COST P9

BULGARIAN PARTICIPANTS

National Center of Radibiology and Radiation Protection (NCRRP)
Department of Biophysics and Radiobiology – Sofia University “St.Kl.Ohridski”

www.ncrrp.org
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Main topics

Radiation damage of DNA, RNA and proteins in pro- and eukaryotic cells

Detection of X-induced proteins

Cytogenetic studies of radiation induced chromosome aberrations and apoptosis

Transforming activity of plasmid DNA after gamma-irradiation

Alterations of membrane NAD(P)H oxidase activity and superoxide generation

Testing of radioprotective substances on model systems

Effect of radiopharmaceuticals on blood cells

Biophysical characteristics of irradiated cell membranes

Characteristic data:

Single and Double Strand DNA Breaks and cross-linking

Electrophoretic chracteristics of DNA, proteins and whole cells

Types of aberrations

Transformation index

Specific enzyme activities

Light emission yield

Membrane ζ-potential

Radioactivity – β- and γ-emissions

Osmotic fragility

Objects:

Human blood cells – leucocytes, lymphocytes, erythrocytes
Yeasts – Saccharomyces cerevisiae – different strains
Microorganisms – E.coli
Rodents

Experiments carried out in vivo and in vitro

Radiation sources:

X-rays for medical purposes

^{60}Co and ^{137}Cs

Experimental nuclear reactor – imminent start

Methods:

- **DNA and protein electrophoreses**
- **Nick translation**
- **Comet assay**
- **Fluorescent microscopy**
- **Chemiluminescent analysis**
- **Enzyme assays**
- **Cell electrophoresis**
- **Radioisotope labeling**
- **Other biochemical, genetical, biophysical and microbiological methods at the Biological Faculty (www.biofac.uni-sofia.bg)**
- **Other physical and chemical methods used in scientific research**
- **in the Faculties of Physics and Chemistry (www.uni-sofia.bg)**

Sorry for my absence!

I'll see you in Lyon

Good luck!

Contact person:
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… and let's St Kliment bless you and COST P9 !!