



Georges Nadjakoff

1896-1981

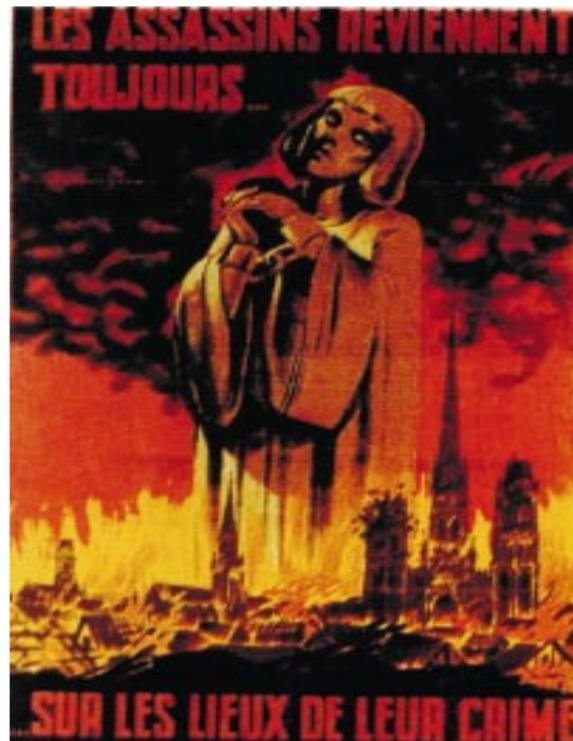
Photo electrets were found by Georges Nadjakoff as a kind of electrets by a new technique, but more important was the idea itself. Electrets are the things which preserve the electric polarization long after the polarizing field is switched off.

Nadjakoff was born in Dupnitsa, a town in Bulgaria. His father was a doctor's assistant. Nadjakoff was left an orphan when he was 16. In 1915 he began to study physics and mathematics at Sofia University. But the First World War interrupted his studies. As an army officer he went through the horrors of war during 1916-1918. Two years later he finished his course at the University and joined the Physics-Mathematics Department.

Sofia University gave him a grant for the Ecole de Physique et Chimie Industrielle in Paris to allow him to specialize in a topic of his choice during 1925-1926. **He encountered modern experimental science in Langevin's Electricity Laboratory.** There he investigated photoconductivity of dielectrics and high ohmic semiconductors with electrometric methods.

Nadjakoff had a strong character. His work was systematic and hard. He made experiments skillfully, precisely and inventively. As a lecturer he was exact and thoughtful.

Nadjakoff elaborated sensitive electrometers and universal methods for investigating the intrinsic photoelectric effect. He derived the general equation for three types of torsional electrometers.



He went through the horrors of the first World War



Nadjakoff married his colleague Vera Postompirova in 1928.

The previously known *Eguchi electrets* formed in an electric field under higher temperature were called *thermoelectrets* by Nadjakoff. **He later discovered a new kind of electrets, formed by light and electricity.** He called them *photoelectrets*. The difference between *photoconductors* and *photoelectrets* was that in the dark, a photoelectret's polarization was preserved for a long time, as in permanent magnets.

Later he investigated the photovoltaic effect in semiconductors and heavy ions in the atmosphere. As an experimentalist Nadjakoff had an accident. He was splashed with petrol, when a glass vessel exploded close to a burner. He instantly turned to a torch, but a brave assistant saved him.

In 1937 Nadjakoff was elected Professor and Chairman of Experimental Physics in Sofia University. His lectures were illustrated by interesting demonstrations. Nadjakoff became Rector of Sofia University, a member and later Vice President of the Bulgarian Academy of Sciences. He was the founder and first Director of the Institute of Physics of the Academy.