

Conference Booklet

33rd annual French

Drosophila conference



INVITED SPEAKERS

Erika BACH, University of New York, USA
Thomas FLATT, University of Fribourg, Switzerland
Ronald KÜHNLEIN, University of Graz, Austria
Matthias LANDGRAF, University of Cambridge, UK
Ingrid LOHMANN, University of Heidelberg, Germany
Alain VINCENT, CBI Toulouse, France
Paula I WATNICK, Harvard Medical School, USA

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Poster number 21

The pattern of antioxidant defense in *Drosophila subobscura* adults after exposure to extremely low frequency magnetic field (50 Hz, 0.5 mT) at different developmental stages

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Nowadays, it is of importance to perceive the benefits and costs of enhanced technological development which implies the presence of various forms of magnetic fields in the living and working environment. Living organisms are confronted with that influence and it is useful to find out how we can minimize costs and reap the benefits. The aim of this research was to consider the pattern of antioxidant defense in *Drosophila subobscura* adults exposed at different developmental stages (embryons or just eclosed adults) to extremely low frequency magnetic field (ELF MF; 50 Hz, 0.5 mT, 48 h). The consequences of this treatment were evaluated by measuring the activity of superoxide dismutase (SOD) and catalase (CAT), as well as the content of total glutathione (GSH). The obtained results indicated different pattern of antioxidant defense in females and males after exposure to ELF MF. In females, decreased SOD activity together with increased CAT activity and GSH content were observed regardless of whether they were exposed to ELF MF as embryos or just eclosed individuals. In males, SOD activity was increased after exposure of embryos, while CAT activity and GSH content were increased after exposure of just eclosed individuals. In conclusion, ELF MF could be considered as a stressful factor affecting the pattern of antioxidant defense in *D. subobscura*.