



Hani H. Negm

» Ph.D. in Nuclear Physics

Nuclear Science & Technology, Nuclear Safeguard, Radiation Detection & Measurement, Monte Carlo Particle Transport Simulation.

» Lecturer of Physics

Department of Physics, Faculty of Science, Assiut University, Assiut 71516, Egypt.

✉ negm_sci@aun.edu.eg

✉ negm_sci@yahoo.com

Websites:

[University Profile](#)

[Google Scholar](#)

[Scopus](#)

[ORCID ID](#)

[Research Gate](#)

[Mendeley profile](#)

▷ Employment:

- ◉ **Jan. 2015** » **Lecturer of Physics (Full time – Permanent),**
↳ **Current** Physics Department, Faculty of Sci., Assiut University, Assiut, EGYPT.

- ◉ **Mar. 2017** » **Coordinator of the University in the National Bank for Scientific**
↳ **Current** **Laboratories and Equipment in Egyptian Universities.**
<http://www.nrl.eg/Browse.aspx>
↳ **Director of the Laboratories and Scientific Devices Unit, Assiut University.**

- ◉ **Sep. 2016** » **Lecturer of Physics @ EELU (part time – 3 credit hours),**
↳ **Current** Faculty of Computer and Information Technology (IT), National Egyptian E-Learning University (EELU), EGYPT.

- ◉ **Jan. 2018** » **Postdoc -> Nuclear Physics (Nuclear Security Applications),**
– **Jul. 2018** Institute of Advanced Energy, Kyoto University, Kyoto 611-0011, JAPAN.

- ◉ **May 2009** » **Assistant Lecturer,**
– **Dec. 2014** Physics Department, Faculty of Sci., Assiut University, Assiut, EGYPT.

- ◉ **Nov. 2004** » **Demonstrator,**
– **Apr. 2009** Physics Department, Faculty of Sci., Assiut University, Assiut, EGYPT.

▷ Education/Degrees:

- » **Nov. 2014** » **Ph.D. in Nuclear Physics,**
Kyoto University, Kyoto, JAPAN.
Thesis: Studies on the Optimum Geometry for a Nuclear Resonance Fluorescence Detection System for Nuclear Security Applications

- » **Apr. 2009** » **M.Sc. in Physics (Experimental Nuclear Physics),**
Assiut University, Assiut, EGYPT.
Thesis: Studies of the Natural Radioactivity Levels and Radiological Effects of Some Local Fertilizers.

- » **Oct. 2006** » **Pre-M.Sc Courses in Physics (Nuclear Physics),**
Assiut University, Assiut, EGYPT.
Courses: Radiation Physics, Nuclear Reactions, Theoretical Nuclear Physics, Quantum Mechanics, Nuclear Models, Programming and Computer, Practical Course. Grade: 91% (Accumulative)

- » **Jul. 2004** » **B.Sc. in Physics (General Physics),** GPA: "90.75%".
Assiut University, Assiut, EGYPT.

▷ Research Experiences/Skills:

- Isotope imaging for nuclear safeguards applications,
- Passive and active detection techniques,
 - Gamma-ray spectroscopy,
- Monte Carlo Particle Transport Simulation, GEANT4:
 - ⇒ Performance of the detection system,
 - ⇒ Energy response function (ERF) for detectors,
 - ⇒ Efficiency calculations for detection systems,
- Data analysis, ROOT.
- Laser Compton Scattering (LCS) gamma-ray.
- Familiar with neutron detection techniques.
- Willingness to travel and participate in experiments at national and international facilities.
- Ability to work in different environments, with team and independent.

▷ Awards:

- ⇒ 2018 » **Best research topic and presentation.**
Eco-Energy and Materials Science and Engineering Symposium (EMSES-2018),
03-06th April 2018, Kyoto, JAPAN.

- ⇒ 2012 » **Best research topic and presentation.**
GOCE, Kyoto University, JAPAN.

- ⇒ 2011 » **Best research topic and presentation.**
GOCE, Kyoto University, JAPAN.

- ⇒ 2008 » **Medal of Faculty of science, Assiut University for the Best Oral Presentation.**
The 2nd Conference for Young Scientists,
Basic Science & Technology, Assiut University, EGYPT.

- ⇒ 2008 » **Medal of EAEA for the Best Oral Presentation.**
IX Radiation Physics and Protection Conference, NNRP, EAEA, Cairo, EGYPT.

▷ Schools/Training/Workshop/Conferences (Selected):

- » Oct. 2018 » **12th Radiation Physics and Protection Conference,**
27-29 Oct 2018, EAEA Headquarter, Nasr city, Cairo, EGYPT.

- » Apr. 2018 » **Eco-Energy and Materials Science and Engineering Symposium (EMSES-2018),**
03-06th April 2018, Kyoto, JAPAN.

- » Oct. 2017 » **10th Conference on Nuclear and Particle Physics,**
7-10 Oct. 2017, Hurghada, EGYPT.

- » Oct. 2013 **1. Physics and Design of Detectors for SPECT and PET,**
2. Geant4 Simulation Toolkit,
Short courses, 2013 IEEE NSS/MIC, COEX, Seoul, KOREA.

- » Jun. 2013 » **Radiation detection and measurement methods,**
Short course, 2013 Advancements in Nuclear Instrumentation Measurement Methods
and their Applications (ANIMMA), Marseille, FRANCE.

- » May 2012 » **4th G-COE International Symposium in collaboration with JGSEE “ZERO-
CARBON ENERGY 2012”,** 22 – 23 May 2012, Bangkok, THAILAND.

- » May 2012 » **2012 IEEE Symposium on Radiation Measurements and Applications (SORMA-
2012),** 14-17 May 2012, Oakland, San Francisco, California, USA.

» Dec. 2011	» Geant4 Training Course , Epochal Tsukuba International Congress Center, Tsukuba, JAPAN.
» Jan. 2011	» Medical Physics and Radiation Protection , 2 nd International Workshop on Nuclear Science and its Peaceful Applications, Cairo University, Giza, EGYPT.
» Nov. 2010.	» High Energy Physics The Egyptian – French School, Egyptian Network on high energy physics (ENHEP), Helwan University, Helwan, EGYPT.
» May-Jun. 2010	» Neutron Physics and Application in Material and Nuclear Physics , 2 nd Summer School, Joint Institute for Nuclear Research (JINR), Dubna, RUSSIA.
» Mar.-Apr. 2010	» Principal Training Program for Radiation Protection , Training Course, Egyptian Atomic Energy Authority (EAEA), Nasr city, Cairo, EGYPT.
» May-Jun. 2009	» High Energy Physics , School, Egyptian Center for Theoretical Physics (ECTP), British University in Egypt (BUE), Al-Shorouk City, Cairo, EGYPT.
» Dec. 2005	» Uses of Radiation Detection Instruments and their Calibration , Training Course, Egyptian Atomic Energy Authority, Nasr city, Cairo, EGYPT.

► Publications List:

1. **Hani Negm**, Heishun Zen, Hideaki Ohgaki, CT Isotope Imaging Using Nuclear Resonance Fluorescence for Future Nuclear Safeguards: Monte Carlo Simulation of Prototype Experiment with ²⁰⁸Pb, under submission.
2. **H. Negm**, H. Ohgaki, I. Daito, T. Kii, M. Omer, H. Zen, K. Masuda, T. Hori, R. Hajima, T. Hayakawa, T. Shizuma, N. Kikuzawa, H. Toyokawa "Energy response function of a LaBr₃:Ce detector using GEANT4 and the feasibility of using LaBr₃:Ce in a nuclear materials assay," under submission.
3. **H. Negm**, H. Ohgaki, I. Daito, T. Hayakawa, H. Zen, T. Kii, K. Masuda, T. Hori, R. Hajima, T. Shizuma, N. Kikuzawa, "Reaction-yield dependence of the (γ, γ') reaction of ²³⁸U on the target thickness," *J. Nucl. Sci. Technol.*, Vol. 52(6), pp 811–820, 2014.
4. **H. Negm**, I. Daito, H. Zen, T. Kii, K. Masuda, T. Hori, H. Ohgaki, R. Hajima, T. Shizuma, T. Hayakawa, H. Toyokawa, "A Study of the nuclear resonance fluorescence reaction yield dependence on the target thickness of ²⁰⁸Pb," *Proc. of NPNSNP (Nuclear Physics and Gamma-Ray Sources for Nuclear Security and Nonproliferation)*, 2014, World Scientific, pp. 291–299, 2014.
5. K. Torgasin, K. Mishima, H. Zen, K. Yoshida, **H. Negm**, M. Omer, T. Kii, K. Nagasaki, K. Masuda and H. Ohgaki, "Properties of quarter-wavelength coaxial cavity for triode-type thermionic RF gun," *Jpn. J. Appl. Phys.* 56 119201, 2017
6. Moamen M.O.M. Aly, **Hani Negm**, Shima A. Fouad, "Quality Assurance of Three-Dimensional Treatment Planning System for External Photon Beam Radiotherapy," *Journal of Applied Physics (IOSR-JAP)*, Vol. 9 (3) Ver. I, PP 125-133, 2017.
7. K. Yoshida, T. Sonobe, H. Zen, K. Hachiya, K. Okumura, K. Mishima, M. Inukai, **H. Negm**, K. Torgasin, M. Omer, R. Kinjo, T. Kii, K. Masuda, H. Ohgaki, "Effect of microwave irradiation on the electronic structure of ZnO," *J. Phys. Chem. Solids*, Vol. 83, pp 47–51, 2015
8. H. Ohgaki, M. Omer, **H. Negm**, I. Daito, H. Zen, T. Kii, K. Masuda, T. Hori, R. Hajima, T. Hayakawa, T. Shizuma, M. Kando, "NRF Based Nondestructive Inspection System for SNM by Using Laser-Compton-Backscattering Gamma-Rays," *proc. of NPNSNP (Nuclear Physics and Gamma-Ray Sources for Nuclear Security and Nonproliferation)*, World Scientific, pp. 203–208, 2014.
9. R. Hajima, M. Ferdows, T. Hayakawa, T. Shizuma, M. Kando, I. Daito, **H. Negm**, H. Ohgaki, "Status of Laser Compton Scattering Gamma-ray Source at JAEA 150-MeV Microtone," *Proc. of IPAC 2014, Dresden, Germany*, pp. 1943–1945, 2014.
10. R. Kinjo, K. Mishima, Y-W. Choi, M. Omer, K. Yoshida, **H. Negm**, K. Torgasin, M. Shibata, K. Shimahashi, H. Imon, K. Okumura, M. Inukai, H. Zen, T. Kii, K. Masuda, K. Nagasaki, H. Ohgaki "Magnetic property of a staggered-array undulator using a bulk high-temperature superconductor", *Phys.Rev.Accel.Beams*, Vol. 17(2), pp. 022401(1-12), 2014.
11. **H. Negm**, H. Ohgaki, I. Daito, T. Hori, T. Kii, H. Zen, R. Hajima, T. Hayakawa, T. Shizuma, S. Fujimoto, "Study on

Detector Geometry for Active Non-destructive Inspection System of SNMs by Nuclear Resonance Fluorescence," *Proc. of IEEE HST 2015*, DOI:10.1109/THS.2015.7225324, pp. 1–5, 2015.

12. K. Yoshida, H. Zen, K. Okumura, K. Shimahashi, M. Shibata, T. Komai, H. Imon, **H. Negm**, M. Omer, Y-W. Choi, R. Kinjo, T. Kii, K. Masuda, H. Ohgaki, "Optimization of the New Designed FEL Beam Transport Line," *Zero-Carbon Energy Kyoto 2012 Springer Japan*, Chapter 22, pp 205-216, 2013.
13. **H. Negm**, M. Omer, H. Zen, T. Kii, K. Masuda, T. Hori, H. Ohgaki, R. Hajima, N. Kikuzawa, T. Shizuma, T. Hayakawa, I. Daito, H. Toyokawa, "Optimization of Geometric Configuration of Detector System for Nondestructive Assay Using Nuclear Resonance Fluorescence Technique with Laser Compton Backscattering," *Proc. of IEEE NSS/MIC 2013*, pp. 1–4, 2013.
14. H. Ohgaki, H. Zen, Y-W. Choi, H. Imon, T. Kii, R. Kinjo, T. Konstantin, K. Masuda, **H. Negm**, K. Okumura, M. Omer, M. Shibata, K. Shimahashi, K. Yoshida, "DEVELOPMENT OF BEAM POSITION FEEDBACK CONTROL SYSTEM IN KU-FEL," *Proc. of IPAC 2013, Shanghai, China*, pp. 2968–2970, 2013.
15. **H. Negm**, M. Omer, H. Zen, I. Daito, T. Kii, K. Masuda, T. Hori, H. Ohgaki, R. Hajima, T. Hayakawa, T. Shizuma, N. Kikuzawa, H. Toyokawa, "Monte Carlo Simulation of Response Function for LaBr₃(Ce) detector and Its Internal-Activity," *Proc. of IEEE ANIMMA 2013*, 1–5, 2013.
16. M. Omer, **H. Negm**, H. Ohgaki, I. Daito, T. Hayakawa, M. Bakr, H. Zen, T. Hori, T. Kii, K. Masuda, R. Hajima, T. Shizuma, H. Toyokawa, N. Kikuzawa, "Analysis of nuclear resonance fluorescence excitation measured with LaBr₃(Ce) detectors near 2 MeV" *Nucl. Inst. Meth. Phys. Res. A*, Vol. 729, pp. 102–107, 2013.
17. M. Omer, **H. Negm**, H. Zen, I. Daito, T. Kii, K. Masuda, H. Ohgaki, R. Hajima, T. Shizuma, T. Hayakawa, N. Kikuzawa, "Nuclear Resonance Fluorescence of ²³⁵U Measured with High-Resolution LaBr₃(Ce) Scintillation Detectors," *Jpn. J. Appl. Phys.*, Vol. 52 (10), pp. 106401(1–4), 2013.
18. **H. Negm**, M. Omer, R. Kinjo, Y.W. Choi, K. Yoshida, H. Zen, T. Hori, T. Kii, K. Masuda, H. Ohgaki, "Monte Carlo Calculations of γ -rays Angular Distribution Scattering from ¹¹B in (γ , γ) Interaction," *Zero-Carbon Energy Kyoto 2012 Springer Japan*, Chapter 21, pp. 197–203, 2013.
19. M. Omer, **H. Negm**, R. Kinjo, Y. Choi, K. Yoshida, T. Konstantin, M. Shibata, K. Shimahashi, H. Imon, H. Zen, T. Hori, T. Kii, K. Masuda, H. Ohgaki, "Analysis of SNIP algorithm for background estimation in spectra measured with LaBr₃: Ce detectors," *Zero-Carbon Energy Kyoto 2012 Springer Japan*, Chapter 27, pp. 245–252, 2013.
20. K. Mishima, K. Torgasin, K. Masuda, M. Inukai, K. Okumura, **H. Negm**, M. Omer, K. Yoshida, H. Zen, T. Kii, H. Ohgaki, "NUMERICAL STUDY ON ELECTRON BEAM PROPERTIES IN TRIODE TYPE THERMIONIC RF GUN," *Proc. of FEL2013, New York, NY, US*, pp 344–347, 2013.
21. M. Omer, **H. Negm**, H. Zen, T. Hori, T. Kii, K. Masuda, H. Ohgaki, R. Hajima, T. Hayakawa, T. Shizuma, M. Fujiwara, S.H. Park, N. Kikuzawa, G. Rusev, A.P. Tonchev, Y.K. Wu, "Active Interrogation of Nuclear Materials Using LaBr₃: Ce Detectors," *Energy Procedia*, 34, pp. 50–56, 2013.
22. K. Yoshida, T. Sonobe, H. Zen, K. Hachiya, K. Okumura, K. Mishima, M. Inukai, **H. Negm**, K. Torgasin, M. Omer, T. Kii, K. Masuda, H. Ohgaki, "Experimental demonstration of mode-selective phonon excitation of 6H-SiC by a mid-infrared laser with anti-Stokes Raman scattering spectroscopy," *Appl. Phys. Lett.*, Vol. 103(18), pp. 182103, 2013.
23. M. Omer, H. Ohgaki, **H. Negm**, I. Daito, T. Hori, T. Kii, H. Zen, R. Hajima, T. Hayakawa, T. Shizuma, M. Fujiwara, "Performance of LaBr₃(Ce) array detector system for non-destructive inspection of special nuclear material by using nuclear resonance fluorescence," *Proc. of IEEE HST 2013*, pp. 671–676, 2013.
24. K. Shimahashi, H. Zen, K. Okumura, M. Shibata, H. Imon, T. Konstantin, **H. Negm**, M. Omer, K. Yoshida, Y-W. Choi, R. Kinjo, K. Masuda, T. Kii, H. Ohgaki "Investigation of Electron Beam Parameter in Seeded THz-FEL Amplifier using Photocathode RF Gun," *Energy Procedia*, Vol. 34, pp. 863–870, 2013.
25. K. Yoshida, H. Zen, M. Inukai, K. Okumura, K. Mishima, K. Shimahashi, M. Shibata, H. Imon, **H. Negm**, T. Konstantin, M. Omer, R. Kinjo, Y-W. Choi, T. Kii, K. Masuda, H. Ohgaki "Observation of High Harmonic Generation from SiC by MIR-FEL Irradiation," *Energy Procedia*, Vol. 34, pp. 932–936, 2013.
26. M. Omer, **H. Negm**, H. Zen, T. Kii, K. Masuda, H. Ohgaki, I. Daito, R. Hajima, T. Shizuma, T. Hayakawa, N. Kikuzawa, "Wide range automatic energy calibration of LaBr₃:Ce detectors by the self-activity lines," *Proc. of IEEE NSS/MIC 2013*, pp. 1–4, 2013.
27. R. Kinjo, T. Kii, M. Shibata, M. Bakr, Y-W. Choi, M. Omer, K. Yoshida, **H. Negm**, N. Kimura, K. Ishida, H. Imon, T. Komai, K. Shimahashi, H. Zen, T. Sonobe, K. Masuda, K. Nagasaki, H. Ohgaki, "Improvement of trapped field in DyBaCuO bulk by proton irradiation," *Physica C: Superconductivity*, Vol. 484, pp. 117–119, 2013.
28. M. Omer, **H. Negm**, H. Zen, I. Daito, T. Kii, K. Masuda, H. Ohgaki, R. Hajima, T. Shizuma, T. Hayakawa, N. Kikuzawa, "Feasibility of LaBr₃(Ce) detector to measure nuclear resonance fluorescence from special nuclear materials," *Proc. of IEEE ANIMMA 2013*, 1–4, 2013.
29. T. Kii, M. Omer, **H. Negm**, Y.W. Choi, R. Kinjo, K. Yoshida, T. Konstantin, N. Kimura, K. Ishida, H. Imon, M. Shibata, K. Shimahashi, T. Komai, K. Okumura, H. Zen, K. Masuda, T. Hori, H. Ohgaki, "Design Study for Direction Variable Compton Scattering Gamma Ray," *J. Phys.: Conf. Ser.* 425, 192020(1–4), 2013.

30. H. Ohgaki, M. Omer, **H. Negm**, T. Hori, T. Kii, Kai Masuda, M. Kando, I. Daito, T. Misawa, C. Pyeon, S. Fujimoto, R. Hajima, T. Hayakawa, T. Shizuma, M. Fujiwara, F. Sakai, S. Hee Park, "Non-destructive inspection system for special nuclear material using inertial electrostatic confinement fusion neutrons and Laser Compton Scattering Gamma-rays," *Proc. of IEEE HST 2012*, pp. 666–671, 2012.
31. M. Omer, **H. Negm**, H. Zen, T. Hori, T. Kii, K. Masuda, H. Ohgaki, R. Hajima, T. Hayakawa, I. Daito, T. Shizuma, M. Fujiwara, S.H. Park, N. Kikuzawa, G. Rusev, A.P. Tonchev, Y.K. Wu, "Detection of photon-induced excitations in ^{235}U with $\text{LaBr}_3\text{:Ce}$ scintillating detectors," *Proc. of IEEE NSS/MIC 2012*, pp. 55–58, 2012.
32. **H. Negm**, S. Harb, A. H. El-Kamel, A.I. Abd El-Mageed, A. Abbady, "Natural Radioactivity Measurements in Soil and Phosphate Samples from El-Sabaea, Aswan, Egypt," *Arab Journal of Nuclear Science and Applications*, Vol. 42, 233–237, 2009.