



## Laudatio for the Award Ceremony of the Prix Schläfli 2018 Biology of the Swiss Academy of Sciences (SCNAT) for Dr Hester Sheehan

The Jury of the Prix Schläfli (Biology) 2018 of the Swiss Academy of Sciences (SCNAT), consisting of Prof. Dr Roman Ulm (University of Geneva) and Prof. Dr Christoph Scheidegger (WSL) has reviewed 35 applications and suggested to award the prize to Dr Hester Sheehan for her achievements in the field of pollination genetics published in the journal *Nature Genetics* with the title: MYB-FL controls gain and loss of floral UV absorbance, a key trait affecting pollinator preference and reproductive isolation.

The board of the Platform Biology has unanimously decided to award the Prix Schläfli Biology 2018 to Dr Hester Sheehan for her genetic analyses of the important pollination syndrome trait, floral colour, in the genus *Petunia*. In her PhD thesis Hester focused to the field of molecular evolution, where she became particularly interested in studying the precise changes that occur in DNA and protein functions over evolutionary time and how this may contribute to speciation. That pollinators have strongly contributed to the diversity of flowering plants has already been suggested by Darwin more than 150 years. Hester now isolated and characterised a regulatory gene, which controls major differences in the appearance of flowers in UV-light, an important trait for pollinating animals that see into the UV-light range. Indeed, a series of mutations in a single gene, MYB-FL, were found to control floral UV absorbance influencing pollinator preferences, from bee to moth to hummingbird, likely underlying speciation in *Petunia*. This work was the first time that floral transitions in appearance in UV light were molecularly characterised, and the results suggest that there are constraints on the types of molecular change that are tolerated in the evolution of this trait. In this era of second- and third-generation sequencing technologies, and an increased availability of model systems and tools for genetic manipulation, it has become far more accessible to determine molecular changes as well as to study genetic pathways that were previously unknown or intractable.

Dr Hester Sheehan studied Biological Sciences at the University of Auckland, NZ, and received a first class BSc (Hons). Later Hester moved to Bern for her PhD thesis on 'The molecular basis of colour transitions in *Petunia*' under the supervision of Prof. Dr Cris Kuhlemeier. Since March 2016 Dr Hester Sheehan is a Postdoctoral Research Fellow at the Department of Plant Sciences at the University of Cambridge.

Prof. Dr Roman Ulm (University of Geneva) and Prof. Dr Christoph Scheidegger (WSL), members of the Platform Biology of the Swiss Academy of Sciences (SCNAT)

Award Ceremony, 25 May 2018 before the Delegate Assembly of the SCNAT, Bern.