The Hilldale Lecture Series Faculty Division of the Arts and Humanities presents:

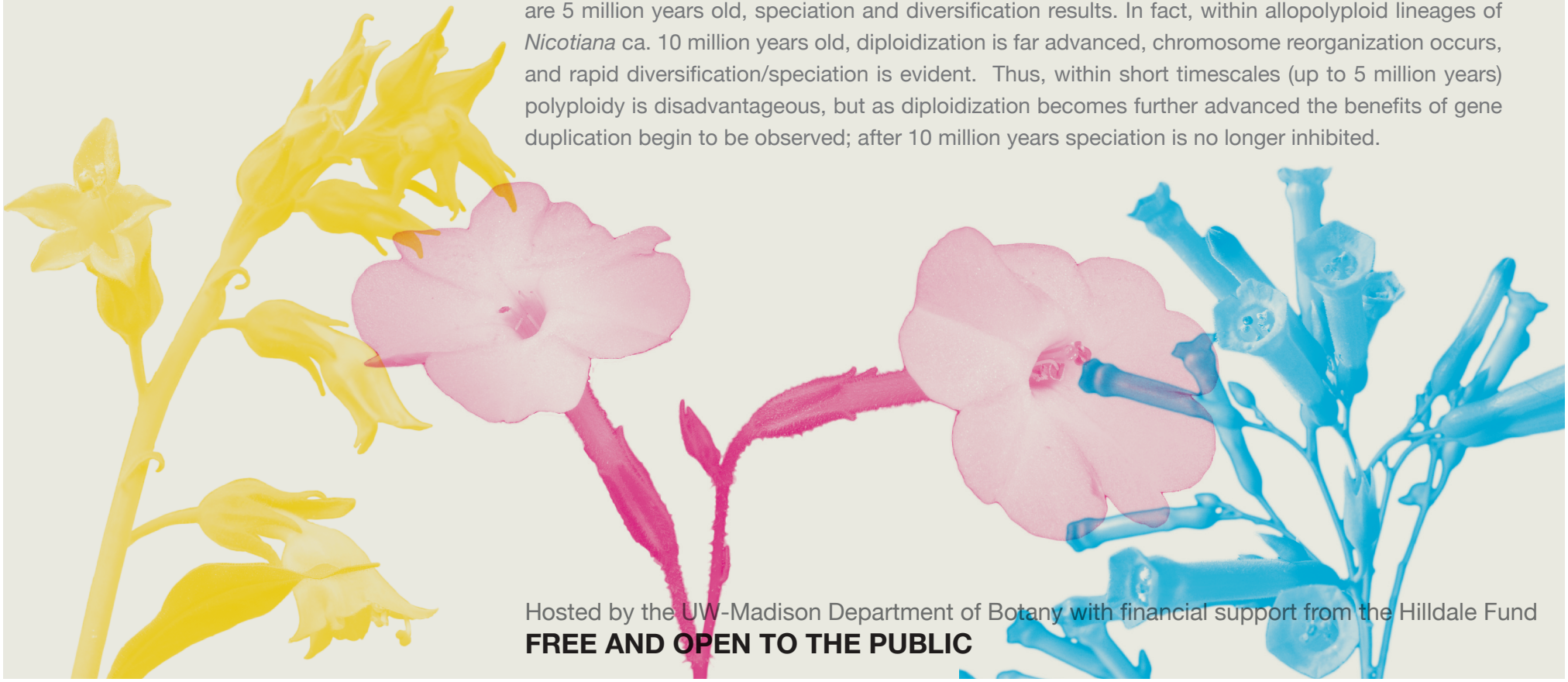
Dr. Mark Chase

Keeper of the Jodrell Laboratory
Royal Botanic Gardens, Kew, UK

Polyploidy, Diploidization and Angiosperm Diversification: Insights from *Nicotiana* (Solanaceae)

Monday, October 8 at 4pm
145 Birge Hall
reception to follow

Some claim there is no evidence that polyploidy results in an increased rate of plant speciation, but this conclusion is contradicted by the findings that nearly all angiosperms exhibit evidence of polyploidy having occurred at multiple points during their evolution. Within the genus *Nicotiana* (Solanaceae) polyploidy does seem to present a "genetic burden" to recently formed allopolyploids (< 200,000 years old), but the process of diploidization slowly overcomes these problems. By the time allopolyploids are 5 million years old, speciation and diversification results. In fact, within allopolyploid lineages of *Nicotiana* ca. 10 million years old, diploidization is far advanced, chromosome reorganization occurs, and rapid diversification/speciation is evident. Thus, within short timescales (up to 5 million years) polyploidy is disadvantageous, but as diploidization becomes further advanced the benefits of gene duplication begin to be observed; after 10 million years speciation is no longer inhibited.



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