

Seminar

Department of Materials Engineering

Thursday, November 6th, 2025, 11:00-12:00

Seminar Room (015) of Building 51

Marcus Campus @ Ben-Gurion University of the Negev

Solving Engineering Problems and Driving Innovation

Dr. Anatoly Agulyansky

Co-founder and Chief Scientist of PRIZ Guru Inc.

Abstract:

Successful research and development (R&D) hinges on solving complex engineering problems and implementing innovative solutions. However, traditional brainstorming often relies on intuition and past experience, leading to engineering “guesswork.” This trial-and-error approach can result in wasted time and resources, ultimately jeopardizing promising ideas before they reach their full potential.

In this lecture, I will introduce fundamental principles of problem-solving and innovation, highlighting the power of structured creative thinking tools. I will also demonstrate how the PRIZ Innovation Platform provides a systematic and AI-assisted approach to engineering challenges, guiding users through problem definition, root cause analysis, functional modeling, and solution generation.

Through real-world examples, I will showcase AI-assisted problem definition and powerful tools such as the Cause and Effect Chain, 40 Inventive Principles, System Functional Modeling, and Process Functional Modeling. Attendees will gain practical insights into how these methodologies drive breakthrough innovations in engineering and material science.

Bio:

Dr. Anatoly Agulyansky holds a Ph.D. in Chemistry and is an expert in engineering problem-solving. Certified as a TRIZ Specialist by the International Association MATRIZ, he has extensive experience in chemistry, metallurgy, material science, microchip manufacturing, and passive electronic components production. With nearly 100 scientific publications and authorship of the book “The Chemistry of Tantalum and Niobium Fluoride Compounds” (Elsevier, 2004), Dr. Agulyansky has established himself as a thought leader in the field. Currently, he serves as the Chief Scientist and Co-founder of the PRIZ Guru Inc., where he leads the development of advanced methodologies for engineering problem-solving and innovation management. He is also an invited lecturer at Ben-Gurion University, where he teaches the course “Engineering Thinking.”

Speaker contact information:

Email: anatoly@priz.guru