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JUN 9 2016



DNMS  
**THE QUEEN'S MEDICAL CENTER**

1301 Punchbowl Street ▪ Honolulu, Hawaii 96813 ▪ Phone (808) 538-9011 ▪ FAX: (808) 691-4646 ▪ www.queens.org

June 9, 2016

United States Nuclear Regulatory Commission  
Region IV  
611 Ryan Plaza Drive, Suite 400  
Arlington, TX 76011-4005

RE: **Mail Control Number: 590745**  
The Queen's Medical Center  
NRC License No. **53-16533-02**

**PUBLIC**

- ☐ Immediate Release  
☒ Normal Release

**NON-PUBLIC**

- ☐ A.3 Sensitive-Security Related  
☐ A.7 Sensitive Internal  
☐ Other: \_\_\_\_\_

Reviewer: mtz

Date: 6/10/16

To whom it may concern:

Please accept this letter as additional information to our license amendment request dated April 19, 2016.

License Number 53-16533-02

In addition to the requested deletion of Authorized Medical Physicists (AMP), please add Emmanuel Ekwelundli, Ph.D. as an AMP. Emmanuel has extensive experience with HDR and has been listed as an AMP on previous RAM licenses. A copy of the St. Judes Children's Research Hospitals agreement state license is attached. Emmanuel's CV is also attached.

Thank you for your assistance. If you have any questions or require additional information, please contact our Radiation Safety Officer, Dale Schippers at 808-691-4884 or Darlena Chadwick at 808-691-4742.

Sincerely,

Darlena Chadwick, MSN, MBA, FACHE  
Vice President, Patient Care



## ENVIRONMENTAL HEALTH and SAFETY

James R. Gaut, PhD, Director

Judy Edwards, Environmental Health and Safety Coordinator

James Henry, Jr., Biological Safety Officer

Guy Joyner, General Safety Officer

Jim Kauker, Hazardous Materials Supervisor

Thomas Mohaupt, MS, CHP, Radiation Safety Officer

Leo Old, Industrial Hygiene Officer

Peggy L. Burdick, BA, AAS, Administrative Associate

Phone: 901-595-2957

FAX: 901-595-3055

February 4, 2009

Mr. Charles Arnott, Health Physicist  
TN. Dept. of Environment and Conservation  
Division of Radiological Health  
3rd Floor, L & C Annex  
401 Church St.  
Nashville, TN 37243-1532

Re: Amendment Request for License No. R-79056-F15

Dear Mr. Arnott:

Please add Emmanuel Ekwelundu, Ph.D., and Douglas Coffey, M.S. as Authorized Medical Physicists at St. Jude.

Dr. Ekwelundu recently joined St. Jude. He is certified by the American Board of Radiology in Therapeutic Radiological Physics (attached). Since becoming certified in 1992, he has maintained continuous performance of medical physics duties and responsibilities. He has at least four years of experience in high dose rate (HDR) brachytherapy, as shown on his attached curriculum vitae.

Douglas Coffey has performed the role of Medical Physicist since 1981 at St. Jude, as shown on his attached Training and Experience / Preceptor Attestation. Dr. Chia-Ho Hua, Ph.D., Authorized Medical Physicist attested to Mr. Coffey's long experience at St. Jude, where he has training and experience in HDR, low dose rate brachytherapy, and external beam therapy.

Please call me at 901-595-2957 if you have any questions or require additional information. Send correspondence to: 262 Danny Thomas Place (MS 730), Memphis, TN 38105-3678.

Sincerely,

Thomas Mohaupt, M.S., CHP  
Radiation Safety Officer

TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
DIVISION OF RADIOLOGICAL HEALTH

**RADIOACTIVE MATERIAL LICENSE**

**Amendment 121**

Page 1 of 2 Pages

License Number R-79056-F15

St. Jude Children's Research Hospital  
262 Danny Thomas Place (MS 730)  
Memphis, Tennessee 38105-3678

Attention: Thomas H. Mohaupt, MS, CHP, Radiation Safety Officer

As requested by Thomas H. Mohaupt, CHP, and in accordance with his letter dated February 4, 2009, with attachments, your Tennessee Radioactive Material License number R-79056-F15 is amended as follows:

To change Conditions 13 and 28. These conditions will now read as follows:

13. A. Radioactive material authorized by this license shall be used by, or under the supervision of the following individuals as specified:

All radioactive material except Items D through G, I through L, T through W, CC:

Sue C. Kaste, D.O.

Mary Elizabeth McCarville, M.D.

Henrique M. Lederman, M.D.

All radioactive material except I through L, T through W, and CC:

Barry L. Shulkin, M.D.

All radioactive material in Items D, I through L, and W:

Larry Kun, M.D. \*

Thomas Merchant, D.O., Ph.D. \*

All radioactive material authorized in Items I through L, and W:

Matthew James Krasin, M.D.

Atmaram S. Pai-Panandiker, M.D.

All radioactive material authorized in Item U and V:

Terrence Lee Geiger, M.D.

All radioactive material authorized for non-human use:

Douglas Coffey

Thomas H. Mohaupt, MS, CHP

Ishtiaq Hussain, M.Sc.

Radioactive material produced as a result of cyclotron operations for medical use:

Scott Snyder, Ph.D.

Radiopharmaceuticals produced from cyclotron generated radioactive material:

Amitkumar H. Ahuja

Steven Pate, Pharm.D.

TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
DIVISION OF RADIOLOGICAL HEALTH

**RADIOACTIVE MATERIAL LICENSE**

**Amendment 121**

**Page 2 of 2 Pages**

**License Number R-79056-F15**

\* With regard to Dr. Kun's and Dr. Merchant's approval and in accordance with 1200-2-4-.08 of "State Regulations for Protection Against Radiation," an exemption is granted to the requirements of 1200-2-10-.33(3) of "State Regulations for Protection Against Radiation."

This exemption may be withdrawn or modified by the Department at any time it is determined necessary in order to protect the public health and safety or if it is found that the conditions upon which it is based have been violated.

- B. The Radiation Safety Officer for this license is Thomas H. Mohaupt, MS, CHP.
- C. The Authorized Medical Physicists for this license are Chris Beltran, Ph.D., Douglas Coffey, M.S., Emmanuel Ekwelundu, Ph.D., and Chia-ho Hua, Ph.D.
28. A. Except as specifically provided otherwise by this license, the licensee shall possess and use radioactive material described in Items 6, 8, and 9 of this license in accordance with statements, representations, and procedures contained in the following:
- Application and letter dated April 28, 2005, with attachments
  - Fax dated October 18, 2007, with attachments
  - Letters dated June 8, 2005, March 24, 2006, November 20, 2006, with attachments, January 23, 2007, with attachments, October 2, 2007, with attachments, December 7, 2007, with attachments, March 18, 2008, with attachments, June 20, 2008, with attachments, July 18, 2008, with attachments, August 26, 2008, with attachments, and February 4, 2009, with attachments.
- B. The licensee shall comply with the requirements described in the Division of Radiological Health letter dated September 30, 2005, and attached document entitled "INCREASED CONTROLS FOR LICENSEES THAT POSSESS SOURCES CONTAINING RADIOACTIVE MATERIAL QUANTITIES OF CONCERN." The licensee shall complete implementation of said requirements within 6 months from the issuance of the license amendment or the first day that radionuclides in quantities of concern are possessed at or above the limits specified in Table 1 of the attachment, whichever is later. Within 25 days after the implementation of the requirements of this condition, the licensee shall notify the Division of Radiological Health in writing that it has completed the requirements of this condition.

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**All other parts of this license remain unchanged.**

**Date: February 10, 2009**

**For the Commissioner  
Tennessee Department of  
Environment and Conservation**

By Sasi Krishnasarma  
**Sasi Krishnasarma  
Health Physicist  
Division of Radiological Health**

## CURRICULUM VITAE

EMMANUEL C. EKWELUNDU, PH.D.

### BIOGRAPHICAL DATA

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**Residence** 876 Curtis Street, Apt 3906  
Honolulu, HI 96813  
(361)774-8264 (Cell)  
(808)547-9882 (Office)

**Marital Status** Married

**Email** [eekwelundu@cox.net](mailto:eekwelundu@cox.net)

### EDUCATION

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**1989** **Post-Doctoral Training in Medical Physics**  
University of Texas Medical Branch  
Galveston, Texas

**1987** **Ph.D. in Physics**  
University of Houston, University Park  
Houston, Texas

**1982** **M.S. in Physics**  
University of Michigan  
Ann Arbor, Michigan

**1977** **B.S. (First Class Honors) in Physics**  
University of Nigeria  
Nsukka, Nigeria

Outstanding Physics Graduate Award, 1977  
Foundation Scholarship (freshman achievement award), 1974

### PROFESSIONAL EXPERIENCE

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**06/15 – Present** **Medical Physicist**  
Queens Medical Center – Honolulu, HI

**01/09 – 05/15** **Supervisor, Clinical Medical Physics**  
St. Jude Children's Research Hospital – Memphis, TN

01/04 – 12/08	<b>Chief Medical Physicist</b> Sierra Vista Cancer Center - Sierra Vista, AZ
08/99 – 12/03	<b>Medical Physicist</b> Corpus Christi Cancer Center -Corpus Christi, TX
09/93 – 07/99	<b>Medical Physicist</b> Allison Cancer Center - Midland, TX
11/89 – 08/93	<b>Staff Medical Physicist</b> Department of Physics Cancer Therapy and Research Center - San Antonio, TX
01/88 – 11/89	<b>Post-doctoral Fellowship in Medical Physics</b> Department of Radiation Therapy University of Texas Medical Branch - Galveston, TX

## TECHNICAL EXPERIENCE

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### 1993 - Present

- Physicist/Radiation Safety Officer
- Varian CI2300C/D, CI2100C, CI1800, CI18, CI6/80, Co-60, Siemens MD2, Oncor and Artiste, Mitsubishi, Orthovoltage, Elekta Infinity, Tomotherapy.
- Simulators: Ximatron CX, Kermath, Philips, Nucletron, Odelft and Siemens
- Scanning Systems: Multidata, Dynascan and Wellhofer
- Treatment Planning Systems: ROCS, Prowess, Philips Pinnacle, CMS FOCUS and CMS XiO, Eclipse, Corvus, Variseed, Brachyvision.
- Record and Verify: Varis, Lantis/Mosaic
- Shielding design of a radiotherapy facility
- Acceptance testing and commissioning of CI2100C, CI2300C/D, Siemens Oncor, Siemens Artiste; development of clinical treatment data tables.
- Machine calibration for total body photons and total skin electrons.
- Calibration of Nucletron, Gammamed HDR Systems and QA.
- Clinical chart reviews, patient consults, tissue compensators.
- Hyperthermia equipment, treatments and QA.
- Ultrasound-guided prostate seed implants.
- SRS/SBRT.
- Brachytherapy: Cs-137, Ir-192, Pd-103, I-125; Sr-89, Sm-153 and I-131 injections.
- 2D/3-D treatment planning
- IMRT
- Solid IMRT

### 1989 – 1993

- Physicist/Radiation Safety Officer
- Siemens Mevatron MD, Co-60, CGR Saggittaire

- Acceptance testing/commissioning of Siemens Mevatron MD and development of clinical treatment data tables
- Built tissue compensators
- Clinical chart reviews, patient consults and QA
- Treatment planning system: CMS Modulex
- CMS Dynascan scanning system

#### 1988 – 1989

- Physicist
- Varian Cl4/100, Varian Cl6/100, Philips SI25 and Orthovoltage machines
- Aided in acceptance testing and commissioning of Philips SI25 linear accelerator and developing clinical treatment data tables
- Calibration of low energy x-ray equipment and Cesium irradiator
- Treatment planning system: vax/microvax
- Multidata scanning system

## ACADEMIC APPOINTMENTS

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04/91 - 08/93	<b>Adjunct Assistant Professor</b> Department of Radiology The University of Texas Health Science Center at San Antonio – San Antonio, TX
01/91 - 08/93	<b>Director</b> School of Medical Dosimetry Cancer Therapy and Research Center - San Antonio, TX
1983-1987	<b>Research Assistant</b>
1982-1983	<b>Teaching Assistant</b> Department of Physics University of Houston, University Park - Houston, TX
1979 - 1980	<b>Assistant Lecturer</b> Department of Physics University of Port Harcourt - Port Harcourt, Nigeria

## GRADUATE MEDICAL EDUCATION

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1991	<b>Radiological Physics Instruction of Radiation Oncology Technologists</b> Cancer Therapy and Research Center - San Antonio, TX
1991 - 1992	<b>Radiological Physics Instruction, Masters and Doctoral Candidates in Physics</b> University of Texas Health Science Center at San Antonio - San Antonio, TX
1991 – 1992	<b>Radiological Physics Instruction, Radiation Oncology Dosimetry Students</b> Cancer Therapy and Research Center - San Antonio, TX

## BOARD CERTIFICATION

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Certified by The American Board of Radiology in Therapeutic Radiological Physics (1992)

## LICENSURE

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Licensed by the Texas Board of Licensure for Professional Medical Physicists in Therapeutic Radiological Physics:  
License Number MP0033 (1993)

## ORGANIZATIONS

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- American Association of Physicists in Medicine
- Southwest Chapter-AAPM
- Health Physics Society
- The American College of Radiology
- American College of Medical Physics
- American Society for Therapeutic Radiology and Oncology

## PUBLICATIONS

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1. E. Ekwelundu, M.J. Krasin and J.B. Farr; "Custom-Designed Mouthpiece for HDR Brachytherapy of Embryonal Rhabdomyosarcoma of the Soft Palate", J. Contemp. Brachy., 6, 300 (2014).
2. R.G. Lane, M.D. Loyd, C.H. Chow, E. Ekwelundu and I.I. Rosen; "Custom Beam Profiles in Computer-Controlled Radiation Therapy", Int. J. Rad. Oncol. Biol. Phys., 22, 167 (1991).
3. R.G. Lane, M.D. Loyd, C.H. Chow, E. Ekwelundu and I.I. Rosen; "Improved Dose Homogeneity in the Head and Neck Using Computer-Controlled Radiation Therapy", Int. J. Rad. Oncol. Biol. Phys., 19, 1531 (1990).
4. E.C. Ekwelundu and A. Ignatiev; "Electron Stimulated Desorption of positive ions from adsorbate-covered Si (100) surface ", Surface Science, 215, 91 (1989).
5. E.C. Ekwelundu and A. Ignatiev; "Electron Stimulated Desorption of O<sup>+</sup> ions from gas-covered CDS(0001) surface", Phys. Rev. B, 38, 3671 (1988).
6. E.C. Ekwelundu and A. Ignatiev, "Photodesorption from CDS (0001) exposed to NO and CO", J. Vac. Sci. Technol. A, 6, 1486 (1988).
7. E.C. Ekwelundu and A. Ignatiev; "Electron Stimulated Desorption from GaAs (100) surface", J. Vac. Sci. Technol. A, 6, 51 (1988).
8. E. Ekwelundu and A. Ignatiev; "Low Energy Photodesorption from Si (100) exposed to CO, CO<sub>2</sub>, O<sub>2</sub>, NO and SO<sub>2</sub>", Surface Science 179, 119 (1987).





## ACKNOWLEDGEMENT - RECEIPT OF CORRESPONDENCE

## Name and Address of Applicant and/or Licensee

Mr. Dale J. Schippers, M.S.  
Radiation Safety Officer  
The Queen's Medical Center  
1301 Punchbowl Street  
Honolulu, HI 96813

## Date

06/09/2016

## License Number(s)

53-16533-02

## Mail Control Number(s)

591066

## Licensing and/or Technical Reviewer or Branch

CLH

This is to acknowledge receipt of your: ☒ Letter and/or ☐ Application Dated: 06/09/2016

The initial processing, which included an administrative review, has been performed.

☒ Amendment ☐ Termination ☐ New License ☐ Renewal☐ There were no administrative omissions identified during our initial review.☐ This is to acknowledge receipt of your application for renewal of the material(s) license identified above. Your application is deemed timely filed, and accordingly, the license will not expire until final action has been taken by this office.

☐ Your application for a new NRC license did not include your taxpayer identification number. Please complete and submit NRC Form 531, Request for Taxpayer Identification Number, located at the following link: <http://www.nrc.gov/reading-rm/doc-collections/forms/nrc531.pdf>  
Follow the instructions on the form for submission.

☐ The following administrative omissions have been identified:

Your application has been assigned the above listed MAIL CONTROL NUMBER. When calling to inquire about this action, please refer to this control number. Your application has been forwarded to a technical reviewer. Please note that the technical review, which is normally completed within 180 days for a renewal application (90 days for all other requests), may identify additional omissions or require additional information. If you have any questions concerning the processing of your application, our contact information is listed below:

Region IV  
U. S. Nuclear Regulatory Commission  
DNMS/NMSB - B  
1600 E. Lamar Boulevard  
Arlington, TX 76011-4511  
(817) 200-1140

✓ 6/9/16

BETWEEN:

Accounts Receivable/Payable  
and  
Regional Licensing Branches

[ FOR ARPB USE ]  
INFORMATION FROM WBL

Program Code: 02230  
Status Code: Pending Amendment  
Fee Category: 3E 7C  
Exp. Date:  
Fee Comments: CODE 23  
Decom Fin Assur Req: N

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## License Fee Worksheet - License Fee Transmittal

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### A. REGION

#### 1. APPLICATION ATTACHED

Applicant/Licensee: QUEEN'S MEDICAL CENTER, THE  
Received Date: 06/09/2016  
Docket Number: 3014522  
Mail Control Number: 591066  
License Number: 53-16533-02  
Action Type: Amendment

#### 2. FEE ATTACHED

Amount: \_\_\_\_\_

Check No.: \_\_\_\_\_

#### 3. COMMENTS

Signed: \_\_\_\_\_

Date: \_\_\_\_\_

*Carol R. Hie*  
6/9/16

### B. LICENSE FEE MANAGEMENT BRANCH (Check when milestone 03 is entered / / )

1. Fee Category and Amount: \_\_\_\_\_

#### 2. Correct Fee Paid. Application may be processed for:

Amendment: \_\_\_\_\_

Renewal: \_\_\_\_\_

License: \_\_\_\_\_

#### 3. OTHER \_\_\_\_\_

Signed: \_\_\_\_\_

Date: \_\_\_\_\_