



8th World Congress of Immunology, London, 2019

Biological Effects of Christos Drossinakis on
Model Bio systems with Cancer Cells

Prof. Christos Drossinakis Prof. Ignat Ignatov

- The achievements of Prof. Drossinakis for effects on cancer cells was published in US scientific journals.

The logo for the Journal of Natural Sciences Research features a close-up photograph of a vibrant green leaf with detailed vein patterns. The text is overlaid on the left side of the image.

Journal of Natural
Sciences Research

The logo for the Journal of Medicine, Physiology and Biophysics features a close-up photograph of a red, textured surface, possibly a biological specimen or a microscopic view. The text is overlaid on the left side of the image.

**Journal of Medicine,
Physiology and Biophysics**

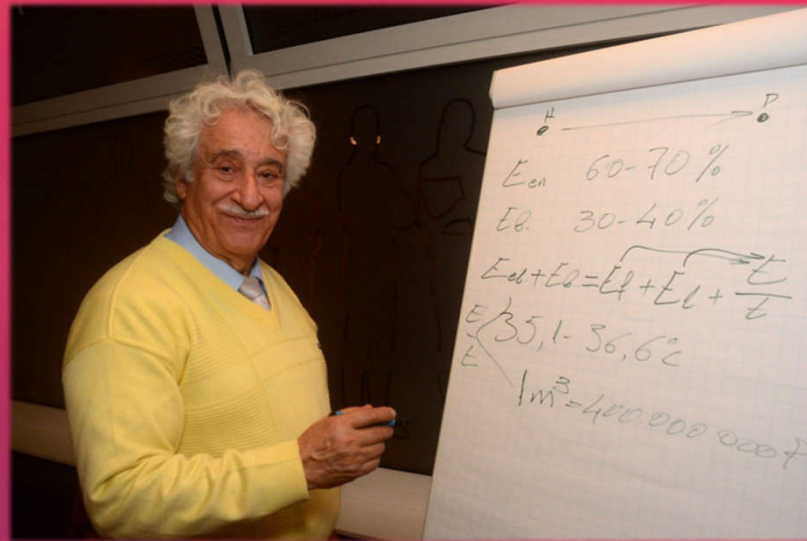
- The research is co-written with Prof. Reneta Toshkova, Ass. Prof. Elissaveta Zvetkova и Ass. Prof. Georgi Gluhchev.
- In over 80 institutes and centers in Europe has been proved the strong bio-influence of Drossinakis via the application of the methods biophotons (Popp), thermovision (Schlebusch), spectrum analysis of water (Antonov, Ignatov), color coronal spectral analysis (Ignatov), gas discharge visualization (Korotkov), synchronizing of brain electromagnetic waves (Li Gendinovich) etc



- In the current study was followed the effect of influence with Infrared thermal field (ITF) and electromagnetic fields (e.m. fields) of Christos Drossinakis over experimental myeloid tumor of Graffi, implanted in hamsters. The study was conducted by a team under the authority of Reneta Toshkova.



- The working hypothesis (concept) of Drossinakis for treatment of tumors includes several facts – redistribution of the energy in the ill and healthy zones of the body, change of ion balance at molecular level and improved interchange in the cell membranes.
- The author's team of Reneta Toshkova, Ignat Ignatov, Elissaveta Zvetkova and Georgi Gluhchev together with Christos Drossinakis, has conducted experimental research in model systems.

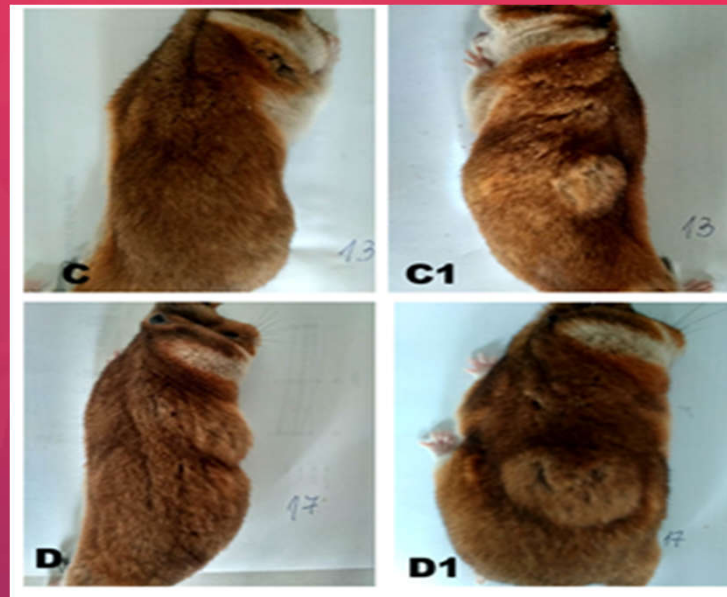


In vivo research of therapeutical effect in hamsters with experimental myeloid tumor of Graffi (Toshkova, Drossinakis, 2018).

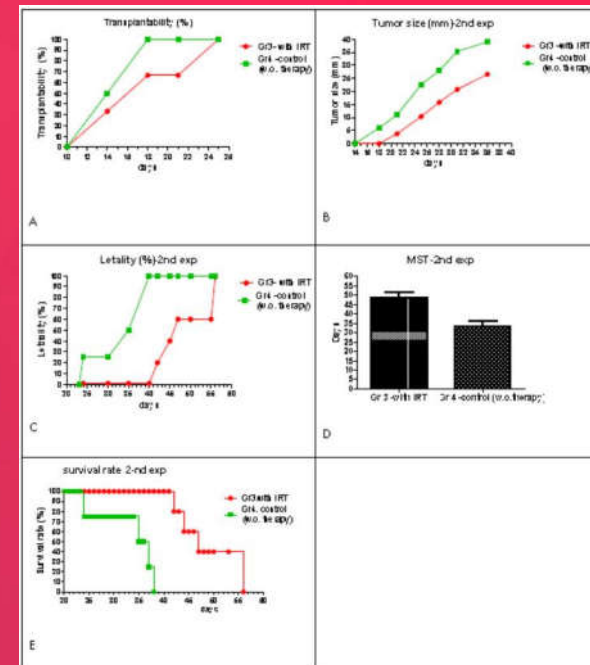
- Two types of trials were conducted for bio-influence of experimental myeloid tumor in hamsters with ITF and e.m. fields.
- In the first set of trials the bio-influence was applied over a tumor with size around 10 mm in diameter. In the second set of trials the influence was carried out together with the transplantation of the tumour. The results were compared with control groups – hamsters with untreated transplanted tumors.
- As indicators for assessment of the therapeutical effect under the influence of ITF and e.m. fields were reported parameters such as – tumor appearance, tumor growth, lethality, survival rate and average survival rate.

Results with Hamsters (Prof. Toshkova, Prof. Drossinakis)

- The lethality (%) in experimental group with bioinfluence of Drossinakis from second trial and control hamsters. The results were presented on fig. 1. On the first row are the hamsters with Drossinakis bioinfluence and on the second is control group. It is visible better quality of skin of hamsters with Drossinakis treatment.



- The **average survival time (AST)** of hamsters with biotreatment has been established compared to the control group untreated animals (Fig.2, D,E). From the chart (Fig.2, D) was clearly visible that the hamsters from treated group survive 49.0 ± 6.63 days, and from control group- 33.25 ± 6.29 days, which was around 16 days in favor of hamsters with bioinfluence.

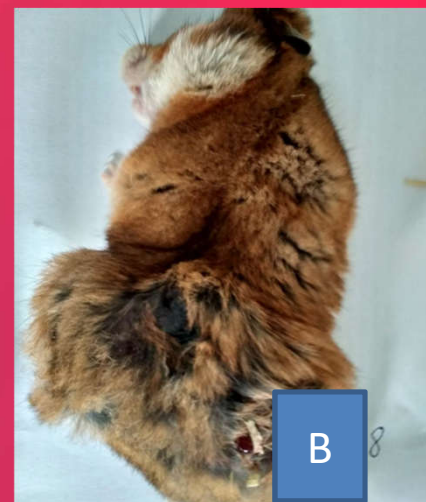
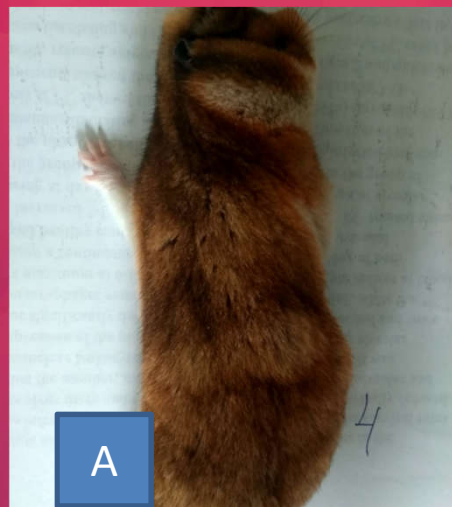


- **Results of parameter-Tumor size (mm)**- It is established via measuring with caliper of two mutually perpendicular of the tumor (A-width and B-length) through regular intervals of time after the transplantation of tumor cells. The tumor size has been reported to day 36



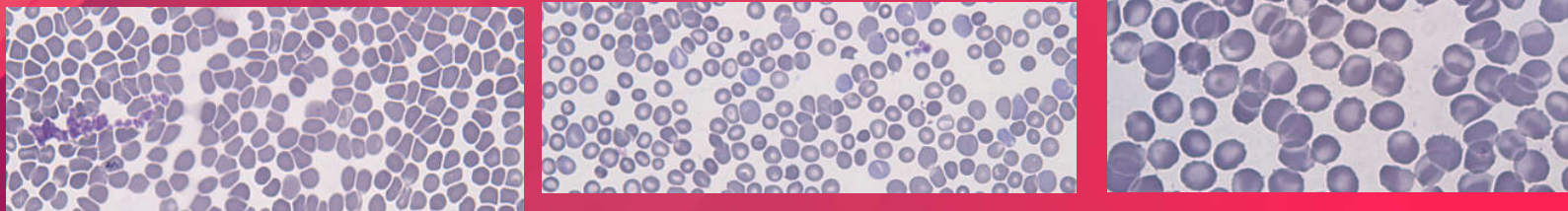
Analysis of the biological effects in peripheral blood of hamsters with tumors after the influence (Zvetkova, Drossinakis, 2018).

Conclusions deducted by Zvetkova. When studying the swabs of peripheral blood of the experimental hamsters was established a tendency for positive influence over the erithropoesis and the anemic syndrome accompanying tumor development. Picture A shows hamster with cancer after treatment of Drossinakis and B is from control group with cancer.



Analysis of the biological effects in peripheral blood of hamsters with tumors after the influence (Zvetkova, Drossinakis, 2018).

Cytological differences in the erythrocyte /RBCs-/ morphology and differentiation were noticed in the blood smears of control /untreated-/, vs bio-influenced hamsters with implanted myeloid tumours of *Graffi* as shown in Fig. A, B, C.

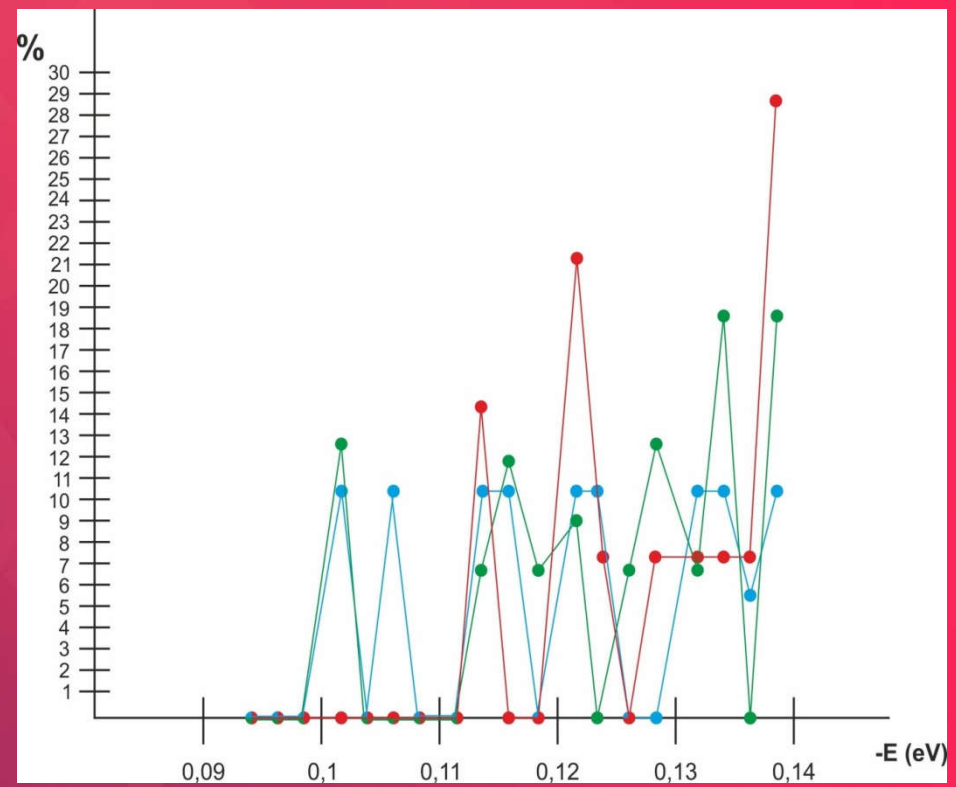


A) Control healthy (x20); B) Control tumor (x 20); C) Tumor with therapy (x40)

Research of 1% solution of blood serum of hamsters with tumors using the spectral methods NES and DNES. (Ignatov, Drossinakis, 2018).

- In the spectrum analysis with method NES conducted by Ignatov were achieved substantial results from the influence with ITF and e.m. waves compared to the control group of hamsters with tumor and healthy hamsters. In the spectrum analysis was measured the energy of the hydrogen bonds H...O among water molecules. Under the influence of ITF and e.m. fields, the result was $E = -0.1285$ eV for blood serum of hamsters with tumor. In the control group of hamsters with tumor it was $E = -0.1214$ eV, and in healthy hamsters it was $E = -0.1250$ eV. The spectrum DNES was achieved using the formula
- $\Delta f(E) = f(\text{sample}) - f(\text{control sample})$.
- The result against control group of cancer hamsters was $\Delta E = -0.0071 \pm 0.0011$ eV, and against the control group of healthy hamsters was $\Delta E = -0.0035 \pm 0.0011$ eV. Substantial results were achieved in the analysis of local extremums in the water spectrum. For $E = -0.1212$ eV ($\lambda = 10.23$ μm ; 978 cm^{-1}) the result is indicative for anti-inflammatory effects. For $E = -0.1387$ eV ($\lambda = 8.95$ μm ; 1117 cm^{-1}) the result is connected to suppression of the development of tumor cells in size and number.

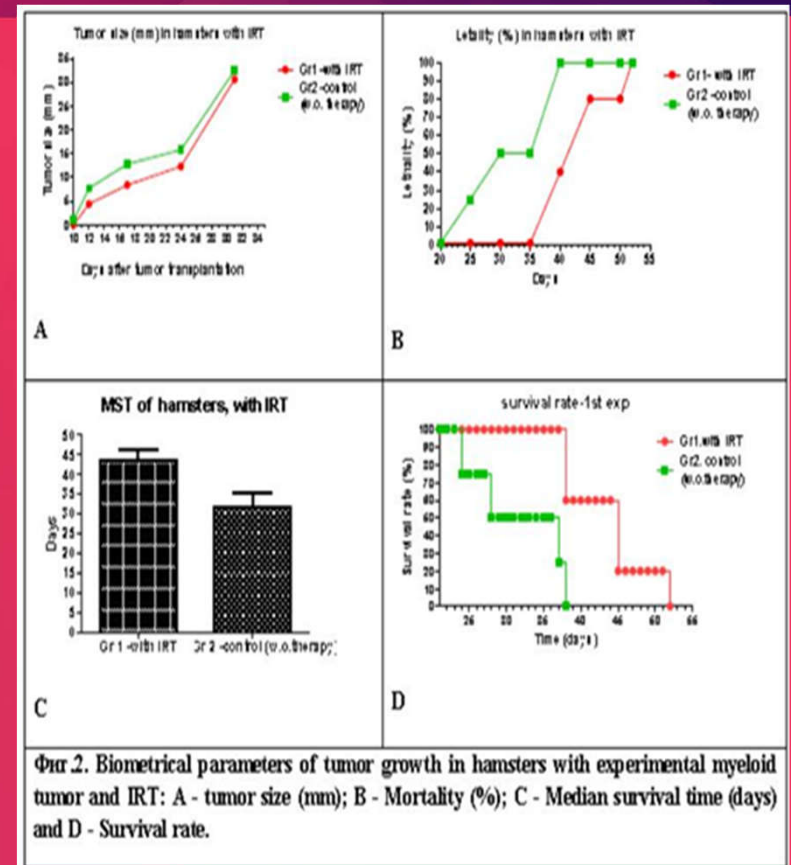
Results of 1% solution of blood serum of hamsters with tumors using the spectral methods NES and DNES. (Ignatov, Drossinakis, 2018). (red line) – after bioinfluence of Drossinakis on hamsters with cancer
(blue line) – hamsters with cancer
(green line) – healthy hamsters



Mathematical models of bioinfluence of Drossinakis on hamsters

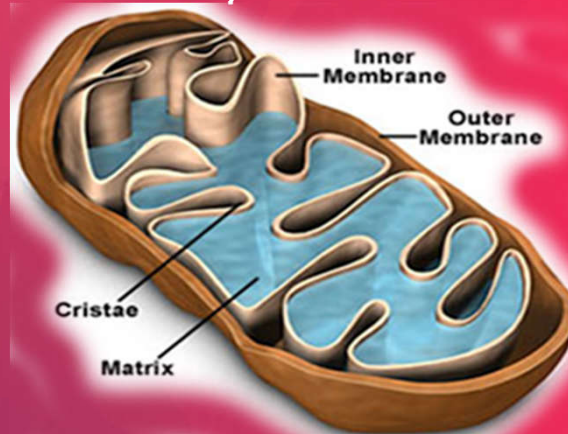
In fig. 2 are presented charts reflecting the results from the accounted parameters of tumor growth in hamsters from experiment 1. From the details of the size of tumor (mm) (fig.2, A) is evident that the size of tumor in hamsters with ITF and e.m. fields (gr.1) is insignificantly smaller within the interval 12-24th day in comparison with the one from control group-without bioinfluence (gr.2), and afterwards around the 30th day the tumors align in size (the red line is moved slightly downward and follows the green line). The average survival rate of hamsters with therapy (gr.1) is 43.6 ± 5.8 days, for control group-without therapy (gr.2) – 31.75 ± 6.8 days (fig.2,C), i.e. the survival rate in group 1 is prolonged with around 12 days.

The chart in fig.2, D shows the extended survival rate for hamsters with therapy (gr.1) in comparison with control group-without therapy (gr.2) (the red line is tilted strongly to the right from the green line). 20% of hamsters from gr.1 survive for 52



Examination of physiological saline solution (Gluhchev, Drossinakis, 2018).

- During examination of physiological saline of Na Cl from Gluhchev was observed five-fold increase of hydrogen ions and change of conductivity. It is a proof for recovery of the ion balance. In healthy cells the potential for transmission of hydrogen ions H^+ through the membrane is (-140 mV), and in cancer cells it is (-70 mV)(Alberts et al.). The tendency is that under the influence of ITF and e.m. waves the potential can be recovered.



Conclusions

- The achieved results of hamsters from experimental bio-influence of Christos Drossinakis reveal their biological efficiency and can be subject of future studies. Extending the life of the hamsters is an indicator of improving immune status. The results obtained with recent data in the medical scientific literature on the positive effect of the near infrared irradiation on the structure and function of erythrocyte membrane in normal and pathological conditions. The mitochondrial polarity in cancer cells was found to be lower than that of normal cells. Drossinakis is increasing the mitochondrial polarity.

Thank you for the attention
(Prof. Ignatov, Prof. Drossinakis, Prof. Montagnier)

