Soapy Mathematics

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"Why is making soap bubbles so fun?" have many of us wondered in our early years. This talk aims at providing an enlightening answer to this long-standing metaphysical question. The reason is simple : because it involves deep mathematics.

Starting from experimental observations we will introduce some of the mathematical tools involved in the analysis of soap films — or, more precisely, of minimal surfaces — and will explain how the original physical problem raises several intriguing mathematical questions. We will provide surprising examples of exotic minimal surfaces and briefly address the so-called Plateau problem."