Abdelhamid SAOUDI

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EDUCATION

- 2002 Residency in Medical Physics, The Ottawa Hospital, Ottawa, Canada
- 1994 Ph.D. Nuclear Instrumentation, Université d'Orsay, France
- 1991 M.Sc. Medical Imaging, Université de Compiègne (UTC), France
- 1990 M.Sc. Integrated Electronic Device (INSA), Lyon France
- 1988 Eng. Electrical and Computer Engineering, U. Sétif, Algeria

LANGUAGE PROFICIENCY

Fluent in English, French and Arabic

EMPLOYMENT HISTORY

June 2020 - Principal Medical Physicist
UPMC, Children's hospital and UPMC Shadyside
Clinical assistant professor

- Carrying clinical duties of a Medical Physicist at UPMC, Children's hospital
- Led the implementation of Theranostics at UPMC "Pluvicto dosimetry, 203PbVMT01_212PbVMT01 trial)
- Implementing extended SSD TBI ARC therapy for Adult at UPMC Shadyside
- Implementing VMAT TBI for pediatric patients at UPMC, Children's hospital

2007- 2019 Chief Medical Physicist
Princess Noorah Oncology Center
Ministry of National Guard Health Affairs, Jeddah, Saudi Arabia

- Led the acquisition of Cyberknife, expansion design and shielding calculation. Carried out ATP/Commissioning and clinical implementation.
- Led the Upgrade of the Princess Nora Oncology Center (2 Varian Trilogy one with HD-MLC, Siemens CT-Simulator, Eclipse TPS, ARIA Patient information system and R&V.
- Introduction of IMRT/RapidArc, SRS/SRT, IGRT
- Commissioned and performed special procedure TBI, SRS/SRT
- Led the technical committee for the purchase of PET/CT scanner for oncological applications, suite design, shielding calculation, commissioning and clinical use.

- Member of the technical committee for the setup of National Guard Oncology Center in Riyadh (3-Linac, CT-SIM, MR-SIM, HDRUNIT)
- Led the technical committee for the setup of National Guard Nuclear Medicine Center (1 Cyclotron, 2 PET-CT, 3 SPECTCT).
- Established a Personnel dosimetry lab using OSL technology.
- Led the technical committee for the setup of Iodine therapy suite
- Under my supervision setting up a QC for the radiology department
- Performed commissioning data review for American hospital in Dubai UAE
- Principal physicist for the new and under construction oncology center in the eastern province, Saudi Arabia. Site design, shielding calculation, equipment specification.

2010 – 2019 Senior Researcher and Imaging Team leader
King Abdullah International Medical & Research Center
Ministry of National Guard Health Affairs, Jeddah, Saudi Arabia
My research interest was focused on clinical research in collaboration with King Abdulaziz university (KAU) and king Abdullah university of science and technology (KAUST):

- Collaboration with KAUST for the development of new catheter for drug delivery using nanoneedle – Provisional Patent
- Research grant 1.6 M SAR for the use of OSL Technology to Setup a Diagnostic Reference Level Center
- The impacts of dental filling materials on RapidArc treatment planning and dose delivery In addition, multiple research platforms was proposed to enhance the KAIMRC contribution in imaging and therapeutic modalities research activities.
  Those platforms are:
  - Animal Imaging and Treatment Laboratory
  - GMP Isotope production facility
  - Cardiovascular Research Laboratory

2002-2007 **Medical Physicist**
The Ottawa Hospital Regional Cancer Centre, Ontario, Canada

- Performed equipment and planning QC,
- Performed special procedure TBI, SRS/SRT, HDR and LDR Prostate seeds implant
- Led the setup of PET-CT center, ATP and commissioning of the Philips Gemini PET/CT-SIM
- Member of the Technical committee for the purchase of CT-SIM and analysis of operational impact, ATP and commissioning
- Research grant 140K CAD for Supporting E-learning through 3D collaborative virtual environments for the Radiotherapy and Cancer Care teaching Applications

- Research grant 20K CAD for 4D anthropo-morphic torso-phantom
- Invented In-vivo 4D Dosimetry detector using MOSFET (Patent)

2002-2007 **Assistant Professor**
Department of Radiology, Faculty of Medicine, University of Ottawa, Canada
- Participate in teaching activities for radiation oncology residents and medical physics students and residents

1999 – 2002 **Medical Physics Resident**
Ottawa Regional Cancer Centre, Ottawa, ON, Canada
Passed CCPM member examination in 2002

1997- 1999 **Postdoctoral Fellow and Research Associate**
Université de Sherbrooke, Québec, Canada
- Detector development for PET scanner LSO/APD, GSO, YSO
- PET-SPECT-CT scanner detector (own patent)
- Grant 8K USD for PET detector development from Education and Research Foundation, Society of Nuclear Medicine "SNM"
- Young Investigator Award, Chicago, Illinois March 1999 "Future Directions in Nuclear Medicine Physics and Engineering"

1994-1996 **Project Manager**
MECASERTO, Paris, France
- Development of high-resolution gamma camera for thyroid scanning; detector and collimator design, Electronic and software development.

1991-1994 **Industrial PhD. IPN**
Université Paris XI, France
A Mini gamma camera for pre and per-operative radio guided cancer surgery

" 1990-1991 **Industrial MSc. "Mastere in Medicale Imaging**
Université de Technologie de Compiègne UTC, Compiègne, Oise, France
- Development of per-operative probe for cancer *guided* surgery

1989-1990 **MSc. "Microelectronic"**
INSA National Institute of Applied Sciences of Lyon, Lyon, France
- Characterization of III-V semiconductor

EDUCATIONAL ACTIVITIES

- Organize and taught in a yearly intensive review courses in imaging physics for radiology residents, Jeddah, KSA

- Taught seminars and courses for students and hospital staff in: Dosimetry protocols, Dosimetry Instrumentation, PET imaging in oncology, PET radiation safety, Errors in Radiation therapy and radiation oncology quality system
- Students Supervision:
    - MSc. Co-Supervisor Mr. Yusuf Mohammed graduated 2012 from KAU-Jeddah
    - Supervised Medical Physics BSc Students; in-house training (8-12 students/year for a period of 1-3 months)
    - Organizing Committee Member for the International Conference on Radiation Medicine (ICRM), ICRM-2012, ICRM-2014 and ICRM-2016

PATENTS

1. "Microneedle balloon catheter" K Moussi, J Kosel, A Ahmed, **A Saoudi** - US Patent App. 18/017,978, 2023
2. "Dual lumen extracorporeal membrane oxygenation catheter with single entry port bypassing the right heart and lungs" AA Haneef, A Saoudi - US Patent 11,701,461, 2023
3. "Radiation dosimetry apparatus and method, and dosimeter for use therein", A. Saoudi, Joanna Ewa Cygler, Robert William Ashton, 20090010390, 01-August-2009
4. "Detector assembly for multi-modality scanners" A. Saoudi, R. Lecomte, United States Patent and Trademark Office, Patent no. 6,448,559 registered 5 November 1999, issued 10 September 2002.
5. "Detector assembly for multi-modality scanner", A. Saoudi, R. Lecomte, Brevet Canadian no 2,252,993, registred 6 November 1998.

PUBLICATIONS SUMMARY

Patents …… 05
Papers in refereed journals …… 18
Papers in refereed conference proceedings …… 33
Abstract and communications …….. 48

PAPERS IN REFEREED JOURNALS

1. Manel Dhahri, Salim Sioud, Shuruq Alsuhaymi, Fatimah Almulhim, Ali Haneef, Abdelhamid Saoudi, Mariusz Jaremko, Abdul-Hamid M Emwas, "Extraction, characterization, and antioxidant activity of polysaccharides from Ajwa seed and flesh" Separations 10 (2), 103, 2023
2. Rawiah A Alsiary, Mawadda Alghrably, **Abdelhamid Saoudi,** Suliman Al-Ghamdi, Lukasz Jaremko, Mariusz Jaremko, Abdul-Hamid M. Emwas, " Using NMR spectroscopy to investigate the role played by copper in prion diseases. Journal Neurological sciences, Apr 25 2020.
3. Noor Mail, Suliman M. AlGhamdi, Carelse Chantel, Farid Sedhu, Atique Rana, **Abdelhamid Saoudi**, "Customized double shell immobilization device combined with VMAT radiation treatment of basosquamous cell carcinoma od the scalp", JACMP, January 2019
4. Hawsawi, M., Amara S., Mashraei Y., Almansouri A., Mohammad H., Sevilla G., Torres Jakob G., Jaiswal, S., K swal, S., Klaui M., Haneef A., **Saoudi A.,** Hussain M., Kosel J., "Flexible magnetoresistive sensor for guiding cardiac catheters", 2018.
5. Noor Mail, Muhammad Yusuf, Nazeeh Alothmany, A. Abdulrahman Kinsara, Fahad Abdulkhaliq, Suliman M. Ghamdi, **Abdelhamid Saoudi**, "A methodology for on-board CBCT imaging dose using optically stimulated luminescence detectors", Volume 17, Issue 5, pages 482-499, 2016
6. Fahad Ahmed Hussain, Noor Mail, Abdulrahman M. Shamy, Suliman Alghamdi, **Abdelhamid Saoudi**, "A qualitative and quantitative analysis of radiation dose and image quality of computer tomography images using adaptive statistical iterative reconstruction", JACMP, Volume 17 Issue 3, pages 419-432, May 2016.
7. N. Alothmany, N.I. Molla, N. Yusuf, **A. Saoudi,** N. Mail, D. Alothmany, M.A. Khafaji, H. Natto, M. Tayeb, F. Nadwi, A. Jiman and A.A. Kinsara, "Characterization of optically stimulated luminescence for assessment of breast doses in mammography screening", Radiopro 150051; 11:59, pp 1-8; 2016
8. Abdulhamid M. Emwas, Tony Antakly, **Abdelhamid Saoudi**, Suliman Al Ghamdi and Hacene Serrai, "Magnetic Resonance spectroscopy and imaging in breast cancer prognosis and diagnosis", Book chapter, Application of NMR Spectroscopy, Vol 3, 4-35, 2015.
9. Muhammad Yusuf, **Abdelhamid Saoudi**, Nazeeh Alothmany, Dheya Alothmany, Hattan Natto, Sameer Natto, Nurul Islam Molla, Noor Mail, Ahmad Hussain, Abulraheem Abdulrahman Kinsara, "Characterization of the Optically Stimulated Luminescence nanodot for CT dosimetry", Life science journal 11(1), 2014.
10. Noor Mail, Y Albarakati, M Ahmad Khan, F Saeedi, N Safadi, S AlGhamdi, **A. Saoudi**, "The impacts of dental filling materials on RapidArc treatment planning and dose delivery: challenges and solution, Medical Physics; 40(8):081714, 08/2013.
11. Mail N, Albarakati Y, Khan M.A, Saeedi F, Safadi N, AlGhamdi S, **Saoudi A,** "Dosimetric consideration for patients TM SPIE Vol. 8313 831344, pp.1-8, 2012.
12. J. E., Cygler, **A. Saoudi**, G., Perry, C., Morash, C., E, "Feasibility study of using MOSFET detectors for in vivo dosimetry during permanent low-dose rate prostate implants", Radiotherapy and Oncology 80: 296-301; 2006.

13. Mullins D, Proulx D, **Saoudi A**, Ng CE., " Chronomodulation of topotecan or Xradiation treatment increases treatment efficacy without enhancing acute toxicity." Int. J. Rad. Oncol. Biol. Phys. 62(1):230-7 May 2005.
14. **Saoudi A,** Pepin CM, Lecomte R, "Study of light collection in multi-crystal detectors", IEEE Transaction on Nuclear Science, vol. 47, no 4, part 2, pp. 1634-1639, august 2000.
15. Binkley DM, Puckett BS, Casey ME, Lecomte R, **Saoudi A,** "A power-efficient lownoise, wideband, integrated CMOS preamplifier for LSO/APD PET systems", IEEE Transaction on Nuclear Science, vol. 47, no 3, part 2, pp. 810-817, June 2000.
16. **Saoudi A,** Lecomte R, "A novel APD-based detector module for multi modality PET/SPECT/CT scanners", IEEE Transaction on Nuclear Science, vol. 46, no. 3 part 2, pp. 479-484, 1999
17. **Saoudi A,**Pepin CM, Dion F, Bentourkia M, Lecomte R, Andreaco M, Casey M, Nutt R, DautetH,"Investigation of depth-of interaction by pulse shape discrimination in multicrystal detectors read out by avalanche photodiodes", IEEE Transaction on Nuclear Science, vol. 46, no.3 part 2, pp. 462-467, 1999.
18. **Saoudi A,** Pepin C, Houde D, Lecomte R., "Scintillation light emission studies of LSO scintillators", IEEE Transaction on Nuclear Science, vol. 46, no. 6 part 2, pp. 1925-1928, 1999.
19. Lecomte R, Pepin C, Rouleau D, **Saoudi A,** Andreaco MS, Casey M, Nutt P, Dautet H, Webb PP, "Investigation of GSO, LSO and YSO scintillators using reverse avalanche photodiodes", IEEE Transaction on Nuclear Science, vol. 45, pp. 478-482, 1998.
20. Menard L, Mastrippolito R, Charon Y, Laniece P, Pinot L, Ploux L, **Saoudi A**, Solal M, Ricard M, Valentin L, "RITM - A Mini gamma camera for pre and per operative radio guided cancer surgery evaluation for bone tumor localization in theater blocks", IEEE Transaction on Nuclear Science, vol. 44, pp. 2445-2449, 1997.