

July 20, 2020  
Mitsui Chemicals, Inc.

## Winners of the 2020 Mitsui Chemicals Catalysis Science Awards

Mitsui Chemicals, Inc. (Tokyo: 4183; President & CEO: HASHIMOTO Osamu) is pleased to announce the winners of the 2020 Mitsui Chemicals Catalysis Science Award and the Mitsui Chemicals Catalysis Science Award for Creative Work.

Established in 2004, these awards aim to contribute to the sustainable development of chemistry and the chemical industry by recognizing researchers who have made outstanding achievements in catalysis science. The first winners were awarded in March 2005.

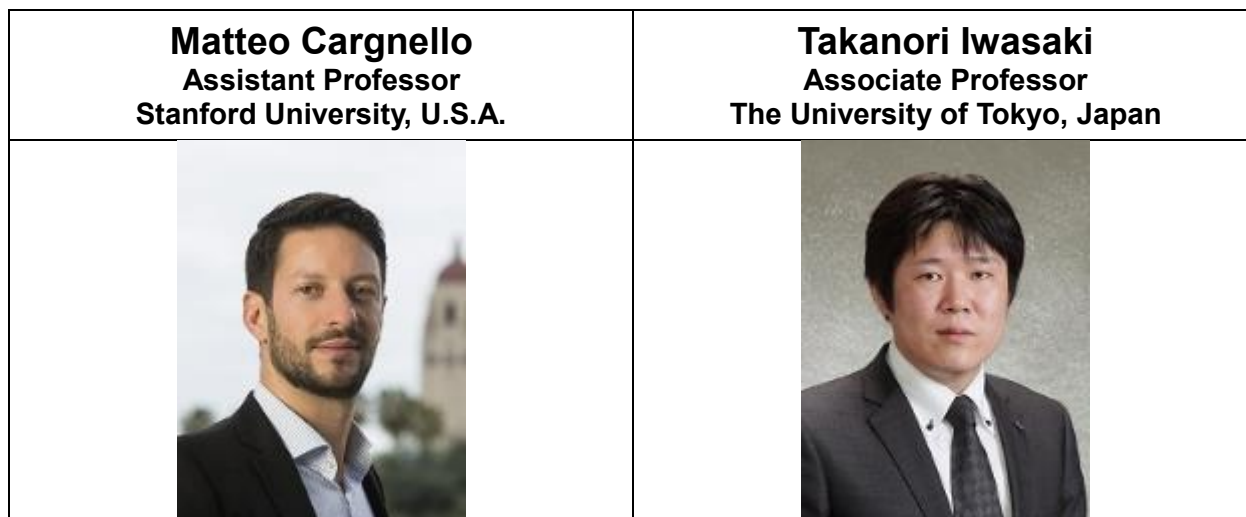
Now in its eighth iteration, this year's awards again saw numerous applicants.

The award ceremony, as well as lectures from the winners, will be held in autumn 2021. (For further details, please see the addendum below.)

### Winner of the 2020 Mitsui Chemicals Catalysis Science Award



### Winners of the 2020 Mitsui Chemicals Catalysis Science Award for Creative Work



## Addendum

### 1. Overview of the awards

#### Winner of the 2020 Mitsui Chemicals Catalysis Science Award

<p style="text-align: center;"><b>Frank Glorius</b> Professor University of Münster, Germany</p> <p style="text-align: center;"><b>“Development of Chemo- and Enantioselective Arene Hydrogenation and of Additional Tools for Improving Synthesis”</b></p>
<p>Dr. Frank Glorius has developed various catalysts for efficient synthetic organic reactions. Focusing on N-heterocyclic carbene (NHC), Dr. Glorius realized selective arene hydrogenation using metal-NHC complexes, and also applied NHC ligands to nanoparticle catalysts. Furthermore, he has made remarkable achievements in the development of catalysts for C-H bond activation, and also has developed original visible light photoredox catalysts and organocatalysts. Recently, he has been successful in methods for smart data generation and machine learning. These wide-ranging studies have contributed greatly to the development of catalysis science.</p>

#### Winners of the 2020 Mitsui Chemicals Catalysis Science Award for Creative Work

<p style="text-align: center;"><b>Matteo Cargnello</b> Assistant Professor Stanford University, U.S.A.</p> <p style="text-align: center;"><b>“Use of Well-Defined Materials for the Preparation of Catalysts Aimed at the Sustainable Production of Fuels and Chemicals, and Environmental Protection”</b></p>	<p style="text-align: center;"><b>Takanori Iwasaki</b> Associate Professor The University of Tokyo, Japan</p> <p style="text-align: center;"><b>“Cooperative Catalyses of Transition Metal Anion and Typical Metal Cation”</b></p>
<p>Dr. Matteo Cargnello has elucidated the relationship of catalytic activity with catalyst structure with a far greater precision than before and thus significantly contributed to the progress in heterogeneous solid catalysis science. In particular, his achievements include: (i) the lifetime elongation of Pd-CeO<sub>2</sub> catalysts in methane combustion by devising core-shell structures; (ii) the demonstration of the correlation between a catalytic activity and a metal-oxide interface length; and (iii) the deactivation of a metal catalyst due to its single-atom dispersion in exhaust gas treatment catalysis.</p>	<p>Dr. Takanori Iwasaki has developed various synthetic organic reactions using cooperative catalysts with transition metal anions such as Co, Cu, Rh, Fe, Ni, and Ir and typical metal cations such as Mg, Li, or Zn. He has demonstrated that these complexes act as key catalytic intermediates in various catalytic C-C bond forming reactions and can cleave strong chemical bonds such as C-O and C-F bonds.</p>

### 2. Award ceremony and lectures by the winners

To prevent the spread of COVID-19, both the award ceremony and lectures will be held in autumn 2021. Scheduling specifics and other such details will be announced on the Mitsui Chemicals website and elsewhere once confirmed.