

CURRICULUM VITAE

Personal and Contact Details:

Name: Yaniv Shaposhnik
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Education:

- 2003-2007 **B.Sc. in Nuclear Engineering**, Magna cum Laude
Ben-Gurion University of the Negev, Beer-Sheva, Israel
Major: Nuclear Power Thermal Hydraulics
Minor: Medical Physics
- 2006-2008 **M.Sc. in Nuclear Engineering**,
Ben-Gurion University of the Negev, Beer-Sheva, Israel,
Thesis title: "Thermal-Hydraulic Feedback Module for BGCore System"
Advisers: Dr. E. Shwageraus and Prof. E. Elias
- 2008-2015 **Ph.D. in Nuclear Engineering**
Ben-Gurion University of the Negev, Beer-Sheva, Israel
Thesis title: "Self-Sustainable ^{233}U -Th Cycle and Core Design for BWRs"
Advisers: Dr. E. Shwageraus and Prof. E. Elias

Honors and Awards

- 2007 Outstanding Academic Achievements Award, Department of Nuclear Engineering,
Ben-Gurion University of the Negev
- 2008 Academic excellence scholarship to students studying for their master's degrees and
doctorates in the fields of exact science, Selim and Rachel Benin Scholarship Fund
- 2009 Award for Outstanding Mentorship, The Perach – Israeli National Tutorial Project
- 2015 The Katzir Scholarships Program – Israeli Ministry of Defense
- 2018 NRCN Award for Outstanding Achievements in Experimental Research in Applied
Nuclear Physics

Teaching Experience:

2007 – 2012

Ben-Gurion University of the Negev –
BGU

Teaching Assistant:

- Thermodynamics for power systems,
- Fundamentals of electric power economics,
- Nuclear power plants,
- Advanced statistical methods in nuclear engineering,
- Foundation of nuclear energy,
- Nuclear reactor theory 1,

2009 – 2012

Ben-Gurion University of the Negev –
BGU

Lecturer:

- Introduction to personal computers,
- Nuclear power plants,
- Thermodynamics for power systems,
- Foundation of nuclear energy,
- Laboratory in introduction to nuclear engineering

2014

College of Technology Beer–Sheva

Lecturer:

- Nuclear reactor Operators training course – Reactor physics

2012 – present

Nuclear research center Negev –
NRCN

Lecturer-Instructor:

- Operation of nuclear reactors,
- Nuclear safety and security

2016 – present

International Atomic Energy Agency –
IAEA

Scientific Representative:

- Israel Atomic Energy Commission (IAEC) Scientific Representative at International Project on Innovative Nuclear Reactors and Fuel Cycles (INPRO)

Work Experience:

2018 – present

Deputy Chief Engineer

Nuclear Research Center Negev (NRCN), Israel

2012 – 2018

Research and Operation Engineer

Nuclear Research Center Negev (NRCN), Israel

2006 – 2012

Research Assistant

Nuclear Power Plants Analysis Laboratory,
Ben-Gurion University of the Negev, Beer-Sheva, Israel

Research areas:

- Reactor physics, core and fuel cycle design.
- Thermo-hydraulics in nuclear reactors.
- Software development for reactor analysis.

Aug 8- Oct 9,
2006

Research Assistant

Activation and Gas Analysis – Department of Analytical Chemistry
BAM – Federal Institute for Materials Research and Testing, Berlin, Germany.

Research work on:

- Simultaneous determination of phosphorus and nitrogen in organic matrices

Aug 4– Oct 7,
2008

Research Assistant

Nuclear Physics Institute (IKP),
Forschungszentrum Jülich (FZJ), Jülich, Germany.

Research work on:

- Monte-Carlo simulations for the MVD within the framework of the PANDA experiment.
- Developing code for evaluation of the neutron equivalent flux according to the NIEL hypothesis
- Simulations of different beam momenta and transfer models in Micro-Vertex-Detector (MVD)

Educational Seminars:

- 2008 Hadron Physics Summer School 2008 (HPSS 2008), August 11-15, 2008, Physikzentrum Bad Honnef, Germany.
- 2009 Frédéric Joliot/Otto Hahn Summer School 2009 (FJOH-2009) on Nuclear Reactors Physics, Towards Implementation of Fast Reactor Technology: The Challenges, August 26-September 4, 2009, Karlsruhe, Germany.
- 2010 Frédéric Joliot/Otto Hahn Summer School 2010 (FJOH-2010) on Nuclear Reactors, Goals and Challenges for the GEN-II to GEN-III Transition, Aix-en-Provence, France August 25 – September 3, 2010
- 2011 21st Symposium of AER on VVER Reactor Physics and Reactor Safety, Dresden, Germany, September 19-23, 2011.
- 2015 WNU Summer Institute 2015 – World Nuclear University
Uppsala University, Uppsala Sweden July 4 – August 14, 2015
- 2016 12th INPRO Dialogue Forum on Generation IV Nuclear Energy Systems
IAEA Headquarters, Vienna, Austria 13–15 April, 2016.
- 2016 Safeguards Workshop, Soreq Nuclear Research Center, Israel, July 2016.
- 2017 14th INPRO Dialogue Forum on the Potential of Nuclear Energy to Support the Sustainable Development Goals, Including Climate Change Mitigation, IAEA Headquarters, Vienna, Austria, 6-8 June, 2017.
- 2018 15th INPRO Dialogue Forum on the Development of Sustainable Supply Chains for Advanced and Innovative Nuclear Energy Systems, IAEA Headquarters, Vienna, Austria, 2-4 July, 2018.

List of Publications – journals

1. Kotlyar D., **Shaposhnik Y.**, Fridman E., Shwageraus, E., “Coupled neutronic 3hermos-hydraulic analysis of full PWR core with Monte-Carlo based BGCore system”, Nuclear Engineering and Design, 241, 2011, Issue 9, pp. 3777-3786, September 2011.
2. **Shaposhnik Y.**, Shwageraus, E., Elias E., “Core design options for high conversion BWRs operating in Th-²³³U fuel cycle”, Nuclear Engineering and Design, 263, 2013, pp. 193-205, October 2013.
3. **Shaposhnik Y.**, Shwageraus, E., Elias E., “Shutdown margin for high conversion BWRs operating in Th-²³³U fuel cycle”, Nuclear Engineering and Design, 276, 2014, pp. 162-177, September 2014.

List of Publications – workshops

1. **Y. Shaposhnik** and E. Shwageraus “Neutronic analysis of Th-233U self-sustainable BWR fuel cycle with BGCore and Serpent Codes,” 1st Serpent International Users Group Meeting, Dresden, Germany, September 15-16, 2011.
2. D. Kotlyar, **Y. Shaposhnik** and E. Shwageraus “Computational Tools for Modeling High Conversion PWRs,” 1st Serpent International Users Group Meeting, Dresden, Germany, September 15-16, 2011.
3. M. Margulis, **Y. Shaposhnik** and E. Gilad “IAEA 10 MWth MTR benchmark static calculations with SERPENT code,” 4th Serpent International Users Group Meeting, Cambridge, England, September 17-19, 2014.

List of Publications – conferences

1. **Shaposhnik Y.**, Shwageraus E. and Elias E., “Thermal-Hydraulic Feedback module for BGCore system,” Proc. Of 24th Conference of the Nuclear Societies in Israel, Le Meridien Hotel, Dead Sea, Israel, February 18-21, 2008.
2. **Shaposhnik Y.**, Shwageraus E. and Elias E., “Two-Phase Thermal-Hydraulic Feedback module for BGCore system,” Proc. Of 25th Conference of the Nuclear Societies in Israel, Crown Plaza Hotel, Dead Sea, Israel, February 16-18, 2010.
3. **Shaposhnik Y.**, Shwageraus E. and Elias E., “The Effect of Radial Distribution of Coolant Density on the Multiplication Factor”, IYNC 2010, Cape Town, South Africa, 12 – 18 July 2010.
4. **Shaposhnik Y.**, Shwageraus E. and Elias E., “Implementation of Drift-Flux model in the THERMO module”, Proc. Of 26th Conference of the Nuclear Societies in Israel, Le Meridien Hotel, Dead Sea, Israel, February 21-23, 2012.
5. **Shaposhnik Y.**, Shwageraus E. and Elias E., “BWR Fuel Design options for Self-Sustainable Th-233U Fuel Cycle”, PHYSOR, Knoxville, TN USA, April 15-20, 2012.
6. **Shaposhnik Y.**, Shwageraus E. and Elias E., “Effect of Axial Void Distribution on Performance of High Conversion BWRs”, NUTHOS-9, Kaohsiung, Taiwan, September 9-13, 2012.
7. **Shaposhnik Y.**, Margulis M., Kotlyar D., Shwageraus E. and Elias E., “Assessment of Shutdown Margin Requirements for High Conversion BWR with Th-²³³U Fuel”, Proceedings of ICAPP 2014, Charlotte, USA, April 6-9, 2014.
8. **Shaposhnik Y.**, Biton A., Soffer Y. and Freud R., “Implementation of Drive Mechanism for Neutron Emitting Source Used for Monitoring Reactor Neutron Flux and for Core Startup”, Proc. Of 28th Conference of the Nuclear Societies in Israel, Dan Hotel, Tel-Aviv, Israel, April 9-14, 2016.
9. Mohamed H., Kotlyar D., Parks G. T. and **Shaposhnik Y.**, “Coupled Neutronic-Thermal-Hydraulic Analysis of a Small FHR Core with Pin-Type Fuel Assemblies”, PHYSOR 2016 – Advances in Reactor Physics – Linking Research, Industry and Educations, Sun Valley, Idaho, USA, May 1-5, 2016.
10. Amar S.D., **Shaposhnik Y.**, Weindenfeld G., and Freud R., “Thermal Power Reactor Measurement in Low Power Range”, Proc. Of 29th Conference of the Nuclear Societies in Israel, Daniel Hotel, Herzliya, Israel, May 8-10, 2018.