of this section.)

Description of Experience	Location of Training/ License or Permit Number of Facility	Dates of Training*
Shipping, receiving, and performing related radiation surveys		
Using and performing checks for proper operation of instruments used to determine the activity of dosages, survey meters, and instruments used to measure radionuclides		
Securing and controlling byproduct material		
Using administrative controls to avoid mistakes in administration of byproduct material		
Using procedures to prevent or minimize radioactive contamination and using proper decontamination procedures		
Using emergency procedures to control byproduct material		
Disposing of byproduct material		
Licensed Material Used (e.g., 35.100, 35.200, etc.)+ 		

* Choose all applicable sections of 10 CFR Part 35 to describe radiolotopes and quantities used: 35.100, 35.200, 35.300, 35.400, 35.500, 35.600 remote afterloader units, 35.600 teletherapy units, 35.600 gamma stereotactic radiosurgery units, emerging technologies (provide list of devices).

RADIATION SAFETY OFFICER TRAINING AND EXPERIENCE AND PRECEPTOR ATTESTATION (continued)

3. Structured Educational Program for Proposed Radiation Safety Officer (continued)

b. Supervised Radiation Safety Experience (continued)

(If more than one supervising individual is necessary to document supervised work experience, provide multiple copies of this section.)

Supervising Individual	License/Permit Number listing supervising individual as a Radiation Safety Officer
------------------------	--

This license authorizes the following medical uses:

- | | | | |
|---|--|---|---------------------------------|
| <input type="checkbox"/> 35.100 | <input type="checkbox"/> 35.200 | <input type="checkbox"/> 35.300 | <input type="checkbox"/> 35.400 |
| <input type="checkbox"/> 35.500 | <input type="checkbox"/> 35.600 (remote afterloader) | <input type="checkbox"/> 35.600 (teletherapy) | |
| <input type="checkbox"/> 35.600 (gamma stereotactic radiosurgery) | <input type="checkbox"/> 35.1000 (_____) | | |

c. Describe training in radiation safety, regulatory issues, and emergency procedures for all types of medical use on the license.

Description of Training	Training Provided By	Dates of Training*
Radiation safety, regulatory issues, and emergency procedures for 35.100, 35.200, and 35.500 uses		
Radiation safety, regulatory issues, and emergency procedures for 35.300 uses		
Radiation safety, regulatory issues, and emergency procedures for 35.400 uses		
Radiation safety, regulatory issues, and emergency procedures for 35.600 - teletherapy uses		
Radiation safety, regulatory issues, and emergency procedures for 35.600 - remote afterloader uses		
Radiation safety, regulatory issues, and emergency procedures for 35.600 - gamma stereotactic radiosurgery uses		
Radiation safety, regulatory issues, and emergency procedures for 35.1000, specify use(s):		

RADIATION SAFETY OFFICER TRAINING AND EXPERIENCE AND PRECEPTOR ATTESTATION (continued)

3. **Structured Educational Program for Proposed Radiation Safety Officer (continued)**

c. Training in radiation safety, regulatory issues, and emergency procedures for all types of medical use on the license (continued)

Supervising Individual *If training was provided by supervising RSO, AU, AMP, or ANP. (If more than one supervising individual is necessary to document supervised training, provide multiple copies of this page.)*

License/Permit Number listing supervising individual

License/Permit lists supervising individual as:

- Radiation Safety Officer Authorized User Authorized Nuclear Pharmacist
 Authorized Medical Physicist

Authorized as RSO, AU, ANP, or AMP for the following medical uses:

- 35.100 35.200 35.300 35.400
 35.500 35.600 (remote afterloader) 35.600 (teletherapy)
 35.600 (gamma stereotactic radiosurgery) 35.1000 ()

d. Skip to and complete Part II Preceptor Attestation.

OR

4. **Authorized User, Authorized Medical Physicist, or Authorized Nuclear Pharmacist identified on the licensee's license**

- a. Provide license number.
b. Use the table in section 3.c. to describe training in radiation safety, regulatory issues, and emergency procedures for all types of medical use on the license.
c. Skip to and complete Part II Preceptor Attestation.

PART II – PRECEPTOR ATTESTATION

Note: This part must be completed by the individual's preceptor. The preceptor does not have to be the supervising individual as long as the preceptor provides, directs, or verifies training and experience required. If more than one preceptor is necessary to document experience, obtain a separate preceptor statement from each.

First Section

Check one of the following:

1. **Board Certification**

I attest that SADEK NEHMEH PhD has satisfactorily completed the requirements in _____
Name of Proposed Radiation Safety Officer

10 CFR 35.50(a)(1)(i) and (a)(1)(ii); or 35.50 (a)(2)(i) and (a)(2)(ii); or 35.50(c)(1).

OR

2. **Structured Educational Program for Proposed Radiation Safety Officers**

I attest that _____ has satisfactorily completed a structural educational
Name of Proposed Radiation Safety Officer

program consisting of both 200 hours of classroom and laboratory training and one year of full-time radiation safety experience as required by 10 CFR 35.50(b)(1).

OR

RADIATION SAFETY OFFICER TRAINING AND EXPERIENCE AND PRECEPTOR ATTESTATION (continued)

Preceptor Attestation (continued)

First Section (continued)

Check one of the following:

3. Additional Authorization as Radiation Safety Officer

I attest that _____ is an
Name of Proposed Radiation Safety Officer

Authorized User

Authorized Nuclear Pharmacist

Authorized Medical Physicist

identified on the Licensees license and has experience with the radiation safety aspects of similar type of use of byproduct material for which the individual has Radiation Safety Officer responsibilities

AND

Second Section

Complete for all (check all that apply):

I attest that _____ has training in the radiation safety, regulatory issues, and
Name of Proposed Radiation Safety Officer

emergency procedures for the following types of use:

35.100

35.200

35.300 oral administration of less than or equal to 33 millicuries of sodium iodide I-131, for which a written directive is required

35.300 oral administration of greater than 33 millicuries of sodium iodide I-131

35.300 parenteral administration of any beta-emitter, or a photon-emitting radionuclide with a photon energy less than 150 keV for which a written directive is required

35.300 parenteral administration of any other radionuclide for which a written directive is required

35.400

35.500

35.600 remote afterloader units

35.600 teletherapy units

35.600 gamma stereotactic radiosurgery units

35.1000 emerging technologies, including:

RADIATION SAFETY OFFICER TRAINING AND EXPERIENCE AND PRECEPTOR ATTESTATION (continued)

AND

Third Section
Complete for ALL

I attest that SADEK NEITMEH PhD has achieved a level of radiation safety knowledge
Name of Proposed Radiation Safety Officer
sufficient to function independently as a Radiation Safety Officer for a medical use licensee.

Fourth Section
Complete the following for Preceptor Attestation and signature

I am the Radiation Safety Officer for RSA Laboratories; ARCO Nuclear; Connecticut Oncology and Hematology
Name of Facility

License/Permit Number: 06-1036808; SNM-1993; CT Permit 1490

Name of Preceptor	Signature	Telephone Number	Date
K. Paul Steinmeyer, RRPT		(860) 228-0487	05/06/2011

The American Board of Radiology

Organized through the cooperation of the
American College of Radiology, the American Roentgen Ray Society,
the American Radium Society, the Radiological Society of North America,
the Section on Radiology of the American Medical Association,
the American Society for Therapeutic Radiology and Oncology, the Association of
University Radiologists, and American Association of Physicists in Medicine

Hereby certifies that

Sadek Adnan Nehme, PhD

Has pursued an accepted course of graduate study
and clinical work, has met certain standards and qualifications and
has passed the examinations conducted under the authority of
The American Board of Radiology

On this fifth day of June, 2007

Thereby demonstrating to the satisfaction of the Board
that he is qualified to practice the specialty of

Medical Nuclear Physics



Certificate No. 13538

Ray O. Anderson, MD
President

Carl Aiken
Secretary-Treasurer

R.P. Harte, MD
Executive Director






Valid through 2017

Curriculum Vitae and Bibliography

Date of preparation: 1/7/2011

A. GENERAL INFORMATION

1. Name **Sadck A. Nehmeh, PhD, D.A.B.R.**
Associate Attending Physicist
Lead PET Physicist
2. Office address: Memorial Sloan-Kettering Cancer Center
1275 York Avenue, S113E
New York, NY 10065
Office telephone: 212-639-2175
Office fax: 212-717-3263
3. Home address: 
Cell phone: 
4. Email: nehmehs@mskcc.org
5. Citizenship: 

B. EDUCATIONAL BACKGROUND (*)

<i>Degree</i>	<i>Institution name and location</i>	<i>Dates attended</i>	<i>Year Awarded</i>
BS, Physics	American University of Beirut, Lebanon	01/1990-06/1993	07/1993
MS Candidate, Physics	Western Michigan University, Kalamazoo, MI	01/1994-05/1995	Transferred to the Ph.D. program at Wayne State University
PhD, Nuclear Physics	Wayne State University, Detroit, MI	08/1995-08/2000	08/2000

C. **PROFESSIONAL POSITIONS AND EMPLOYMENT**

1. **Post-doctoral training including residency/fellowship**

Title	Institution name and location	Dates held
Postdoctoral Research Fellowship: Respiratory Gated PET-CT	Memorial Sloan-Kettering Cancer Center, NY, NY	9/2000-12/2003
Clinical Residency: Radiotherapy Physics (Medical Physics)	Memorial Sloan-Kettering Cancer Center, NY, NY	9/2000-12/2003

2. **Academic positions (teaching and research)**

Title	Institution name and location	Dates held
High School Physics Teacher/10 th grade	International College, Beirut, Lebanon	07/1993-09/1993
High School Physics Teacher/10 th and 11 th grade	Lebanese International College, Beirut, Lebanon	09/1993-12/1993
Graduate Teaching/Research Assistant	Wayne State University, Detroit, MI	09/1995-08/2000
Lecturer/Medical Residency Program	MSKCC, NY, NY	2006-Present
Lecturer/Medical Residency Program	Saint Vincent Hospital, NY, NY	2007-Present
Assistant Member, Level I	MSKCC, NY, NY	01/2003-09/2004
Assistant Clinical Member	MSKCC, NY, NY	09/2004-06/2009
Associate Member, Level I	MSKCC, NY, NY	07/2009-Present
Associate Clinical Member	MSKCC, NY, NY	07/2009-Present

3. Hospital positions

Title	Institution name, city and state	Dates
Assistant Attending Physicist	MSKCC, NY, NY	9/04-6/09
Associate Attending Physicist	MSKCC, NY, NY	7/09- Present

D. LICENSURE, BOARD CERTIFICATION, MALPRACTICE

1. Licensure

a.	State	Number	Date of issue	Date of expiration
	New York	000021	5/21/2003	04/30/2012

licensed in: Medical Physics-Medical Nuclear

2. Board Certification

Full Name of Board	Certificate #	Date
American Board of Radiology/ Medical Nuclear Physics	P3538	6/2007

E. PROFESSIONAL MEMBERSHIPS

Member/officer	Name of Organization	Dates
Member	Institute of Electrical and Electronic Engineers (IEEE)	2006-present
Member	American Association of Physicists in Medicine (AAPM)	2008-present
Member	Society of Medicine (SNM)	2009-present

F. HONORS AND AWARDS

Name of award	Date awarded
1. American Association of Physicists in Medicine Young Investigator Award	07/2001
2. Radiological and Medical Physics Society of NY Young Investigator Award	02/2001

G. CURRENT AND PAST INSTITUTIONAL RESPONSIBILITIES AND EFFORT

- Teaching Nuclear Medicine Residents at Memorial Sloan-Kettering Cancer Center, New York, NY
- Teaching Nuclear Medicine Residents at Saint Vincent Hospital, New

York, NY

- Teaching external PET/CT visitors through IAEA training program for developing countries

Course: Lectures on PET/CT instrumentation, applications, and physics

2. Clinical Care

Activity	Dates
<ul style="list-style-type: none">• Day-to-day operation of three PET/CT cameras in main campus, and one PET/CT camera in Basking Ridge• Acceptance tests• Quality control• Quality assurance• PET/CT Image processing and generation• PET/CT calibration• PET/CT troubleshooting• Implementing PET/CT new protocol• Data analysis• Software development for image processing and data analysis• Acceptance tests, quality assurance, and quality control of hot lab instruments at Basking Ridge• Solid radioactive materials surveys	2003-present

4. Research

IRB Protocols:

IRB #04-025: The Use of Breathing Synchronized PET/CT Imaging in the Detection and Quantification of FDG Uptake in Lung Nodules

PI: Heiko Schöder MD; Dates 3/23/04-present

Role: Co-PI

IRB #00-018: The Use of Breathing Synchronized CT and PET scans in Radiation Therapy Treatment Planning

PI: Kenneth Rosenzweig MD; Dates: 3/13/00-7/8/08 (close to accrual date)

Role: Investigator

IRB #04-070: A Feasibility Study Using Fluorine-18-Labeled Fluoro-Misonidazole Positron Emission Tomography to Detect Hypoxia in Head and Neck Cancer Patients,

PI: Nancy Lee MD; Dates: 6/8/04-present

Role: Investigator

IRB #07-114: Pilot Study of Ex-Vivo Molecular Polyp Imaging Using 18-F Fluorodeoxyglucose (FDG) Positron Emission Tomography (PET) in the Determination of Protein and Gene Expression Signatures of Premalignant Polyps

PI: Marc Gollub MD; Dates: 9/25/07-present

Role: Investigator

In addition to the IRB protocols listed above, I am working on Monte Carlo simulations for a novel Gamma Emission Tomography (GET) scanner prototype, which should enable the simultaneous acquisition of PET/SPECT/CT data with the same detector module.

H. RESEARCH SUPPORT

TITLE OF GRANT: The Use of Breathing Synchronized PET/CT Scans for the Detection of and the Quantification of FDG Uptake in Lung Nodules.

GE Health Care, \$190,000, 2/2010-2/2012

PI: **Sadck A. Nehme, PhD**

Role: PI; I oversee the project and mentor a post-doctoral fellow who will be conducting the analysis.

E. EXTRAMURAL PROFESSIONAL RESPONSIBILITIES

Invited Lectures:

Respiratory Gating In Positron Emission Tomography: Methods and Applications

Varian RPM User Meeting on Respiratory Gating

AAPM Meeting, Montreal, Canada 2002

Respiratory gated PET

Beaumont Hospital, Detroit, MI, 2002

Correction for respiratory motion in PET imaging

MD Anderson Cancer Center, Houston TX, 2003

The effects of respiratory motion on PET imaging and the efficacy of compensation techniques

Society of Nuclear Medicine Winter Meeting, Newport Beach, CA, 02/2008

Deep-Inspiration Breath-Hold PET/CT

GE Motion Symposium, NY, NY 2008, 04/2008

Journal Review:

Medical Physics Journal, Reviewer, 2002-present

Journal of Nuclear Medicine, Reviewer, 2002-present

Physics in Medicine and Biology, Reviewer, 2004-present

Collaborative research projects:

Member of the Experiment 896 Collaboration at the Alternating Gradient Synchrotron (AGS), Brookhaven National Laboratory, 1995-present

GATE (GEANT Application for Tomographic Emission) Project on Monte Carlo Simulations for Medical Physics Problems, University of Lausanne, Switzerland, 2004-present

J. BIBLIOGRAPHY

a. Submitted Articles:

1. J. Schwartz, J. L. Humm, Hovanes Kalaigian, S.M. Larson, S. A. **Nehmeh**, Reproducibility of SUVmax in Serial PET Studies, (*submitted to Med.phys. J.*)

b. Articles in professional peer-reviewed

1. **Nehmeh SA**, Erdi YE, Ling CC, Rosenzweig KE, Squire OD, Braban LE, Ford E, Sidhu K, Mageras GS, Larson SM, Humm JL. Effect of Respiratory Gating on Reducing Lung Motion Artifacts in Positron Emission Tomography Imaging of Lung Cancer. *Med Phys.* 2002 Mar;29(3):366-71.
2. **Nehmeh SA**, Erdi YE, Ling CC, Rosenzweig KE, Schoder H, Larson SM, Macapinlac HA, Squire OD, Humm JL. Effect of Respiratory Gating on Quantifying Positron Emission Tomography Images of Lung Cancer. *J Nucl Med.* 2002 Jul;43(7):876-81.
3. **Nehmeh SA**, Erdi YE, Rosenzweig KE, Schoder H, Larson SM, Squire OD, Humm JL. Reduction of Respiratory Motion Artifacts in PET Imaging of Lung Cancer by Respiratory Synchronized Dynamic Acquisition: Methodology and Comparison with Respiratory Gated PET. *J Nucl Med.* 2003 Oct;44(10):1644-8.
4. **Nehmeh SA**, Erdi YE, Kalaigian H, Kolbert KS, Pan T, Yeung H, Squire O, Sinha A, Larson SM, Humm JL. Correction for oral contrast artifacts in CT attenuation-corrected PET images obtained by combined PET/CT. *J Nucl Med.* 2003 Dec;44(12):1940-4.
5. Erdi YE, **Nehmeh SA**, Mulnix T, Humm JL, Watson CC. PET performance measurements for a LSO based Reveal-RT combined PET/CT scanner using the NEMA NU-2 2001 standards. *J Nucl Med.* 2004 May;45(5):813-21
6. **Nehmeh SA**, Erdi YE, Pan T, Yorke E, Mageras GS, Rosenzweig KE, Schoder H, Mostafavi H, Squire O, Pevsner A, Larson SM, Humm JL. Quantitation of respiratory motion during 4D-PET/CT acquisition. *Med Phys.* 2004 Jun;31(6):1333-8.
7. Erdi YE, **Nehmeh SA**, Pan T, Pevsner A, Rosenzweig KE, Mageras G, Yorke ED, Schoder H, Hsiao W, Squire OD, Vernon P, Ashman JB, Mostafavi H, Larson SM, Humm JL. The CT Motion

Quantitation of Lung Lesions and Its Impact on PET Measured SUV's. *J. Nucl Med.* 2004 Aug;45(8):1287-92.

8. Mageras GS, Pevsner A, Yorke ED, Rosenzweig KF, Ford EC, Hertanto A, Larson SM, Lovelock DM, Erdi YE, **Nehmeh SA**, Humm JL, Ling CC. Measurement of lung tumor motion using respiration-correlated CT. *J. Rad. Onc. Bio. Phys.*, 2004 Nov 1;60(3):933-41.

9. **Nehmeh SA**, Erdi YE, Pan T, Pevsner A, Rosenzweig KF, Yorke E, Mageras GS, Schöder H, Vernon P, Squire O, Mostafavi H, Larson SM, Humm JL. Four dimensional (4D) PET/CT imaging of the thorax. *Med Phys.* 2004 Dec;31(12):3179-86.

10. Fox JL, Rengan R, O'Meara W, Yorke E, Erdi Y, **Nehmeh SA**, Leibel SA, Rosenzweig KE. Does registration of PET and planning CT images decrease interobserver and intraobserver variation in delineating tumor volumes for non-small-cell lung cancer. *Int J Radiat Oncol Biol Phys.* 2005;62(1):70-5

11. Larson SM, **Nehmeh SA**, Erdi YE, Humm JL. PET/CT in non-small-cell lung cancer: value of respiratory-gated PET. *Chang Gung Med J.* 2005 May; 28(5): 306-14.

12. Pevsner A, **Nehmeh SA**, Humm JL, Mageras GS, Erdi YE. Effect of motion on tracer activity determination in CT attenuation corrected PET images: a lung phantom study. *Med Phys.* 2005 Jul;32(7):2358-62.

13. Pan T, Mawlawi O, **Nehmeh SA**, Erdi YE, Luo D, Liu HH, Castillo R, Mohan R, Liao Z, Macapinlac HA. Attenuation Correction of PET Images with Respiration-Averaged CT Images in PET/CT. *J Nucl Med.* 2005 Sep;46(9):1481-7.

14. Pevsner A, Davis B, Joshi S, Hertanto A, Mechalakos J, Yorke E, Rosenzweig K, **Nehmeh SA**, Erdi YE, Humm JL, Larson S, Ling CC, Mageras GS. Evaluation of an automated deformable image matching method for quantifying lung motion in respiration-correlated CT images. *Med Phys.* 2006 Feb;33(2):369-76.

15. Schmidtlein CR, Kirov AS, **Nehmeh SA**, Erdi YE, Humm JL, Amols HI, Bidaut LM, Ganin A, Stearns CW, McDaniel DL, Hamacher KA. Validation of GATE Monte Carlo Simulations of the GE Advance/Discovery LS PET scanners. *Med Phys.* 2006 Jan;33(1):198-208

16. **Nehmeh SA**, Erdi YE, Meirelles GS, Squire O, Larson SM, Humm JL, Schöder H. Deep-Inspiration-Breath-Hold PET/CT. *J. Nuc.Med.*, Jan. 2007.

17. Meirelles GS, Erdi YE, **Nehmeh SA**, Squire OD, Larson SM, Humm JL, Schöder H. Deep-Inspiration Breath-Hold PET/CT improves the detection and characterization of thoracic lesions. *J Nucl Med.* 2007 May;48(5):712-9.

18. Chi PC, Mawlawi O, **Nehmeh SA**, Erdi YE, Balter PA, Luo D, Mohan R, Pan T. Design of respiration averaged CT for attenuation correction of the PET data from PET/CT. *Med Phys.* 2007 Jun;34(6):2039-47.

19. Abdelnour AF, **Nehmeh SA**, Pan T, Humm JL, Vernon P, Schöder H, Rosenzweig KE, Mageras GS, Yorke E, Larson SM, Erdi YE. Phase and amplitude binning for 4D-CT imaging. *Phys Med Biol*. 2007 Jun 21;52(12):3515-29. Epub 2007 May 18.
20. Lee NY, Mechalakos JG, **Nehmeh SA**, Lin Z, Squire OD, Cai S, Chan K, Zanzonico PB, Greco C, Ling CC, Humm JL, Schöder H. Fluorine-18-Labeled Fluoro-Misonidazole Positron Emission and Computed Tomography (^{18}F -FMISO PET/CT) Guided Intensity-Modulated Radiation Therapy (IMRT) in the Treatment of Head and Neck Cancer (HNCA). *Int J Radiat Oncol Biol Phys*. 2008 Jan 1;70(1):2-13.
21. **Nehmeh SA**, Lee NY, Schröder H, Squire O, Zanzonico PB, Erdi YE, Greco C, Mageras G, Pham JIS, Larson SM, Ling CC, Humm JL. Reproducibility of ^{18}F -FMISO distribution in head and neck cancer. *Int J Radiat Oncol Biol Phys*. 2008 Jan 1;70(1):235-42.
22. Lin Z, Mechalakos J, **Nehmeh SA**, Schoder H, Lee N, Humm J, Ling CC. The Influence of Changes in Tumor Hypoxia on Dose-Painting Treatment Plans Based on ^{18}F -FMISO PET. *Int J Radiat Oncol Biol Phys*. 2008 Mar 15;70(4):1219-28.
23. Greco C, **Nehmeh SA**, Schöder H, Göncü M, Raphael B, Stambuk HE, Humm JL, Larson SM, Lee NY. Comparison of different methods of ^{18}F -FDG-PET target volume delineation in the radiotherapy of head and neck cancer. *Am J Clin Oncol* 2007
24. Lee N, **Nehmeh S**, Schöder H, Fury M, Chan K, Ling CC, Humm J., Prospective Trial Incorporating Pre-/Mid-Treatment [(18)F]-Misonidazole Positron Emission Tomography for Head-and-Neck Cancer Patients Undergoing Concurrent Chemoradiotherapy. *Int J Radiat Oncol Biol Phys*. 2009 Feb 7
25. Wang W, Georgi JC, **Nehmeh SA**, Narayanan M, Paulus T, Bal M, O'Donoghue J, Zanzonico PB, Schmidlein CR, Lee NY, Humm JL., Evaluation of a compartmental model for estimating tumor hypoxia via FMISO dynamic PET imaging. *Phys Med Biol*. 2009 May 21;54(10):3083-99. Epub 2009 May 6.
26. Wang K, Yorke E, **Nehmeh SA**, Humm JL, Ling CC, Modeling acute and chronic hypoxia using serial images of ^{18}F -FMISO PET. *Med Phys*. 2009 Oct;36(10):4400-8.
27. S. A. **Nehmeh**, H. El-Zeftawy, C. Greco, J. Schwartz, Y. E. Erdi, A. B. Gyau, S.M. Larson, J.L. Humm, An iterative technique to segment PET lesions using a Monte Carlo based mathematical model, *Med Phys*. 2009 Oct;36(10):4803-9.
28. **Nehmeh SA**, Haj-Ali AA, Qing C, Stearns C, Kalaigian H, Kohlmyer S, Schoder H, Ho A, Larson SM, Humm JL. A Novel Respiratory Tracking System for Smart-Gated PET Acquisition, *Med. Phys. J (in press)*.
29. Schoellnast H, Larson SM, **Nehmeh SA**, Carrasquillo JA, Thornton RH, Solomon SB. Radiofrequency Ablation of Non-Small-Cell Carcinoma of the Lung Under Real-Time FDG PET CT Guidance, *Cardiovasc Intervent Radiol*. 2010 May; 28.

30. G. Locurto for E896 Collaboration ; "Strange and multi-strange baryon measurements in Au + Au collisions at 11.6A(GeV/c) with the silicon drift detector array from the AGS experiment E896", Nucl. Phys 1999; A661: 489c-492c. (P)
31. J. Takahashi et. al., "Silicon Drift Detectors For the STAR/SVT Experiment at RHIC", Nucl. Inst. and Meth. 2000; A439:319. (P)
32. D. Lynn et. al, "A 240-channel Thick Film Multi-chip Module for Readout of Silicon Drift Detectors", Nucl. Inst. and Meth. In Phys. Res. 2000;A 439 418-426. (P)
33. Albergo S., "The 15 layer silicon drift detector tracker in experiment 896", IEEE Transaction of Nuclear Science, 47 (6), 2114-2118, Part 2. (P)
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Date: 01/7/2011

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

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AMEND. 06-31418-01
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.

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