FONDAZIONE DiaSorin

Mad for Science
first edition

2016/17 EDITION

MAD FOR SCIENCE

How the project was born

One of the guiding principles of DiaSorin, an Italian multinational Group and a global leader in the market for in vitro diagnostics, is the belief that the company should produce not only economic benefits but also invest in people and within the communities where it operates. For this reason, DiaSorin has developed and supported a number of social responsibility projects over the years and, in 2016, the Company made its experience and resources available to support passion for science in the young.

On the basis of the results from a survey conducted among science teachers in Piedmont, which highlighted the value of laboratory learning, hands-on and first-hand experiences to build sound knowledge and scientific skills, DiaSorin has, thus, developed and launched its **Mad for Science** Project in 2016. The objective of the project is supporting passion for science in young students, right where their first meeting with science takes place and supporting laboratory learning in Piedmont high schools. How? Rewarding the most deserving and excellence-oriented schools and providing students with the opportunity to have a state-of-the-art biolaboratory, designed in accordance with the evolution of research and technologies in the field of Life Sciences.

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The theme of the first edition

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Students and teachers taking part in the first edition of the project are called upon to study and develop **a list of ten educational experiences** to be run in the school biolaboratory so that they can be shared with the other classrooms. The educational experiences include the integration of **Wet Lab** and **Dry Lab** and at least 4 projects should explore the following themes:

1. **From DNA extraction to fingerprinting.** Experiments where DNA is extracted from animal or plant cells, carrying out DNA amplification through PCR and DNA profiling using electrophoresis, to experience one of the most commonly used techniques in molecular biology laboratories.
2. **Enzymatic catalysis.** In vitro observation of the most common enzyme activities, such as catalase, amylase, bromelain, to more complex ones, such as restriction enzymes. Experiences may range from simple but efficient macroscopic observations to quantitative studies on the dynamics of the enzymatic activities.
3. **Bioindicators.** On a science field trip, students can collect small living organisms for environmental monitoring. Depending on the species used - small animals, plants, lichens or bacteria - as bioindicators, students will carry out different types of observations, counts and analyses, such as microscopy, bacterial cultures, macroscopic observations, to quantify the response of these organisms in altered environmental conditions.
4. **Fresh samples from plant cells undergoing mitosis or meiosis.** Using cells of onion root tip or anthers of certain flowers, such as Crocus or Lilium, students can prepare slides with cells undergoing the different stages of meiosis and mitosis and understand two of the main processes in Cell Biology.

Experiences shall be developed consistently with the ministerial guidelines for the development of laboratory learning along with the implementation of the Italian “National Plan for Digital Education”, the European objectives and the latest STEM challenges.

Competition Timeline

- **Launch of the project**
  11 January 2017

- **Project submission deadline**
  31 March 2017

- **Selection of the eight finalist projects**
  by 30 April 2017

- **Mad for science Challenge**
  11 May 2017

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Prize

1° Prize

The winning High school
of the Mad for Science Challenge 2017
is awarded a prize of **60,000 thousand euros**
for the **implementation of its biolaboratory**
and **5,000 thousand euros** per year for the following 5 years
(for a total of 25,000 thousand euros over the five-year period)
for the **supply of consumables required for the implementation of the proposed laboratory experiences**.

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ID
of the 8 Finalist
High Schools

NOTE: the first edition does not include any abstract;
it includes only the Competition theme.

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High School 1

High School name: High School Ettore Majorana- Moncalieri

Team members:
TEACHER Federica Premosell
STUDENTS Lucrezia Rosgen, Liviu Balint, Tommaso Garzaro, Marco Magnanini, Lorenzo Novara, Martina Orlando

Years: second and fourth

Theme: Biotechnologies at the service of food and environmental quality

High School 2

High School name: High School Galileo Galilei – Nizza Monferrato

Team members:
TEACHER Antonio Potenza
STUDENTS Simone Vespa, Andrea Avetrano, Mihaela Gjorgjieva, Davide Pregno, Paolo Rolando, Davide Gallizio

Years: second and fifth

Theme: Wine yeasts used as experimental model in our laboratory project

High School 3

High School name: High School Curie Vittorini – Grugliasco

Team members:

TEACHER Simonetta Righini

STUDENTS Tobia Glorio, Erica Spoletti, Luca Corsino, Noemi Ferro, Davide Pace, Vittorio Zasa

Years: third and fourth

Theme: Wine yeasts used as experimental model in our laboratory project

High School 4

High School name: High School Pietro Gobetti – Turin

Team members:

TEACHER Patrizia Zaccara

STUDENTS Guido Buffa, Gaia Ghiselli, Giulia Palladino, Roberta Pastore, Nicolò Ribaudo, Matteo Sperti

Years: third and fourth

Theme: Analysis of the elements sharing and differentiating different organisms, from bacteria to aquatic macroinvertebrates, from plants to microfauna

High School 5

High School name: High School Aldo Moro – Rivarolo

Team members:

TEACHER Elena Bruno

STUDENTS Chiara Dini, Chiara Chiereleison, Giorgia Desantis, Elena Redolfi, Andrea Toscana, Silvia Miglietta

Years: third

Theme: From local primary and middle schools' laboratories to public experimental exhibits - a study on macroinvertebrates and plants to experiment science

High School 6

High School name: High School Giuseppe Peano – Turin

Team members:

TEACHER Federica Prinetto

STUDENTS Andrada Andrei, Federica Schicchi, Costella Javgureanu, Aurora Perino, Martina Papurello, Elisabetta Urso

Years: second, third, fourth, fifth

Theme: Experimental activity covering molecular and environmental biology experiments and involving the study of the caves' sentinel spider as a bioindicator of environmental changes

High School 7

High School name: High School Charles Darwin – Rivoli

Team members:

TEACHER Federica Alciato

STUDENTS Alessia Santiglia, Davide Solazzo, Alice Colonna, Davide Baraban, Manuel Camarda

Years: third and fourth

Theme: From studying lipids, proteins and carbohydrates content to the analysis of Vitamin C content in certain foods. A project with a hands-on approach to science in school laboratories

High School 8

High School name: Boarding School Carlo Alberto – Novara

Team members:

TEACHER Federica Alciato

STUDENTS Alessia Santiglia, Davide Solazzo, Alice Colonna, Davide Baraban, Manuel Camarda

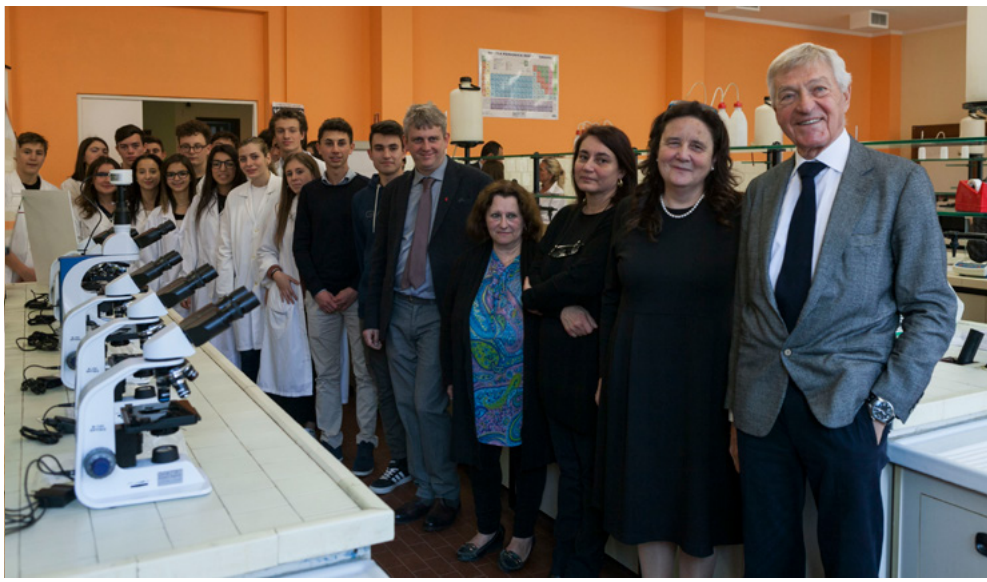
Years: third and fourth

Theme: Experimental activity to introduce students to molecular biology and, particularly, to the analysis of DNA extraction from plants

Winner

First Prize

High School Galileo Galilei
Nizza Monferrato



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