

- ▶ MICHAEL RATHJEN, *From Goodstein sequences to graph theory and weak consistency..*

Department of Mathematics, University of Leeds, Leeds, United Kingdom.

*E-mail:* [michrathjen@snafu.de](mailto:michrathjen@snafu.de).

Termination of Goodstein sequences is one of the earliest examples of a statement that, while true, is not provable PA. In his 1944 paper though, rather than with unprovability, Goodstein was concerned with finitism. In the talk I intend to reflect on Goodstein's motives. This will be followed by relating some of the highlights of research on unprovable (in various theories) statements. In the second half I plan to talk about the inverses of Goodstein's fast growing functions and how they give rise to unprovable statements that are still weaker than consistency.