

**Title** SHINAYAKA Tough Polymers for Automobile

**Speaker** Prof. Kohzo Ito  
Program Manager, ImpACT  
Professor, The University of Tokyo



**Date & Time** Tuesday, January 8, 2019 2:30 p.m.

**Place** I<sup>2</sup>CNER hall, I<sup>2</sup>CNER Bldg.1, Ito Campus, Kyushu University

### Abstract

Application of polymeric materials is rapidly growing in various industries beginning with the automobile one. Thinning and toughening of polymers are very critical to produce high battery performance and light vehicle body with safety. We have successfully developed various SHINAYAKA tough polymers for automobile over the limits of conventional thinning and toughening by clarifying the molecular mechanism of polymer fracture with SPring-8, the K Computer and advanced polymer technology based on new molecular bonding and process engineering in ImpACT (Impulsing Paradigm Change through Disruptive Technologies) program. Toughening polymers dramatically improves the performance of fuel cells, Li batteries, vehicle body, and tires, leading to the drastic weight reduction, reliability, and safety of vehicles. As a final goal, we made a concept car integrating these novel tough polymers.

### About the Speaker

Kohzo Ito received his B. E, M. E. and Ph. D. degrees in applied physics from the University of Tokyo. In 1986, he joined the Research Institute of Polymers and Textiles. He was transferred back to Faculty of Engineering, The University of Tokyo in 1991 and promoted to full professor at Graduate School of Frontier Sciences, The University of Tokyo in 2003. He is now concurrently a program manager of ImpACT (Impulsive Paradigm Change through Disruptive Technology) program, Cabinet Office, Government of Japan. He invented slide-ring materials with movable cross-links by cross-linking polyrotaxane in 2000, and set up a venture company to urge the application of the slide-ring materials in 2005. He is currently an editor of Polymer, Elsevir.

### Concept Car Exhibition

The concept car of “SHINAYAKA Tough Polymers” will be displayed on the same day.

Time: Noon - 5 p.m.

Venue: Main Galleria, Shiiki Hall

**Host:** Professor Atsushi Takahara

For registration, please visit our website:

<http://i2cner.kyushu-u.ac.jp/>

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