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Gregory P. Dresden and **Carrie E. Finch*** (finchc@wlu.edu), Mathematics Department, Washington & Lee University, Lexington, VA 24450, and **Josh Harrington**, **Lenny K. Jones** and **Mark R. Kozek**. *Special Sierpiński Numbers*. Preliminary report.

A Sierpiński number is an odd positive integer k with the property that $k \cdot 2^n + 1$ is composite for all natural numbers n . In this talk, we present a survey of results concerning special Sierpiński numbers, such as Sierpiński numbers in the Fibonacci sequence (due to F. Luca and J. Mejía), consecutive Sierpiński numbers (due to Y.-G. Chen), and Sierpiński numbers that are also Riesel numbers (also due to Y.-G. Chen). We then present recent work concerning consecutive integers that are Sierpiński-like (joint work with G. Dresden and M. Kozek), and Sierpiński numbers of particular polynomial forms (joint work with L. Jones and J. Harrington). (Received September 21, 2009)