



Image: Ontario Power Generation

# Canadian nuclear experts give an update to CANDU reactor physics fundamentals in new book

*A new CANDU reactor physics book, by nuclear experts Dr. Wei Shen and Dr. Benjamin Rouben, updates CANDU reactor concepts and engineering requirements... without all the math.*

JULY 19, 2021 — COG's own Dr. Wei Shen, a well-known expert in the Canadian and international nuclear industry with extensive experience in reactor physics, has co-authored a textbook geared to working professionals and students looking for a practical guide to CANDU reactor fundamentals.

Shen works as CANDU Owners Group's (COG) R&D safety and licensing program manager and prior, served many years at Atomic Energy of Canada Limited (AECL), with the Canadian Nuclear Safety Commission (CNSC), and with international organizations. Like Rouben, he is an extensively published adjunct professor.

Shen authored the book with Dr. Benjamin Rouben, also well known in the Canadian nuclear industry for his work at Atomic Energy of Canada Limited (AECL) and with the Canadian Nuclear Society (CNS). Rouben has been an adjunct professor at McMaster University and Ontario Tech University following retirement from AECL. He currently serves as the secretary treasurer for the University Network of Excellence in Nuclear Engineering (UNENE), where he also teaches courses.

Their book, *Fundamentals of CANDU Reactor Physics*, reflects today's CANDU reactor concepts and engineering requirements.

Shen and Rouben say they wanted to develop a book that incorporated the most current basic knowledge about CANDU reactor physics.

"The purpose of this new book was to be a practical book on CANDU reactor physics, particularly for the safe operation of aged and aging CANDU reactors, with almost no mathematics or equations," says Rouben.

Shen adds, "This book is ideal as a reference for CANDU physicists, operators, regulatory staff, and for those who need to interact with reactor physicists at CANDU sites, nuclear laboratories, institutes, universities, or engineering companies, as it assumes prior knowledge of nuclear physics offered at the high-school level and/or at universities only."

*Fundamentals of CANDU Reactor Physics* was published by The American Society of Mechanical Engineers (ASME). ASME members will receive a 20 per cent discount. You can purchase the book [here](#).



## Dr. Wei Shen

With almost 30 years of experience, Dr. Wei Shen works with COG as the R&D safety and licensing program manager.

He also serves as the member relationship manager for China Nuclear Power Operations Management (CNNO). Shen is an adjunct professor at the Royal Military College of Canada and worked for AECL, the Canadian Nuclear Safety Commission (CNSC), and international nuclear organizations. Shen's experience and career diversity and his work in R&D give him a unique perspective in the ever-evolving nuclear field.



## Dr. Benjamin Rouben

Dr. Benjamin Rouben has been working in the nuclear field for almost five decades, including AECL.

He served as president of the Canadian Nuclear Society (CNS) in 1997- 1998, and remains active in the organization, today. He has worked as a professor at various universities, and currently serves as the secretary treasurer for UNENE. Rouben is also the president of 12 & 1 Consulting.