

Medical Statues
George N Papanicolaou (1883-1962) MD

Constantinos C Frangos

Medical School, National and Kapodistrian University of Athens
Athens, Greece
(e-mail: C.C.Frangos@gmail.com)

NOTE:

Frangos, CC (2009) George N Papanicolaou (1883-1962) MD. *Journal of Medical Biography*, 17 (3) 134, doi:10.1258/jmb.2009.009030.

This is the final draft, after peer-review, of a manuscript published in RSM journals: www.rsmprpress.com.

George N Papanicolaou (Figure 1), the discoverer of the pap-smear test, was born on 13 May 1883 in Kymi in the Greek island Evia. As a youngster he was interested in observing nature and enjoyed playing the violin. His father was a doctor in Kymi and a Member of the Greek Parliament representing Evia. George studied medicine at the Medical School of the University of Athens (1898-1904). He fulfilled his army tenure in 1906 but felt uncertain about working as a doctor and so he worked (1907-10) in Germany and obtained his PhD on a zoological topic. In 1910 he married Mary and they went to Monaco where Papanicolaou worked on a research mission on *L' Hirondelle*, a boat with the Oceanographic institute. After a short time in Greece in 1912, they headed for New York with only \$250, a small amount at that time. At first during this difficult period, Papanicolaou earned his living as a violinist. He was a persistent and courageous man who combined his love of nature with rare intellectual virtues, great scientific ability and the ethos of a devoted researcher; eventually these qualities were recognized by Cornell University where in 1914 he was hired as an assistant. He remained at Cornell for almost half a century until 1961, becoming Emeritus Professor of Clinical Anatomy. During his academic career he studied many areas of exfoliative cytology, of which he is considered a founder. He published over 150 articles in international journals and five significant textbooks, among which the best known include *Diagnosis of Uterine Cancer by the Vaginal Smear* and *Atlas of Exfoliative Cytology*. He wanted to return to Greece as a professor but this never happened. After 1961 he left New York and went to live in Miami where he intended to supervise a newly founded Cancer Institute named after him. He died on 19 February 1962.

Papanicolaou, known as Dr Pap, is best known for his discovery of the Pap-smear test which examines the cytological appearance of cervical cells in order to diagnose cervical cancer in women. His researches involved anatomy, pathology and endocrinology, with a particular interest in the physiology of reproduction. He began experimenting on the value of vaginal smears as a method for determining the sequence of changes in the reproductive organs in the female guinea pig. He extended his research to the normal cycle of the human female at the Women's Hospital in New York City and eventually extended his research to different pathological conditions including cancer. During this research he detected cancer cells in the vaginal smears of women and immediately recognized the clinical significance of this finding. However, he failed to convince his fellow doctors of the importance of this examination in 1928; the method was recognized 15 years later in 1943 and since then it has been considered a useful diagnostic approach to detect cancer of the uterus and cervix. His discoveries were highly honoured by the Borden Award of the Association of American Medical Colleges, the Amory Award of the American Association of Arts and Sciences (1948), the Lasker Award of the American Public Health Association (1950), the Award of the Passano Foundation (1956) and the Century Award from the General Federation of Women's Clubs (1957). He was nominated twice for a Nobel award. His figure has decorated many stamps in the USA and Greece and a Greek banknote. Several busts exist in Greece and the USA.

This bronze statue (figure), depicting Papanicolaou with his microscope, is situated at the entrance of his home-island, Evia. The statue was unveiled in 2002 by the sculptors George Mengoulas and George Retsas for the Local Union of Municipalities and Communities of Evia. On the right of the base is inscribed Papanicolaou's saying 'I live to serve life'.

Figure 1
Statue of George Papanicolaou. At the bottom right of the image may be seen the Evripos Bridge or the George Papanicolaou Bridge, cable-stayed and spanning the 700 metres between Evia and mainland Greece.

