

**THE HISTORY AND CONTEXT OF MATHEMATICS, SPRING 2009**  
**THE LIFE AND MATHEMATICS OF G.H. HARDY**

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This series of lectures is devoted to the study of three results due to the influential British mathematician Godfrey Harold Hardy.

The lectures are organised as follows:

Part I: The aim of the first lecture is to give a brief summary of some aspects of Hardy's life, personality, work and legacy. Here there will be no intention to give a detailed description, and some important facts will no doubt be missing.

The lecture will be based on Hardy's Obituary by E. C. Titchmarsh [T]. Further reading can be found in the excellent foreword by C. P. Snow to Hardy's book "A Mathematician's Apology" [H].

REFERENCES

- [H] G. H. Hardy, *A Mathematician's Apology*, Cambridge Univ. Press, Cambridge (1967)  
[T] E. C. Titchmarsh, *Godfrey Harold Hardy*, Journal of the London. Math. Soc., **25** (1950), pp. 81–101.

Part II: Hardy's work has had a profound influence throughout the whole of analysis. In [H], C. P. Snow, on the research carried out by Hardy and Littlewood (one of the most fruitful collaborations in the history of mathematics), says:

*The Hardy-Littlewood researches dominated English pure mathematics, and much of world pure mathematics, for a generation. It is too early to say, so mathematicians tell me, to what extent they altered the course of mathematical analysis: nor how influential their work will appear in a hundred years. Of its enduring value there is no question."*

This was the year 1967... Nowadays there is no doubt about their influence.

These lectures will be focused on studying three of Hardy's results on mathematical analysis. The results we consider here are examples of subjects that have been of considerable interest to mathematicians in the 20th and even 21st centuries.

A sketch of Part II is the following:

- (1) Mathematical preliminaries.
- (2) The Hardy-Littlewood Majorant problem.
- (3) Carlson Inequality.
- (4) Hardy's inequality for series.