

# GENEALOGY DATABASE ENTRY

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Hopkins, Frederick Gowland

1861 - 1947

DEGREE: BSc

DATE: 1890

PLACE: University of London

TEACHER/RESEARCH ADVISOR: Stevenson

Nobel Prize 1929 in Physiology and Medicine for his discovery of growth-promoting vitamins; investigated the pigments in the wings of butterflies, resulting in the discovery of the pterins; introduced in 1893 a method for the determination of uric acid in urea which became the standard method for many years; discovered xanthine oxidase, the enzyme that forms uric acid, in cow's milk; devised a procedure for the easy and rapid preparation of crystalline proteins in reasonable amounts for further study; with Cole, investigated the Adamkiewicz protein color-reaction (purple color on addition of acetic acid and sulfuric acid to a solution with protein) and found the substance responsible for the color change was tryptophane, which they isolated and purified; found tryptophane was utilized as the precursor to a specific hormone or other other substance, leading to the hypothesis of essential amino acids; with Fletcher, showed that the production of lactic acid was intimately connected with the contraction of the muscle, and that it was removed once more by oxidation in the presence of oxygen; discovered glutathione, and showed that it was a tripeptide of cysteine, glutamic acid and glycine; studied the production of thiol groups during the denaturation of proteins by strong solutions of urea.

1. *Dictionary of Scientific Biography*; Charles Scribner's Sons: 1970-1990, vol. 6, p498-502.
2. *Obit. Not. Fell. Roy. Soc.* **1948-49**, 6, 115-145.
3. *Dictionary of National Biography 1941-1950*; Smith, Elder & Co.: 1908-1986, vol. 27, p406-408.
4. *Biochem. J.* **1948**, 42, 161-169.
5. *Nature* **1947**, 160, 44-48.
6. *J. Chem. Soc.* **1948**, 713-722.