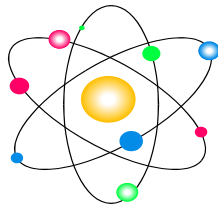


# Programme

## 10<sup>th</sup> Nuclear and Particle Physics Conference



**NUPPAC' 17**

**7-10 October 2017  
Hurghada, Egypt**

**Programme of**

**10<sup>th</sup> Nuclear and Particle  
Physics Conference  
7-10 October 2017  
Hurghada, Egypt**

**NUPPAC' 17**

**Organized by**

**Egyptian Nuclear Physics Association (ENPA)  
Cairo, Egypt**

**Conference Chairperson**  
**Prof.Dr. M.N.H. Comsan**

**Conference Coordinator**  
**Prof.Dr. K.M. Hanna**

**ENPA Board**

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Kh. A. Allam	M.S.M. El-Tahawy	I. Tag El-Din
M.N.H. Comsan	M.A.M. Gomaa	Z.A. Saleh

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**Executive Committee**

M. Tohamy Abdelghany

**NUPPAC' 17**

**Conference Programme**

**Saturday, 7 Oct. 2017**

**7:00**

**Gathering**

EAEA site, 3 Ahmed El-Zomor St., El-Zohour District, Nasr City, Cairo

**7:00 – 7:30**

Registration - Cairo

**7:30**

**Departure**

**12:30-13:00**

**Arrival** – Hurghada

**13:00-17:45**

**Registration Desk**

**13:00–14:00**

**Hurghada Registration**

Hotel accommodation

**14:00-15:00**

Lunch

**16:00-16:15**

**Opening Ceremony**

**16:15-17:45**

**Session Oral-1: Neutrons and Applications**

[19/22/18/50]

**Chairperson: M. Adib**

- 1 Determination of concentrations of Fe, Mg and Zn in some ferrite samples using neutron activation analysis and X-ray fluorescence techniques: I.A. Ali, Gehan Y. Mohamed, A. Azzam and A.A. Sattar [19]
- 2 Design simulation of a 30 Curi AmBe irradiation facility: N.A. Kotb, Ahmed H.M. Solieman, T.Z. Amer, T. El-Zakla, S. Elmeniawi, and M.N.H. Comsan [23]

- 3 In-phantom neutron transport monitoring using neutron activation analysis: M. Fayz-Hassan, Gehan Y. Mohamed, Elsayed K. Elmaghraby, and M.A. Ali [18]
- 4 Characterization of photo-neutrons produced by 150 MeV and 1 GeV electrons impinging on high Z-metallic targets for neutron resonance spectroscopy: ElTayeb ElSaady, Mustafa M.M. ElAshmawy, Hosnia M. Abu-Zeid, Afaf A. Nada and Fatma ElZahraa M. Ragab [50]

**21:00-23:00**

Free Evening

**Sunday, 8 Oct. 2017**

**9:30-17:30**

**Registration Desk**

**9:30-11:00**

**Session Oral-2: Selected Topics-1**

[37/48/41/49]

**Chairperson: A.Z. Hussein**

- 1 Reliability analysis of the reactor protection system using reliability block diagram E.A. Eisawy and A.M. Khatab [37]
- 2 Development of selenium compounds as targets for  $^{76,77}\text{Br}$  production using protons of energies up to 34 MeV: H.E. Hassan, K.M. ElAzony, A. Azzam, and S.M. Qaim [47]
- 3 Investigation of  $\Delta I = 1$  level staggering in doubly odd Tantalum nuclei: A.M. Khalaf, M. Kotb and Asmaa Abdelsalam [41]
- 4 Purification and biological evaluation of radioiodinated of 5-aminoisoquinoline: a novel Poly (ADP-ribose) polymerase-1 inhibitor: T. El-Hamoly, H. Aglan, M. Al-Abyad and S. Kandil [49]

**9:30-11:00**

**Session Oral-3: Nuclear Safety** [10/8/29/5]

**Chairperson: R. Ezzedin**

- 1 Review of geophysical methods for site characterization of nuclear waste disposal sites: S.T. El-hemimy and Nadia Mahmoud Sirag [10]

- 2 Risk assessment of Mediterranean Sea waters on cooling system of nuclear power plant: M.S. Tawfik and F.S. Tawfik [8]
- 3 Implementations of atmospheric dispersion models by MATLAB: Medhat M Abdelaal Soliman [29]
- 4 Analytical study for architectural design for nuclear power plants – Review paper: Mohamed Abd El-Monem Zaki Farahat [5]

**11:00 - 12:30** **Session KN: Keynote Talks** [12/1/6]

**Chairperson: M.N.H. Comsan**

- 1 Thorium a promising source for nuclear energy: M.N.H. Comsan [12]
- 2 Simulation of filtered quasi mono-energetic neutron beams in keV energy region: Hanan N. Morcos, Kamelia Naguib and Mamdouh Adib [1]
- 3 Attenuation of gamma rays emitted from contaminated individual using homogeneous and heterogeneous shields: M.A.M. Gomaa [6]

**13:00 - 14:00** **Lunch**

**14:30 - 16:00** **Session Oral-4: Natural Radioactivity & Environment-1** [2/16/52]

**Chairperson: S.T. El-hemimy**

- 1 The role of environmental isotopes in hydrological studies: Sawsan Abd El Samie, [16]
- 2 Greenhouse controlled study of the uptake of  $^{226}\text{Ra}$  by leafy vegetables: A. El-Sharkawy and H.S. Orabi [52]

- 3 A novel algorithm for analysis of environmental database: M. Hefnawi [2]

**14:30 - 16:00** **Session Oral-5: Fuel Cell Technologies** [33/36/35]

**Chairperson: E.E Abdel-Hady**

- 1 A non-precious fuel cell catalyst using a metal oxide nanoparticle: E.E. Abdel-Hady, Hamdy F.M. Mohamed, M. Ibrahim, H. Ahmed, M. Mondy and H. Yehia [33]
- 2 Proton dynamics in Ethylene (chlorotrifluoroethylene) as a proton exchange membrane: M.O. Abdel-Hamed, E.E. Abdel-Hady, and M.F. Hmam [36]
- 3 Free volume and transport properties for Nafion HP JP: Hamdy F.M. Mohamed, E. E. Abdel-Hady, M.O. Abdel-Hamed and Michael Said [35]

**16:00 - 17:30** **Session Oral-6: Radiation Interactions and Detectors** [14/17/24/38]

**Chairperson: M. Adib**

- 1 Simulation of Germanium based gamma spectrometers using Monte Carlo technique: A.H.M. Solieman [14]
- 2 Improvement of LR-115 (NTDs) registration response of charged particle spectroscopy and energy identification applications: E.H. Ghanim, Kh.A. Shnishin, A. Hussein and H.M. El Samman [17]
- 3 Investigation of the gamma-rays attenuation coefficients by experimental and MCNP simulation for polyamide 6/ acrylonitrile-

butadiene-styrene blends: A.Y. Abdel-Haseib, Z. Ahmed, and Medhat M. Hassan [24]

- 4 Energy response function of LaBr<sub>3</sub>:Ce detector using Monte Carlo simulation, GEANT4, and feasibility of utilizing it in nuclear application: Hani Negm and Hideaki Ohgaki [38]

**16:00 - 17:30 Session Oral-7: Selected Topics-2**

[55/57/30/56]

**Chairperson: E.E Abdel-Hady**

- 1 Space-time fractional KdV equation for plasma of warm ions and isothermal electrons: Abeer A. Mahmoud and H.G. Abdelwahed [55]
- 2 Space-time fractional KdV equation for dusty plasma in two temperatures charged dusty grains: H.G. Abdelwahed and Abeer A. Mahmoud [57]
- 3 Behavior of electron beam dynamics in axial virtual cathode oscillator: A.M. Shagar [30]
- 4 The effect of superthermal distributed electrons and ions on the dynamics of solitary and shock waves interaction: H.F. Darweesh, A.M. El-Hanbaly and Essam M. Abulwafa [56]

**21:00 – 23:00 Cultural Evening\***

**Monday, 9 Oct. 2017**

**9:30 - 13:00**

**Free Beforenoon Hurghada**

(For entertainment and cultural activities)

**13:00 - 14:00**

**Lunch**

**13:00 – 17:30**

**Registration Desk**

**14:30 - 16:00**

**Session Oral-8: Natural Radioactivity & Environment-2** [43/39/54]

**Chairperson: M.A.M. Gomaa**

- 1 Natural radionuclides (<sup>226</sup>Ra, <sup>232</sup>Th, and <sup>40</sup>K) and <sup>222</sup>Rn and annual effective dose rate levels in tap water samples from Luxor, Egypt: S. Harb, Karem. M. Moubark, Mahmoud A. Kilany, and C. Walther [43]
- 2 Measurements of natural radioactivity and associated radiological Hazards in sand and gravel quarries in Assiut, Egypt: Mahmoud Moussa, M.A.M. Uosif, Shams A.M. Issa, A.A. Ebrahim and Elbadry M. Zahran [39]
- 3 Transfer factor of natural radionuclides from soil to plant in Upper Egypt: W. Badawy, S. Harb, N.K. Ahmed and Nagwa Saad [54]

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\*) At extra charges, please contact conference secretary.

**14:30 - 16:00 Session Oral-9: Selected Topics-3**

[26/58/59]

**Chairperson: M.N.H. Comsan**

- 1 Reaction and total cross section of K<sup>+</sup> meson from <sup>40</sup>Ca nucleus at some intermediate energies: Sh.M.E. Sewailem [26]
- 2 Solutions of variable coefficients CKP equation for dusty plasma system with G'/G-expansion method: S. Reyiad, M.M. Selim, A. EL-Depsy and S.K. El-Labany [58]
- 3 Albedo problem for pure-triplet scattering in a finite medium with optically smooth and rough surfaces: A. El-Depsy and A.M. Shawky [59]

**16:00-17:30**

**Poster Session-1** [7/9/21/23/27/28]

**Chairperson: M.A.M. Gomaa**

- 1 Sol-gel auto-combustion synthesis of Sm doped Ni-ferrite and its characterization: M. Yehia and A. Hashhash [7]
- 2 New trends in the internal design for radiation protection in radiological medical facilities: Nadia Mahmoud Sirag [9]
- 3 The effect of external neutron source with thorium inside PWR core with different configurations: A.M.M. Ali, Hanaa H. Abou-Gabal, Alya Badawi and A.A. Elkafas [21]
- 4 Identification of <sup>235</sup>U short-lived fission products by delayed gamma-ray emission using <sup>241</sup>Am-Be neutron source: M. Tohamy,

S. Abd El-Ghany, S. M. El-Minyawi, M. Fayez-Hassan, Elham H. El-hakim, Sayed A. El-Mongy and M. N. H. Comsan\_ [23]

- 5 Design of portable shield for neutron sources using MCNP computer code: R.M.M. Mahmoud [27]
- 6 Multi-source irradiation facility with improved space configuration for neutron activation analysis: design optimization: N.A. Kotb, Ahmed H.M. Solieman, T. El-Zakla, T.Z. Amer, S. Elmenawi and M.N.H. Comsan [28]

**16:00-17:30**

**Poster Session-2** [34/40/45/46/50/53]

**Chairperson: A.Z. Hussein**

- 1 Preparation and evaluation of Nafion HP JP membrane as an energy material: Hamdy F.M. Mohamed, M.O. Abdel-Hamed, E.E. Abdel-Hady, H.B. Alaa and Michael Said [34]
- 2 A portable low-cost, Gamma-ray detector based on the use of the multi-pixel APDs: G.S.M. Ahmed [40]
- 3 Elemental and radiological investigation of rock samples from Geddami Mountain, Eastern Desert, Egypt: M. Al-Abyad, S.U. El-Kameesy, H.M. El-Desoky, and M. Ibrahim [45]
- 4 Natural radioactivity and associated dose rates of soil samples in different Libyan regions: Abdu Assalam A. Algattawi, M.

- Fayez-Hassan, E.I. Khalil, and H. Abo-Elez [46]
- 5 Best locations for groundwater monitoring wells inside high risk facilities: Abdel Aziz M.A.H. and H.M.H. Ali [50]
  - 6 An assessment of radioactivity and heavy metal concentrations in dust at Shak El-Thouban industrial zone: A.A. Taha and W.M. Abdellah [53]

**21:00 -23:00 Cultural Evening\***

**Tuesday, 10 Oct. 2017**

**9:30 - 11:45 Registration Desk**

**9:30 - 11:00 Session RTD: Round Table Discussion  
Chairperson: M.N.H. Comsan**

Topic:  
*“Enhancing Nuclear Science and Technology in Egypt”*

Topic open for contributions.

**11:00 - 11:30 Break**

**11:30 - 11:45 Session CS  
Chairperson: M.N.H. Comsan  
Conference Conclusions and Recommendations  
Conference Closing**

**13:00 - 14:00 Departure Hurghada**

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\*) At extra charges, please contact conference secretary.





## برنامج

المؤتمر العاشر للفيزياء النووية والجسيمية  
٧ - ١٠ أكتوبر ٢٠١٧  
الغرفة - مصر

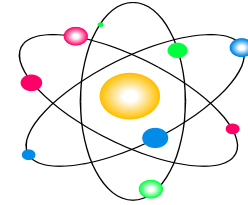
نوباك - ١٧

تنظيمه

الجمعية المصرية للفيزياء النووية  
ENPA

## برنامج

المؤتمر العاشر للفيزياء النووية  
والجسيمية



نوباك - ١٧

٧-١٠ أكتوبر ٢٠١٧  
الغرفة - مصر