DIVISION OF POLYMERIC MATERIALS: SCIENCE & ENGINEERING

Journal of Polymer Science Innovation Award

Awarded by the *Journal of Polymer Science* in association with PMSE

2019 Award Winner

Patricia Dankers

Eindhoven University of Technology

In the 8 years since its inception, the *Journal of Polymer Science* Innovation Award has been granted to researchers working in areas ranging from instabilities of soft polymer interfaces, to rod-coil block copolymers for photovoltaics, through single-molecule electronics and light-induced polymerization techniques. The editors of the *Journal of Polymer Science* and the Polymeric Materials: Science and Engineering (PMSE) division of the American Chemical Society (ACS) are delighted to present the 2019 Award to Patricia Dankers.

The Innovation Award was established in 2012 to celebrate significant research innovation and achievement in a polymer scientist under the age of 40. The recipient is recognized with a symposium in association with the PMSE Division of the ACS at the ACS Fall meeting.

Patricia is currently a full professor in Biomedical Materials in the Institute for Complex Molecular Systems (ICMS) and the department of Biomedical Engineering in the Laboratory of Chemical Biology and the Laboratory for Cell and Tissue Engineering at the Eindhoven University of Technology (TU/e). She received her first Ph.D. in chemistry at TU/e, and impressively moved on to a second Ph.D. in medicine at the University of Groningen.

The grand challenge of regenerative medicine is creating synthetic materials that exhibit life-like properties to achieve true tissue regeneration. This is done by controlling the biological pathways and interactions that drive regeneration in soft tissues and organs, such as kidneys and the heart – Patricia's primary areas of focus. The supramolecular polymers she developed during her Ph.D. are used by two start-up companies and have been successfully implanted into 10 children to regenerate new heart ventricles.

By combining appropriate ligands and polymeric components in a complex supramolecular network with specific biological targets in mind, Patricia is able to obtain new materials by optimizing processing steps. She tests the mechanical and biological properties in a large variety of ways, then takes a step

further by working with biomedical engineers to test the materials for specific tissue engineering applications.

Recognizing her pioneering research approach at the interface between supramolecular polymers and tissue engineering, we are thrilled to present Patricia with the 2019 Journal of Polymer Science Innovation Award.