

## **Resume Dr. Ayah Elshahat**

### **Personal details:**

- Name: Ayah Elsayed Mohamed Elshahat
- D.O.B: 10/1/1978
- Highest Qualification: PhD (2015)
- Current Occupation: Associate Professor at Nuclear and Radiation Engineering Department, Faculty of Engineering, Alexandria University.
- Email: [aya.elshahat@alexu.edu.eg](mailto:aya.elshahat@alexu.edu.eg)
- Phone no.: (+2) 01005614004

### **Qualifications:**

- B.Sc. in Nuclear Engineering from Faculty of Engineering, Alexandria University, 2001.
- Msc, "Thermal performance of nuclear reactors" from Nuclear and Radiation Engineering department, Alexandria University, 2005.
- PhD, "Enhancing nuclear energy sustainability using advanced nuclear reactors", University of Manchester (UK), 2015.

### **Fields of expertise:**

- Thermal performance of nuclear reactors
- Nuclear reactor modeling
- Safety of nuclear reactors
- Advanced nuclear reactors
- Modeling and Simulation

### **Researcher training courses:**

- Influencing in a research setting
- Practical thinking for researchers
- Radiation protection
- Examination systems and students' evaluation
- Effective presentation skills
- Preparation of a competitive research project
- Research team management
- Communication skills

- Effective teaching
- Demonstrator preparation
- Teaching ethics
- Competencies Based Education (**APITEL 2019**)

### **Publications:**

- Optimum selection of an energy resource using fuzzy logic, Ayah Abouelnaga, Abdelmohsen Metwally, Naguib Aly, Mohammad Nagy, Saeed Agamy. Nuclear Engineering and Design 239 (2009) 3062–3068.
- Assessment of nuclear energy sustainability index using fuzzy logic. Ayah Abouelnaga, Abdelmohsen Metwally, Naguib Aly, Mohammad Nagy, Saeed Agamy. Nuclear Engineering and Design 240 (2010) 1928–1933.
- Assessment the safety performance of nuclear power plants using Global Safety Index (GSI), Ayah Abouelnaga, Abdelmohsen Metwally, Naguib Aly, Mohammad Nagy, Saeed Agamy. Nuclear Engineering and Design 240 (2010), 2820-2830.
- Advanced Nuclear Reactor and Passive Safety, Timothy Abram, Ayah Elshahat, Chapter (2) in (Nuclear Power Plants), Nova Publishers, 2012.
- Simulation of the Westinghouse AP1000 Response to SBLOCA Using RELAP/SCDAPSIM, Ayah Elshahat, Timothy Abram, J. K. Hohrost, C. M. Allison, International Journal of Nuclear Energy, vol. 2014, Article ID 410715, 2014.
- Asmaa Salem, Mostafa Refaey, Shorouq Aly, Ayah E. Elshahat, Hanaa Abou-Gabal; “Virtual Reality Simulation of Station Blackout Accident in VVER-1000”; VVER 2019 – Recent & Future conference, Prague, Czech Republic, November 11 – 12, 2019.
- Mohamed A. Rabie, Ayah Elshahat, Mohamed H. Hassan, “Investigation of VVER-1200 pressurizer dynamics by adopting modelica based modeling”, Progress in Nuclear Energy, Volume 143, January 2022, 104045.
- A. M. M. Ali, Hanaa H. Abou-Gabal, Nader M. A. Mohamed, and Ayah Elshahat, “The utilization of ThO<sub>2</sub> fuel discharged from an ADS in the Multi-Application Small Light Water Reactor (MASLWR)”, Annals of Nuclear Energy 161 (2021) 108449.
- A. M. M. Ali, Hanaa H. Abou-Gabal, Nader M. A. Mohamed, Ayah Elshahat, “Study of Different seed fuels with thorium in Accelerator-Driven Subcritical System”, Nuclear Science and Engineering, volume 195, 203–213. February 2021.
- A. M. M. Ali, Hanaa H. Abou-Gabal, Nader M. A. Mohamed, Ayah Elshahat, “Study of the Effects of Moderators on ADS System Performance based on UN-ThO<sub>2</sub> Fuel”, Nuclear Science and Engineering, volume 195 , 509–519. May 2021.

Fabiano Gibson Daud Thulu, Ayah Elshahat, Mohamed Hassan, “Safety Analysis in VVER-1000 due to Large-Break Loss-of-Coolant Accident and Station Blackout Transient using RELAP5/SCDAPSIM/MOD3.5”, Nuclear Science and Engineering, volume 196, 2022.

Mohamed Abdulhameed, Aly Shaaban, Hussein Gamal, Ayah Elshahat, “A Methodology for CHF Prediction in VVER Rod Bundles”, accepted in nuclear engineering and design, 2022.

Fabiano Gibson Daud Thulu, Ayah Elshahat, Mohamed H.M. Hassan, “Simulation of VVER-1000 Guillotine Large Break Loss of Coolant Accident Using RELAP5/SCDAPSIM/MOD3.5”, Journal of Nuclear Engineering, 2021, 2(4), 516-532.