WPI Taking the Lead in Engineering Education

In the past two decades we’ve seen a plethora of studies, reports, and books that articulate the shortcomings of engineering education and what is lacking in the curriculum. They remind us that it hasn’t changed much in the last few decades, though the world has changed dramatically. Many of these studies focus on identifying the problem and the general needs, rather than outlining specific proposals on how to educate the engineer of the 21st Century.

Grétar Tryggvason, former head of Mechanical Engineering at WPI, and Diran Apelian decided to write a user’s manual that describes how to do it. Its title, Shaping Our World: Engineering Education for the 21st Century represents our belief that through a holistic education we will ensure the development of the next generation of successful global leaders and engineers. The book is published by Wiley, and was released at the MS&T meeting in Columbus, Ohio, October 16–20.
Shaping Our World
Engineering Education for the 21st Century

Foreword
Charles M. Vest, President, US National Academy of Engineering

Preface
Diran Apelian and Grétar Tryggvason

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Grétar Tryggvason and Diran Apelian

2. One World: Preparing Engineers for the Global Economy
Michael J. Dolan

3. Engineers: Leaders, Innovators and Builders
Diran Apelian

4. Holistic Education: Learning and Doing in Context
Dennis D. Berkey

EFFECTIVE PRACTICES

5. Ignition: The Great Problems Seminars
Arthur C. Heinricher and Kristin Wobbe

6. Global Citizenship: Students Solving Real Problems Around the World
Richard F. Vaz, Natalie A. Mello, and David DiBiasio

7. Fostering Citizenship and Advocacy through the Humanities and Arts
Svetlana Nikitina and David Spanagel

8. The Capstone Project: An Integrated Experience
Fred J. Loof and Yiming Rong

9. Technical Education in the Innovation Econom
Curtis R. Carlson and Jerome J. Schaufeld
10. A New Discipline for a New Century: Robotics Engineering
   Michael A. Gennert, Fred J. Looft and Grétar Tryggvason

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   John Orr

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BIOSKETCHES