Prof. Anton Antonov (1934-2021)

***Prof. Anton Antonov*, Museum on History of the Physics in Bulgaria with Curator - Prof. Ganka Kamisheva**

The museum belongs to the Institute of Solid State Physics, Bulgarian Academy of Sciences (BAS)

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Teaching activities and specializations in Bulgaria and abroad Prof. Anton Antonov is a renowned Bulgarian biophysicist, who was born in Sofia in 1934. In 1957 he graduated in Physics in Sofia University "St. Kliment Ohridski". In 1967 he defended a doctorate in "M. V. Lomonosov" Moscow State University and acquired a PhD degree. He has got joint publications with the inventor of the first Soviet copy machine Vladimir Mihailovich Fridkin. He specialized in Leningrad (now St. Petersburg) (1959) and Dubna (1963-1966).

Thanks to his scientific achievements Prof. Antonov managed to continue specializing in Ohio, USA (1974) and in University of Göttingen, Germany (1975). In Göttingen he has discussions with the Nobel laureate Prof. Manfred Eigen.

BIn USA he observed experiments of Cleve Backster about the influence of electrical conductivity of brine shrimps. Using a random number generator, shrimps fall over a hot plate. The polygraph machines connected to the plants record reactions.

In the 1960s Prof. Anton Antonov had joint research activities and scientific publications with Academician Georgi Nadjakov. Academician Nadjakov is the author of the first Bulgarian invention – photoelectrets. Together with Academician Nadjakov and Dr Gleb Zadorozhniy he investigates the conditions under which the photo polarization of photoelectrets are stored in the dark (1961).

In Sofia University "St. Kliment Ohridski" Prof. Antonov leads a group in biophysics (1975-1980). Deputy Dean at the Faculty of Physics at Sofia University (1972-1975).

For many years he had been working at South-West University "Neofit Rilski" in Blagoevgrad, and in the Institute for Nuclear Research and Nuclear Energy, Bulgarian Academy of Sciences (BAS). Consultant of Scientific Research Center of Medical Biophysics (1996-2003).

Scientific Work

Prof. Antonov is a Doctor of Physical Sciences DSc in South-West University "Neofit Rilski" (1995). The thesis of his doctoral dissertation is "Research of the non-equilibrium processes in the area in allocated systems". The scientific work of Prof. Antonov is connected to research of processes in non-equilibrium systems. There are two main directions. First one is with the water as an information system. The second one is with electrical and bioelectrical coronal discharge in laboratory conditions.

Prof. Antonov together with Ass. Prof. Lilyana Yuskesselieva patent "Method for determination the degree of change in the structural state of liquids" (1983). In 1983 Prof. Antonov described a new physical effect. Proven is the discreet ("hopping") evaporation of a water drop.

The methods for spectral analysis of Prof. Antonov are: Non-equilibrium energy spectrum (NES) and Differential Non-equilibrium energy spectrum (DNES) (1995).

In biophysics, in cooperation with Prof. Ignat Ignatov and Cert. Eng. Tatyana Galabova studied biophysical fields by contact (1990) and distance influence on water (1998).

Together with Cert. Eng. Jivko Jelev and Cert. Eng. Tatyana Galabova is patented: "Method and Device for Evaluation of Bio-Psycho-Physical Influence of Radio, Television and Media Products upon Humans".

prof. Drossinakis, prof. Ignatov
prof. Antonov, prof. Marinov
2001

Roland Schafer developed a method for electrographic copies, which is the basis of photocopier. Prof. Antonov had joint publications with the inventor of the first Soviet copying device – Prof. Vladimir Fridkin. He has got three author's evidences together with Ass. Prof. Lilyana Yuskesselieva about inventions in electrographic copies on paper.
Electrography is silverless photography.
In the field of coronal discharge in gas he developed a "Method for selective electrical discharge". It is proven that the effect depends on dielectric permeability. The resulting images are black and white. In 2007 Prof. Ignat Ignatov refines the method with color images. It is defined as a „Method for color coronal spectral analysis".
In 2021 Prof. Ignat Ignatov, Assoc. Prof. Georgi Gluhchev, Nikolay Neshev PhD and Prof. Dimitar Mehandjiev created a model for a water cluster of 20 water molecules with size 0,822 nm. The effect of discreet evaporation of a water drop discovered in 1983 by Prof. Antonov has been applied.
In 2021 Nikolay Neshev PhD, Prof. Ignat Ignatov and Prof. Christos Drossinakis defined a "Method for transformational information entropy".
The method for spectral analysis NES of Prof. Antonov has been applied.
In 2003 Scientific Center in Medical Biophysics (SRCMB) received a Swiss prize. The prize is awarded in Bern University by Dr Theo Locher to Prof. Anton Antonov and Cert. Eng. Tatyana Galabova. Winners of Swiss Prize 2003 are also Prof. Ignat Ignatov and Cert. Eng. Stoyan Stoyanov.

Publications:

prof. Antonov, prof. Drossinakis,
assoc. prof. Gluhchev, prof. Ignatov
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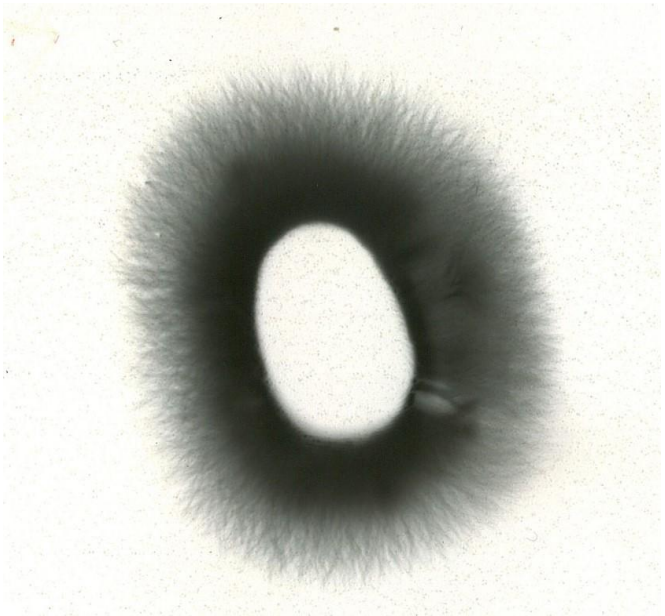

Black and white
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