

2014 VIENNA INTERNATIONAL SCIENCE ENGINEERING FAIR

Award	Project	Project Name	Student(s)	SCHOOL	REASON FOR AWARD
BEST OF CATEGORY					
Best of Category J-1 COMPUTER, SPACE & ENVIRONMENTAL SCIENCES	J1-7	Purification of Water	Winston Warner Ivan Tirgannik	Riverside Prague	This showed very good teamwork and had a great presentation. They were very knowledgeable of the water purification process. They conducted numerous experiments that supported their research. They used a scientific method that was very easy to follow. They had additional articles that supported their research. The project was very practical with a good purpose. Overall, the judges felt this was great work.
Best of Category J-2 HEALTH & LIFE SCIENCES	J2-6	Where are the Most Bacteria found in the School?	Stephanie Seidl	Riverside Prague	The judges felt that the project had a well thought-out approach, a thorough analysis of the obtained results, good presentation, background research, and future questions to be tested. It was a project that challenged a general perception that the toilet area would have the highest bacteria counts and she proved that the perception was not correct. In fact the computer keyboard had the highest number of bacteria. The student used an innovative data analysis technique to come to this conclusion. . Overall, the judges felt that the primary strength of her project was that the student showed a skill in using mathematics in the biological sciences and thinking differently by also including the meaning for public health. The student's poster covered all the major components of the project, including a good discussion of the results. The student should continue this research with some additional focus on its public health implications.

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Best of Category J-3 HUMAN BEHAVIOUR	J3-7	It is Written All Over your Face: A Study of Facial Expressions	Hannah Shaw Isabel Terry	VIS	This project demonstrated a very rigorous scientific methodology. The experiment was very carefully prepared with potentially distorting effects considered and controlled for. The data was carefully recorded and analysed quite thoroughly. Teamwork was very strong, with both presenters showing a full understanding of the project. The presenters have also thought through a number of alternative hypotheses and have excellent ideas for conducting further experiments. They are encouraged to keep up the excellent work.
Best of Category J-4 MACHINES AND TECHNOLOGY	J4-3	If you Couldn't Walk, Can you use a Robot?	Hibiki Kojijama	Amadeus School	This was a very ambitious project for someone without a lot of experience in this area. It was a highly complex project and has a well designed concept to prove its feasibility. The student understood his subject well and is quite aware of the current limitations and weaknesses, but know the next steps to be taken.
Best of Category J-5 PHYSICAL PRINCIPLES	J5-10	Conductivity - Talking Posters	George Daish	Riverside Prague	The student was the most innovative in his category: finding clever ways to apply engineering concepts to real life applications. He was very dedicated and thorough. The student was meticulous about developing his ideas, learning from mistakes and expanding them. It was an exemplary show of enthusiasm and understanding of the topic as well as showing great potential for future work.

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Best of Category S-1 BIOLOGICAL SCIENCE	S1-10	The Effect of Synthetic and Natural Laundry Detergent on Algae Growth	Eiko Iwashita	AIS	The judges were extremely impressed by the clear definitions, logical presentation of scientific methodology and interesting conclusions drawn in this project. Her selection of experimental equipment and approach were based on scientific testing and a detailed review of the literature. Overall the project was very much in line with the theme of this Science Fair. The judges believe she is very much suited to future pursuits in Biochemistry.
Best of Category S-2 CHEMISTRY AND PHYSICS	S2-1	Brainwaves	Nicolas Haider Mohammed Khouni Aris Mukherjee	Lycee Francais de Vienne	The project nicely combined engineering and science. First, the students built a tool: reproducing hi-tech equipment for very little cost. They then used it to experiment on themselves and showed well how brainwaves can be visualized. They were enthusiastic and imaginative and showed great effort and perseverance in perfecting their prototypes. The judges look forward to new applications from them in the near future.
Best of Category S-3 ENGINEERING AND TECHNOLOGY	S3-2	Near Space Balloon	Tom Nicholas	VIS	The judges believe that he deserves this award for the technical complexity and creativity associated with this project. His methodology was well conceived and he resolved many challenges associated with the supply of parts and his duct tape and wire tie construction techniques. The student conducted continuous self-assessments related to both sensors and the data analysis. He proved to be fully committed to continue with the development of the project in the future.

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Best of Category S-4 HEALTH & HUMAN BEHAVIOUR	S4-12	Difference in Memorization Between Males and Females	Natsumi Furo	VIS	The student stated the problem quite clearly: measuring memory based on test variables. The student developed adequate data to support the conclusions with a statistical analysis. She created a test and performed it on a large group. During the analysis she took out the older subjects from the conclusion and narrowed the scope of the results. The student was able to clearly present the project and the subject.

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ADDITIONAL AWARDS					
BEST TEAM EFFORT	J5-4	How to Make Electricity Using Fruit and Vegetables	Elmo Krbou, Alberto Susa	Riverside Prague	Elmo and Alberto demonstrated a great abundance of enthusiasm and confidence in describing their project to the judges. They cooperated beautifully in making the presentation and equally shared in the explanations. It was evident that they equally contributed to the planning and development of the project.
BEST RESEARCH AND METHODOLOGY	S1-2	Can Science Stop the Aging Process?	Maryam Abdurrahmam Angelina Komiyama	Lycee Francais de Vienne	The judges believe that the most outstanding part of this project is how advanced it was in terms of research itself and the level of scientific knowledge applied in its design and execution. They felt that this is the type of experiment that would be expected of a senior level university student because of how well it was designed. The results of the study were very relevant and could be applied in our own daily lives.
BEST SCIENTIFIC RIGOR	S3-5	The Leonardo da Vinci Bridge	Laura Guiollot Alexandra Henzinger	Lycee Francais de Vienne	The judges noted that this was a very enthusiastic team that worked very well together. It was a hands-on project that took a theoretical design to implementation. The student team methodically worked through several design enhancements to improve the stability of the bridge. The students' explanations were descriptive and very clear. They earned a great deal about the physical properties of weights, balance, vibrations and leverage. Their presentation of information and results were excellent.

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MOST SOCIALLY CONSCIOUS	J3-9	What Makes us Believe? Humans or Facts?	Satya Ganeswaran Onon Sergelen	VIS	The students constructed a project to determine the ease with which educated people could be manipulated to sign a petition to ban a substance from food production where they had no knowledge of the effects or toxicity of the substance. Instead of the word "water", they used the chemical name "dihydrogen monoxide" in their petition and discussions. The aim was to determine the effect that oral information has on the will to sign a petition involving a social issue. The students developed a methodology for the project, consulted with different groups on the construction of the petition and developed additional pieces of information. The students found that about 85% of the people contacted signed a petition to exclude dihydrogen monoxide from food production. In their conduct of the study, the students obtained nearly 40 signatures (name and contact details). The project demonstrated the importance of obtaining reliable information and the ability to assess information correctly.
BEST IMPLEMENTATION	J1-5	Energy Neutral Terrarium	Alexander Sndenski	AIS	This was a very creative project and the student was very knowledgeable about his research. The judges look forward to seeing you back next year after you have had the time to look at different environments which will benefit your research.

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BEST USE OF BIOMETRICS	J3-6	Investigating Beauty with the Golden Ratio	Bianka Peirce	VIS	The project tested a hypothesis based on a the ancient "golden ratio" to see whether it applied to the attractiveness of human faces. The methodology of the project was carefully specified, with attempts made to control for other variables that might influence the outcome. Ms Pierce also ensured that she selected a consistent set of images to test, and that she had a reasonably large sample size. The results generally confirmed the hypothesis but equally importantly they raised a number of additional questions which Ms Pierce had clearly thought about and considered as potential future research questions. Overall, the project was clearly defined, methodologically sound, and very clearly presented. It represented a significant amount of thought and experimental work at a very high level for a Junior project.
BEST COMPUTER SCIENCE	J1-1	Designing a Game and Testing It	Tom Broadhurst	Danube School	This was a very challenging project to even attempt and yet the student completed both the design and testing phase. The student showed a lot of dedication and a special skill in doing this computer programming. He also understood how to do things differently after receiving the test results.
BEST CROSS-DISCIPLINARY	S4-8	Is the Perception of Major and Minor Chords Innate or Learned?	Dawson d'Almeida	Amadeus School	The student combined music and the use of science in interpreting the results in an excellent manner. It was a well thought out experiment and well presented. The judges were impressed and encourage the student to continue on in this area of neuroscience.

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SPECIAL AWARD FOR ENGINEERING ACHIEVMENT	S3-2	Near Space Balloon	Tom Nicholas	VIS	Although Tom won an award for the Best in the Senior Engineering and Technology category, the judges felt that the enormity of his efforts should be emphasized by an additional award to recognize his achievement. The judges are confident that he will be very successful in pursuing a career in the field of aeronautical engineering.
SPECIAL AWARD OF THE AMERICAN NUCLEAR SOCIETY AWARD	S2-5	Radioactivity in our Houses	Nicolo Cittoni	Lycee Francais de Vienne	<p>Established in 1954, ANS is a professional organization of engineers and scientists devoted to the peaceful applications of nuclear science and technology. Its more than 11,000 members come from diverse technical backgrounds covering the full range of engineering disciplines as well as the physical and biological sciences within the nuclear field.</p> <p>We would like to recognize the truly enthusiastic work done by Nicolo Ciattoni from the French Lycee on his project related to natural radioactivity. He used a specific property of the radioactive decay to collect samples and measure them, and impressed the judges with his thorough research of other measuring techniques and his understanding of the phenomenon.</p> <p>We encourage his research, that he plans to continue after the Science Fair and perhaps someday welcome him as a professional colleague among us.</p>

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WOMEN IN NUCLEAR AWARDS					
JUNIOR AWARD	J3-7	Face recognition	Hannah Shaw Isabel Terry	VIS	<p>Those who are familiar with the TV series “Lie to me” to evaluate face expressions to solve criminal cases will find some parallelism in how this study was conducted. The two 8 graders evaluated face expressions using tangible measurement tools e.g. they measured the distance between eyes, distance between ear and corner of the mouth etc. and how this changes in different situations and expresses moods. They demonstrated excellent team work, scientific methodology and a rigorous analysis of the results. The experiment was carefully prepared and the data were well recording and nicely presented. In young age the two ladies showed initiative and scientific approach to explain a theory and to proof its relevance. So even more matured Winners can learn from these two youngsters how to reliably and scientifically interpret face expressions.</p>

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SENIOR AWARD I	S4-5	How do People React to Different Styles of Clothing?	Didar Schwan	Amadeus School	<p>The awardee's intention to become a businesswoman and how people would react to her outfit and her manners were the driving force to conduct such a study. She showed great initiative and independence (she was helped only by one friend who recorded the reactions) and exposed herself in the Vienna pedestrian area to more than 80 people (women and men) on how two different styles of clothing (one more feminine one more sportive) would influence reaction of people towards herself. She asked about the time pretending to have lost her mobile, and tested the reaction of the pedestrians: polite, rude, pleasant, comforting etc. and she measured how long they responded to her, the study included a statistical evaluation of the results. The results were rather surprising: Most of the males did negatively react to a sportive outfit, whereas women did not make such a distinct difference. She indicated that she'd love to repeat the study with more extravagant and polarizing clothing and more selectively to have a better cohort. She concluded how important it is to have the right clothing for the right occasion, nothing new but important to be aware of when you want to make a career in any profession and is even more important for women working in a male domain like WiN.</p>

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SENIOR AWARD II	S1-5	Hey Baby	Sanna Friberg Lacy Jones	Bratislava International School	<p>This was for sure the funniest project and addressed how girls perceive boys' body odour. WiN decided therefore to have a second senior WiN Award for this team. The two young ladies exposed girls in different age groups and in different status of their menstruation cycle to smelly T-shirts (with and without perfume) and how they perceived the odours. Not only showed they an original idea they also evaluated the results in a very scientific matter and came to interesting conclusions. Actually the team will soon be hired by a deodorant company, famous for its brilliant advertisements on how men can attract women merely based on how they smell ! Although not nuclear related, WiN acknowledges the inventive idea behind the study and how scientifically it was conducted.</p>