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**Stephanie Dick\*** ([sadick@fas.harvard.edu](mailto:sadick@fas.harvard.edu)), Department of History of Science, Harvard University, Science Center 371, Cambridge, MA 02138. *The Design of Intuition: Computing and Mathematical Proof*.

Where does mathematical intuition reside? Is it part of reason? Of the unconscious? Of instinct or the body? Many answers to such questions have been offered through history. The advent of digital computing in the mid-twentieth-century introduced another question: can mathematical intuition reside in a machine? Computers created possibilities for automating mathematical work - including the search for and verification of proofs - and this inspired novel discourse about the nature of mathematical intuition. Some researchers believed that human intuition could, at least in principle, be reduced to a set of rules and imparted to a computer which could then search unaided for proofs. Others believed that intuition could not be formalized and programmed; the discovery of proofs would always require the input of human mathematicians. New relations between intuition and automation are also being explored today, for example in Vladimir Voevodsky's work on new mathematical foundations and proof verification software. This talk will historically explore different ideas about mathematical intuition that emerged in the U.S. in response to the possibility of automating the work of proof and how these ideas shaped and were shaped by interaction and research with computing technology. (Received September 22, 2011)