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July 12, 2006

U.S. Nuclear Regulatory Commission  
Region I  
475 Allendale Road  
King of Prussia, PA 19406

Attention: Nuclear Material Licensing Assistance Team

RE: Amendment request for NRC License No. 37-15128-01 03008616  
(Lehigh Valley Hospital-Muhlenberg, 2545 Schoenersville Road, Bethlehem, PA)

Please add to our radioactive materials license No. 37-15128-01 Sylvana Oliveira, M.S. as an authorized medical physicist for use under 10 CFR 35.600 (specifically, therapeutic applications gamma stereotactic radiosurgery devices).

Enclosed is a letter of attestation from John Niemkiewicz, Ph.D., Chief Radiation Oncology physicist for this license, regarding the Ms. Oliveira's competencies in the performance of Gamma Knife physics procedures. He has supervised Ms. Oliviera in the tasks delineated in 10 CFR 35.51 and 35.604, 35.610, 35.615, 35.630, 35.635, 35.645, 35.652, 35.657, and 35.690.

Please contact us at 610.402.8386 if you have any questions concerning this request.

Sincerely,

A handwritten signature in black ink, appearing to read "Mark Holtz", written in a cursive style.

Mark Holtz, Senior Vice President



139146  
NMSS/RGNI MATERIALS-002



July 14, 2006

To whom it may concern:

This is a letter of attestation required by Title 10 CFR 35.51 in order to have Silvana Oliveira added to our NRC license as an authorized medical physicist for Gamma Knife use.

Silvana graduated from McGill University in June, 2003 with a Masters of Science in Medical Physics.

Her Gamma Knife training included both an off-site program sponsored by the vendor (Elekta) at the University of Pittsburgh and on-site training by me. This training included hands-on device operation, safety procedures, clinical use, and the operation of the treatment planning system.

Silvana has also been involved with the performance of daily spot checks, monthly QA, and the clinical treatment of seven patient treatments under my supervision since starting her full-time employment here on September 15, 2003. Additional supervision of patient treatment support is available, if needed. Also, Cynthia Goodman-Mumma has supervised her training and participation in sealed source leak tests, and radiation surveys around the Gamma Knife unit and treatment room.

In addition, Silvana has completed Master's Degree training in medical physics, and an additional two years of full-time work experience under the supervision of an individual who meets the requirements for an authorized medical physicist for Gamma Knife.

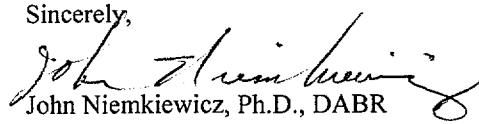
Her training and work experience were conducted in clinical radiation facilities that provide Gamma Knife radiation treatments, high-energy external beam therapy, and brachytherapy services.

The experience and training outlined above satisfies 10 CFR 35.51 (b) (1), (b) (2), and (c).

Finally, in my opinion, she has reached a level of competency sufficient to function independently as an authorized medical physicist for any Gamma Knife activity including treatment procedures.

I am on materials license number 37-01548-01 as an authorized medical physicist for Gamma Knife and Cynthia Goodman-Mumma is listed on the same license as the Radiation Safety Officer.

Sincerely,

  
John Niemkiewicz, Ph.D., DABR  
Chief Physicist, Radiation Oncology  
Lehigh Valley Hospital  
Allentown, PA 18103



# University of Pittsburgh

Center for Image-Guided Neurosurgery

*This is to Certify That*

**Silvana Oliveira, M.S.**



*Attended*

**Principles and Practice of Gamma Knife® Radiosurgery**

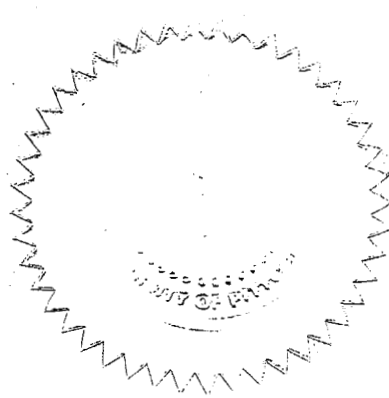
*from June 5-9, 2006*

A handwritten signature in black ink, appearing to read "L. Dade Lunsford".

L. Dade Lunsford, M.D., FACS

A handwritten signature in black ink, appearing to read "Ann H. Maitz".

Ann H. Maitz, M.Sc.



A handwritten signature in black ink, appearing to read "Douglas Kondziolka".

Douglas Kondziolka M.D., M.Sc., FRCS(C)

A handwritten signature in black ink, appearing to read "John C. Flickinger".

John C. Flickinger, M.D.

**UPMC / University of Pittsburgh Medical Center**  
*Center for Continuing Education in the Health Sciences*

**Silvana Oliveira, M.S.**

**Attended the Continuing Medical Education Activity**

*Principles and Practices of Gamma Knife  
Radiosurgery*

**June 5-9, 2006**

**University of Pittsburgh Medical Center Health System  
Pittsburgh, Pennsylvania**

The University of Pittsburgh School of Medicine is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

The University of Pittsburgh School of Medicine designates this educational activity for a maximum of 49.5 Category 1 credits toward the AMA Physician's Recognition Award. Each physician should claim only those credits that he/she actually spent in the educational activity.

\*Other healthcare professionals are awarded 4.95 continuing education units (CEU's), which are equivalent to 49.5 hours of instruction.

**For your credit transcript, please access our website six (6) weeks post-course at:  
<http://cceehs.upmc.edu> and follow the link to the Credit Transcript screen**

Lehigh Valley Hospital  
John & Dorothy Morgan Cancer Center  
Cedar Crest & I-78  
Allentown, PA, USA 18103  
Phone: [REDACTED]  
[REDACTED]

## Education

- 2003      **MS in Medical Physics**  
Thesis: S. Oliveira, "*Comparison of three linac-based stereotactic radiosurgery techniques*", McGill University, Montreal, Canada.  
Supervisors: Horacio J. Patrocinio, MS and Ervin B. Podgorsak, PhD.
- 1999      **Certification in Physics applied to Radiotherapy**  
Brazilian Association of Medical Physics  
("Associação Brasileira de Física Médica – ABFM")
- 1999      **Specialist in Business Administration**  
Getulio Vargas Foundation (FGV), Brazil
- 1998      **Residency in Physics Applied to Radiology**  
University of Sao Paulo at Ribeirao Preto (USP), Brazil  
("Hospital das Clínicas da Faculdade de Medicina de Ribeirão Preto")
- 1996      **MS in Physics Applied to Medicine and Biology**  
Thesis: S. Oliveira, "*Adaptation of a homogeneous phantom equivalent to an adult patient for the evaluation of pediatric radiographic images*", University of Sao Paulo (USP), Ribeirao Preto, Brazil.  
Supervisor: Thomaz Ghilardi Netto, PhD.
- 1993      **BS in Physics**  
University of Campinas (UNICAMP), Brazil

## Professional Experience

### \*09/2003 to present - Medical Physicist

Department of Radiotherapy

**Lehigh Valley Hospital – Allentown, PA, USA**

**About the hospital:** The Lehigh Valley Hospital is recognized as one of the best hospitals in Pennsylvania, and it has a great variety of treatment techniques in radiation oncology.

**Responsibilities:** equipment calibration (linac – monthly and annual), chart checking, treatment planning in external beam radiotherapy, brachytherapy (HDR and LDR), prostate seed implants, IMRT planning and QA, and mentoring students.

**Skills utilized:** Physical dosimetry, treatment planning techniques, brachytherapy techniques, communication and interpersonal skills.

### \*10/1998 to 08/2001 - Medical Physicist

Department of Radiotherapy

**Cancer Hospital – A. C. Camargo, Sao Paulo, Brazil**

**About the hospital:** The A. C. Camargo hospital is one of the top rated centers for cancer treatment and research in Brazil and Latin America.

PERSONAL INFORMATION WAS REMOVED  
BY NRC. NO COPY OF THIS INFORMATION  
WAS RETAINED BY THE NRC.

**Responsibilities:** equipment calibration (linac and cobalt unit), chart checking, treatment planning in external beam radiotherapy, brachytherapy (HDR), and mentoring residents.

**Skills utilized:** Physical dosimetry (linac and cobalt unit), treatment planning techniques, communication and interpersonal skills.

**\*08/1998 to 09/1998 - Medical Physicist**

Department of Radiotherapy

**“Hospital do Servidor Publico Estadual” – Sao Paulo, Brazil**

**Responsibilities:** equipment calibration (linac and cobalt unit), chart checking, treatment planning in external beam radiotherapy, and brachytherapy (MDR).

**Skills utilized:** Physical dosimetry (linac and cobalt unit), treatment planning techniques, communication and interpersonal skills.

**\*06/1998 to 08/1998 - Visiting Medical Physicist**

Department of Radiotherapy

**Cancer Hospital – A. C. Camargo, Sao Paulo, Brazil**

**Skills acquired:** Improvement in treatment planning techniques, brachytherapy, and interpersonal skills.

**\*10/1997 to 05/1998 - Medical Physicist**

Department of Radiotherapy

**“Hospital Bom Pastor” – Varginha, Brazil**

**Responsibilities:** equipment calibration (cobalt unit), chart checking, treatment planning in external beam radiotherapy, and mentoring radiation therapists.

**Skills utilized:** Physical dosimetry (cobalt unit), treatment planning techniques, communication and interpersonal skills.

**Technical Skills**

- Physical dosimetry (linac and cobalt unit)
- Treatment planning techniques (external beam radiotherapy and brachytherapy)
- Treatment plan chart checking
- Stereotactic radiosurgery techniques (linac-based and Gamma-knife)
- IMRT (conventional and in stereotactic radiosurgery)
- Experience with treatment planning systems (Theraplan, Corvus, Brainscan, Simuplan, CMS, and Eclipse )
- Film and TLD dosimetry
- Quality control in X-ray machines

**Society Membership**

1996-present

Brazilian Association of Medical Physics (ABFM)

2003-present

American Association of Physicists in Medicine (AAPM)

### ***Posters, Scientific Presentations and Publications***

D R Pina, S B Duarte, T Ghilardi Netto, C S Trad, M A C Brochi, and S C Oliveira, "Optimization of standard patient radiographic images for chest, skull and pelvis exams in conventional X-ray equipment," *Phys. Med. Biol.* 49 (2004) N1-N12.

S. Oliveira, H.J. Patrocinio, E.B. Podgorsak, "Comparison of Linac Stereotactic Radiosurgery Techniques," Canadian Organization of Medical Physics Annual Meeting and Canadian College of Physicists in Medicine Symposium, Edmonton, Canada, June 2003.

S. Oliveira, A.J. Pereira, R.C. Fogaroli, G.P. Haddad, "Importance of Image Examinations(CT/MRI) in the Planning of Pelvic Fields in the Treatment of Cervix Cancer," 30<sup>th</sup> "Jornada Paulista de Radiologia," Sao Paulo, Brazil, April 2000.

S. Oliveira, S.A. Hernandez, A.J. Pereira, G.P. Haddad, "Analysis of Dose-Volume Histograms for the Treatment of Prostate Cancer with 6 MeV Photons," XXVIII "Congresso Brasileiro de Radiologia," Sao Paulo, Brazil, October 1999.

S. Oliveira, T.G. Netto, D.R. Pina, S.L. Rocha, "Adaptation of an Homogeneous Phantom Equivalent to an Adult Patient for the Evaluation of Pediatric Radiographic Images," 18<sup>th</sup> "World Congress on Medical Physics and Biomedical Engineering," Nice, France, September 1997.

S. Oliveira, T.G. Netto, D.R. Pina, S.L. Rocha, "Development of a Phantom for Quality Control in Pediatric Diagnostic Radiology," III "Fórum Nacional de Ciência e Tecnologia em Saúde," Campos do Jordão, Brazil, October 1996.

S. Oliveira, T.G. Netto, D.R. Pina, XIX "Quality Control in a Diagnostic X-Ray Equipment for Pediatric Patients," "Encontro Nacional de Física da Matéria Condensada," Águas de Lindóia, Brazil, September 1996.

### ***Attended Conferences***

• "Principles and Practice of Gamma Knife Radiosurgery" Center for Image-Guided Radiosurgery – University of Pittsburgh" Pittsburgh, PA, June 2006.

• "Applications Training Session for Eclipse" Varian Medical Systems – Clinical Support Services" Lehigh Valley Hospital, Allentown, PA, March 2006.

• "Eclipse IMRT – Administration and Physics" Varian Education Center Las Vegas, NV, March 2006.

• "Caring for Pediatric Oncology Patients: Family Centered Approach" Lehigh Valley Hospital Allentown, PA, December 2005.

• "Short course on Intensity Modulated Radiation Therapy" at Fox Chase Cancer Center" Philadelphia, PA, April 2005.

• "VariSource ID On-Site Operations Course – Varian" at Lehigh Valley Hospital Allentown, PA, USA, October, 2004.

• 46<sup>th</sup> "Annual Meeting of the American Association of Physicists in Medicine," Pittsburgh, PA, USA, July 2004.

• 44<sup>th</sup> "Annual Meeting of the American Association of Physicists in Medicine," Montreal, Canada, July 2002.

- Workshop: “*State-of-the-art in Radiotherapy : Technological Advances and Quality Control*,” Sao Paulo, Brazil, June 2001.
- 31<sup>st</sup> “*Jornada Paulista de Radiologia*,” Sao Paulo, Brazil, April2001.
- 42<sup>nd</sup> “*Annual Meeting of the American Society for Therapeutic Radiology and Oncology*,” Boston, USA, October 2000.
- 1<sup>st</sup> “*Simpósio da Associação Brasileira de Radio-Oncologia*” and 1<sup>st</sup> “*Seminário de Oncologia*” from the “*Fundação Pio XII*,” Barretos, Brazil, July 1999.
- “*AAPM International Scientific Exchange Course on the Physics of Radiation Therapy: Review and Update*,” Sao Paulo, Brazil, June 1999.
- 29<sup>th</sup> “*Jornada Paulista de Radiologia*,” Sao Paulo, Brazil, April 1999.
- 28<sup>th</sup> “*Jornada Paulista de Radiologia*,” Sao Paulo, Brazil, April 1998.
- II “*Workshop in NORMATIZATION and Certification of Electromedical Equipment*,” Sao Paulo, Brazil, November 1997.
- 18<sup>th</sup> “*World Congress on Medical Physics and Biomedical Engineering*,” Nice, France, September 1997.
- 1<sup>st</sup> “*Encontro de Profissionais em Radioterapia*,” Sao Paulo, Brazil, August 1997.
- 27<sup>th</sup> “*Jornada Paulista de Radiologia*,” Sao Paulo, Brazil, April 1997.
- “*School on Biophysics*,” Brasilia, Brazil, February 1995.
- Workshop “*Tendências e Metas para o Controle das Radiações Ionizantes*,” Ribeirao Preto, Brazil, October 1994.



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

7/12/2006, and to inform you that the initial processing which includes an administrative review has been performed.

☒ Amendment 37-15128-01  
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** 139146.  
When calling to inquire about this action, please refer to this control number.  
You may call us on (610) 337-5398, or 337-5260.