

# The Institute of the Mathematical Sciences of the Americas

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## An Introductory Mini Course into Quantum Toric Geometry: Lecture I

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We will introduce the foundations of Quantum Toric Geometry as developed by Katzarkov, Lupercio, Meersseman and Verjovsky, Quantum toric geometry is a generalization of toric geometry where irrational fans correspond to non-commutative spaces called quantum toric varieties. As non-commutative spaces, Quantum toric varieties are to usual toric varieties what the Quantum torus is to the usual torus.

### Lecture I

1. Introduction
2. Stacks and non-commutative spaces
3. The quantum torus
4. Quantum toric varieties.

References: It is useful to be familiar with toric varieties (for example the book of Fulton).