1023-60-3   **Andrei Okounkov***, Fine Hall, Washington Road, Princeton, NJ 08544. *Limit shapes, real and imagined, II. Algebraic geometry of random surfaces.*

In certain simplified models of shape formation the resulting macroscopic shape may be described explicitly and turns out to be a plane algebraic curve in disguise. This will be explained in the second lecture, together with the necessary background from algebraic geometry (following a joint paper with Richard Kenyon). Such a connection between probability and geometry leads to a certain synthesis of tools, allowing the analysis to go further. (Received September 26, 2006)