



## GENETICS ON STAGE

The project has been developed jointly by two Italian secondary schools teachers (now working at Liceo Scientifico Statale “Calamandrei” – Napoli and Liceo Scientifico Statale “M.Buonarroti” – Monfalcone, Gorizia). The schools are located far away (one in North-East Italy and the other in the South), so communication has been realized by means of I.C.T. and some meetings of the two teachers involved in the project (both have attended EMBO workshops and are engaged in national projects for the enhancement of biology teaching in Italian schools).

“Genetics on stage” started from the analysis of the exhaust emissions of students’ motor-bikes. The amount of pollutants in the exhaust gas was measured in co-operation with a local governmental agency which provided the necessary equipment, then the students discussed the problem of air pollution in relationship with the damage of DNA and the risk of cancer.

DNA was approached “hands-on” by extracting it from fruit and by running DNA electrophoresis; “virtual” DNA was studied building DNA models (made of paper, cardboard, clothes-pegs) and viewing its structure by means of bioinformatic software.

The step from DNA to whole organisms was made by observing *Drosophila melanogaster* mutants in the classroom, then the students got through biotechnology and bioethics issues as GMO crops, PCR and DNA fingerprint, cloning and stem cells with the help of new didactical tools (stem cell board game, role play on co-operative reproduction) and movies (“GATTACA” by Andrew Niccol, 1997).

At “Science on Stage 2005 – Science for Humanity” festival we have presented a CD-ROM, two posters, didactical materials, documentation and activities from “Genetics on stage”.

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- for translations : prof. Marisa Brunetti, Maria Rosaria Zeno, Annamaria Cioffi
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