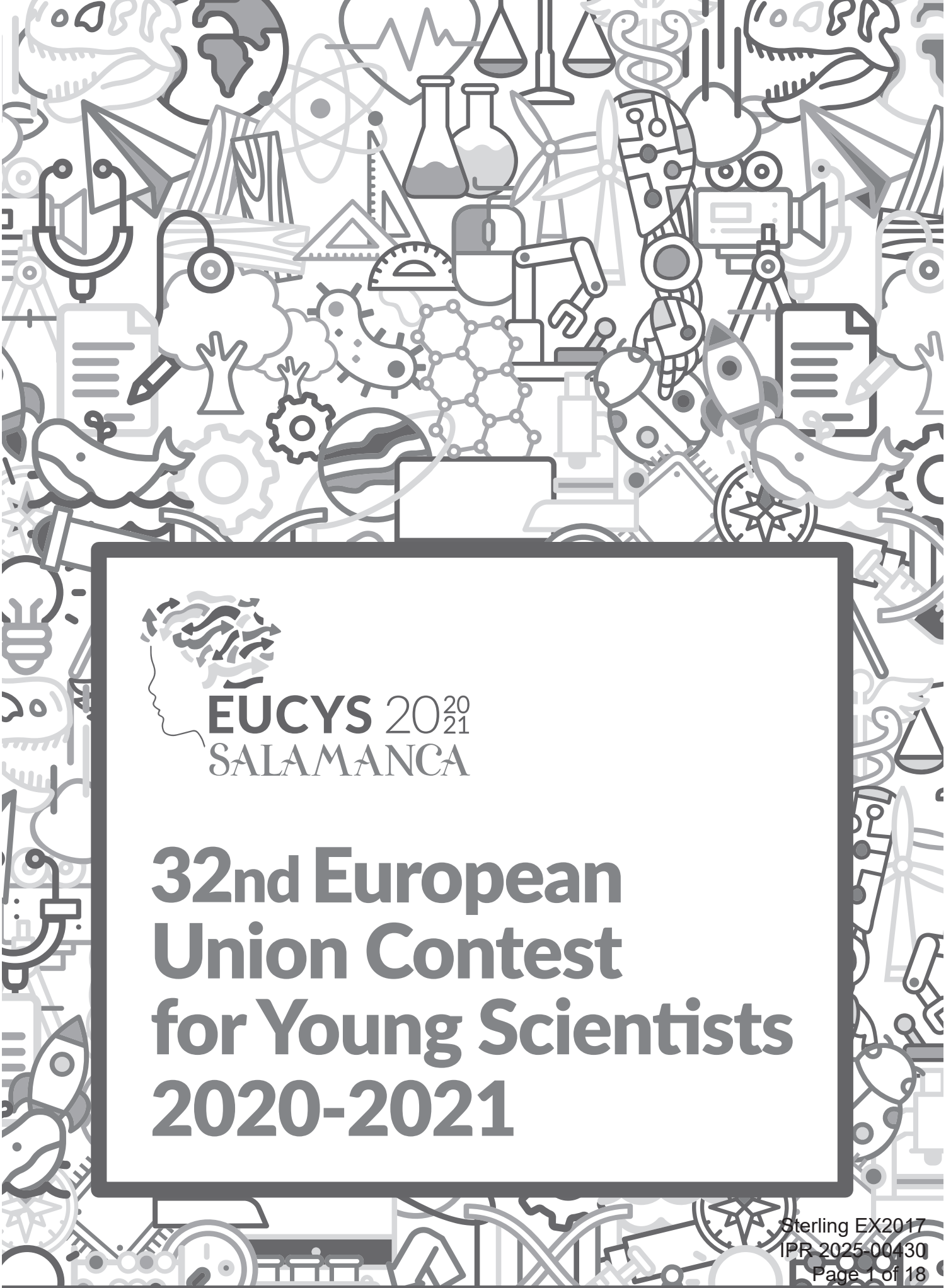



# 32nd European Union Contest for Young Scientists 2020-2021

Sterling EX2017
IPR 2025-00430
Page 1 of 18



Sterling EX2017
IPR 2025-00430
Page 2 of 18

EUCYS 2021
SALAMANCA

The future of science

**EUCYS2021.COM**

European Commission

VNiVERSiDAD D SALAMANCA



# EUCYS 2020 2021 SALAMANCA

## 32nd European Union Contest for Young Scientists 2020-2021

INSTITUTIONAL SPONSORS

GOBIERNO DE ESPAÑA · MINISTERIO DE UNIVERSIDADES

Junta de Castilla y León

Ayuntamiento de Salamanca

SPONSORS AND PARTNERS

IBERDROLA

LIYSF · EIROforum · CERN · EUROfusion

EMBL · esa · ESO · ESRF · NEUTRONS FOR SOCIETY

European XFEL · JRC EUROPEAN COMMISSION · PRACE · ILL · SWISS TALENT FORUM

WOLFRAM · BIO-BASED INDUSTRIES · EuChemS European Chemical Society · FOODDRINK EUROPE · PEPSICO

GRUPO DE INVESTIGACIÓN BISITE · CIC · ciale · ibfg Instituto de Biología Funcional y Genómica · INSTITUTO DE NEUROCIENCIAS CASTILLA Y LEÓN

Sterling EX2017
IPR 2025-00430
Page 3 of 18



Sterling EX2017
IPR 2025-00430
Page 4 of 18

# Contents

Welcome to European Union Contest for Young Scientists 2020-2021 9

The European Union Contest for Young Scientists in Salamanca 19

EUCYS in the University of Salamanca 25

EUCYS 2020-2021 Programme 35

- Programme 36
- Dr. William Daniel Philips 37
- Venue 38

Projects 43

- Projects by field 44
- Projects by country 51

The jury 111

The prizes 125

National Organisers 143

Winners 1989-2019 151

European Union Initiatives for Research and Youth 177

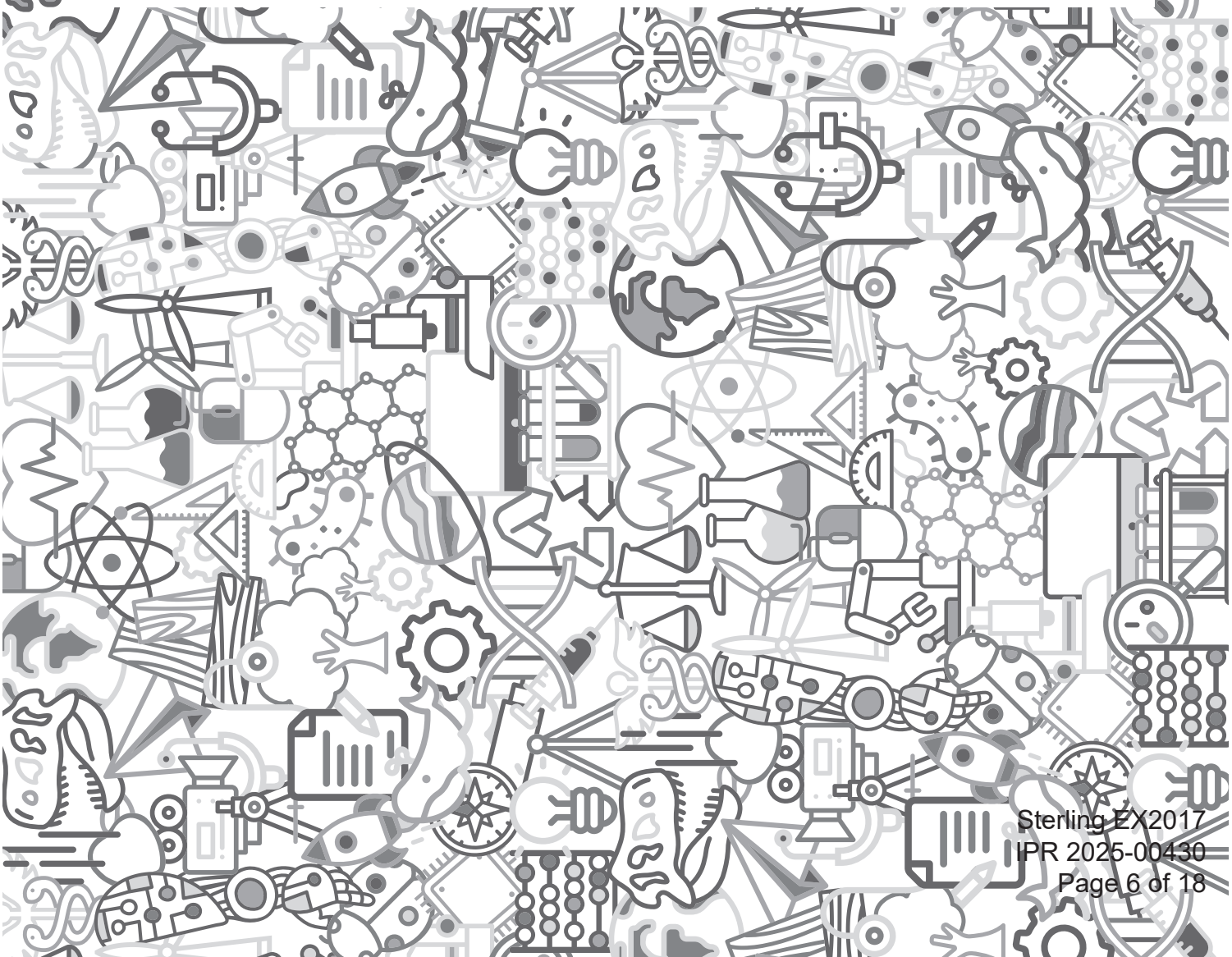
EUCYS 2022 184



# Welcome to the European Union Contest for Young Scientists 2020-2021

Sterling EX2017
IPR 2025-00430
Page 5 of 18

# Winners 1989-2019



## Brussels 1989

### FIRST PRIZES

**Mogens Markussen**
DENMARK
*Eyewriter, an eye operated control unit*

**Stephan Schlitter**
GERMANY
*Conducting polymers in batteries*

**Grace O'Connor, Sinead Finn**
IRELAND
*A crop fractionation industry*

**Lina Tomasella**
ITALY
*Toxicity of colour dyes used as tracers*

**Nicola Kirk**
UNITED KINGDOM
*Walking aid for a disabled person*

**Jean-Pierre Wyss, Matthias Zimmermann, Elmar Artho**
SWITZERLAND
*Recognition of handwritten signs*

### SECOND PRIZES

**Serge van der Velde, Olivier Camberlin**
BELGIUM
*Computer-guided solar furnace*

**Charles Courtin, Pierre Betsch, Hugues Nodet**
FRANCE
*A Doppler rocket*

**Menno Bolt, Eric Toonen, Pascal Stevelmans**
NETHERLANDS
*Wind energy project*

**Mark Mathieson**
UNITED KINGDOM
*Voice intensity feedback for speech handicapped*

**Halldor Fossa**
NORWAY
*Expert systems in cancer treatment*

**Anouk Thommen**
SWITZERLAND
*Comparative study of two composts*

### THIRD PRIZES

**Samuel Delaere**
BELGIUM
*Electromagnetic radiation*

**Dimitri Hautot**
BELGIUM
*Studies on the Kelvin generator*

**Stephan Røntved, Søren Chyltoft**
DENMARK
*LISSI, an I. C. Test Computer*

**Matthias Büger**
GERMANY
*Axiomatic theory of mean values*

**Walter Georg Veeck, Jens Schneider**
GERMANY
*Construction of a diffusion cloud chamber*

**Dimitri Theocharidis, Paul Magoulas**
GREECE
*New Dimension 2000, an automation system with computer*

**Fermín Tabar, Luis Rodríguez, Antonio Sánchez**
SPAIN
*Multi-use interface applied in a greenhouse*

**Juan Navas, José Ortega, José Navas**
SPAIN
*Computer-based sound synthesis system*

**Benoît Landeos, Bertrand Dubois, Alain Crusoe**
FRANCE
*Wheelchair adapted for racing*

**Patrick Mora, Jean-François López**
FRANCE
*Meteorological imaging*

**Enrico Corsini**
ITALY
*Solar spots*

**Valerio Emma**
ITALY
*The rhopalocerous insect*

**Marc Pauly, Gérard Milmeister**
LUXEMBOURG
*The fantastic world of fractals*

**Yves Thill, Serge Remesch**
LUXEMBOURG
*Mapograph, a computer-aided writer*

**Manuel van den Bergh, Lauren Smit, Mathieu van Geffen**
NETHERLANDS
*CHIP, a computer hardware instruction project*

**Paulo Ribeiro**
PORTUGAL
*Diving patterns of the bottlenose dolphin*

**Reinhard Herzog**
AUSTRIA
*An electronic plotter*

**Stein Ringnes, Ingvar Apeland, Jarand Felland**
NORWAY
*Solar energy project*

## Copenhagen 1990

### FIRST PRIZES

**Paul Vauterin, Bruno Callens**
BELGIUM
*Automated meteor observation station*

**Waltraud Schulze**
GERMANY
*The effect of assimilatory starch for the growth of Arabidopsis*

**Annagh Dalton (née Minchin)**
IRELAND
*Colpomenia Peregrina, an inmigrant alga to Europe*

**Donatella Manganelli**
ITALY
*Silence, micro-organisms at work*

**Brian Dolan, Lee Kiera, Ann Marie Malon**
UNITED KINGDOM
*A study of the transition to turbulence in Reynold's experiment*

**Marco Ziegler**
SWITZERLAND
*Drinking water examination with special consideration of corrosional aspects*

### SECOND PRIZES

**Morten Larsen**
DENMARK
*Hand reader*

**Jan Lichtenberg**
GERMANY
*Unilyser, a universal computer system for chemical analysis*

**Stefan Scheller**
GERMANY
*Computer-aided holography for optical and acoustical reconstruction*

**Beatriz Pías, Mercedes Pías, Ana Riveiro**
SPAIN
*The Atlantic brushwood as a natural resource*

**Gianni Insacco**
ITALY
*Fossil remains in vertebrates in continental Pleistocene deposits in the region of Comiso, South-East Italy*

**Ian Thompson, Graham Miller**
UNITED KINGDOM
*Investigation of oils used in soap manufacture*

**Geraldine Brossard**
SWITZERLAND
*Toxocara Canis or the "grande vadrouille" of a parasite*

## Zurich 1991

### FIRST PRIZES

**Robert Nitzschmann**
GERMANY
*Development and construction of a scanning tunnelling microscope*

**Barry O'Doherty, Daniel Dundas**
IRELAND
*The dynamics of a two-well potential oscillator*

**Paul Hoffmann**
LUXEMBOURG
*Computer assisted text conversion to Braille*

**Angus Filshie**
UNITED KINGDOM
*Clearway: a mucus extractor*

**Christian Tost, Sabine Zangl**
AUSTRIA
*Catalytic converter restoration*

**Torkild Jensen**
NORWAY
*Birdlife in Oslofjord*

**Hans Jacob Feder**
NORWAY
*Earthquakes as a self-organised critical process*





Sterling EX2017
IPR 2025-00430
Page 7 of 18

SECOND PRIZES

**Tanja Hindrichs, Hussein Morsy, Axel Conrad**
GERMANY
*The knight's Hamiltonian path problem*

**Nicolas Bouche, Olivier van der Aa**
BELGIUM
*Flight study of a micro-rocket*

**Valerio Arnáiz, José Mora, Alexandre Girone**
SPAIN
*Astrometry: the measurement of comet positions*

**Henk Hoekstra, Christian Kok**
NETHERLANDS
*Oscillating systems of chemical reactions*

**Edwin Thaller, Friedrich Pfluegelmeier**
AUSTRIA
*Intelligent testing probe*

**Christof Teuscher, Flavio Stragiotti**
SWITZERLAND
*Aiolos II: development of a wind measuring computer system*

## Seville 1992

FIRST PRIZES

**Hendrik Küpper, Frithjof Küpper, Martin Spiller**
GERMANY
*Environmental relevance of heavy metal ubstituted chlorophylls*

**Oliver Trapp**
GERMANY
*Study on the effect of a chelator on yeast*

**Anders Skov**
DENMARK
*The bent perspective*

**Martin Hesselsøe**
DENMARK
*Green toad (Bufo Viridis) in the great belt*

**Jean Byrne, Elizabeth Dowling**
IRELAND
*Population dynamics of a thistle predator: Terellia Serratulae*

**Dominik Zeiter, Ewald Amherd, Reinhard Fubber**
SWITZERLAND
*Graphtal plants varieties of trees*

SECOND PRIZES

**Ingolf Zies**
GERMANY
*New global lighting model based on radiosity*

**Raoul Urlings**
BELGIUM
*10 channel vocoder*

**Clement Stefanutti, Aurélie Vidal, Julie Morere**
FRANCE
*Palynology - Historic botany*

**Panagiotis Theofanidis, Nick K. Tsagourias**
GREECE
*Research and development of a traffic light system*

**Luis Bellot Rubio, Antonio Román Reche, Gustavo Román Reche**
SPAIN
*Analysis of visual observations of the comet Levy*

**Jochen Erhard, Cristoph Herbst**
AUSTRIA
*Electronical regeneration of FeC12/FeC13 compounds in metal etching processes with an environmental and economic focus*

## Berlin 1993

FIRST PRIZES

**Henrik Mouritsen**
DENMARK
*Abiological expedition to the rainforests of the Philippines*

**Lars Knudsen, Peter Andersen**
DENMARK
*Droppy, the computer controlled intravenous drip feed*

**Albert Barmettler, Günther Ederer**
AUSTRIA
*An alarm processing system*

**Jan Haugland**
NORWAY
*The minimum overlap problem of Paul Erdös*

**Rodger Toner, Donal Keane**
IRELAND
*Mate selection by a male crustacean*

**María Salvany González, Antoni Camprubí I Cano, Fidel Costa Rodrígez**
SPAIN
*The geological mapping of a Neollithic mine*

SECOND PRIZES

**Jan-Cristoph Puchta**
GERMANY
*Fermat's last theorem*

**Pierre Oger**
BELGIUM
*Oil (hydrocarbon) recovery from water*

**Eleonora Bonanomi, Stefano Consonni, Mircko Signorelli**
ITALY
*Use of biogas in a photosynthetic culture*

**Daniel Morton, Tim Mullis**
UNITED KINGDOM
*A palletiser improvement*

**Peter Seidel**
GERMANY
*Ball lightning, an investigation*

**Jürgen Scherschmidt, Jochen Scherschmidt**
GERMANY
*A user-friendly video recorder*

## Luxembourg 1994

FIRST PRIZES

**Oliver Krüger**
GERMANY
*The ecology of the common buzzard and goshawk*

**Eike Lau**
GERMANY
*Internal addresses in the Mandelbrot set*

**Jane Feehan**
IRELAND
*The Calluna Case-Carrier*

**Christian Krause**
DENMARK
*Telephone break-in security*

**Henrik Ström**
NORWAY
*An anti-boot virus program*

**Samuel Schaer**
SWITZERLAND
*Supersonic plasma rings*

SECOND PRIZES

**Ivan Labanca**
ITALY
*A diffusion cloud chamber with magnetic field*

**Gijs van Oort**
NETHERLANDS
*A computer controlled flute*

**Jan Ivar Oeyulvstad**
NORWAY
*Flood prevention in the river Otra in Southern Norway*

**Nuno Alves da Silva, Hugo Macedo**
PORTUGAL
*Image processing using a neural network*

**Stefan Serefoglou**
GREECE
*The two-to-one way rotation converter*

**Fernando Toro Chicano, Ricardo Peñafiel Gil, Santiago Hervás Morales**
SPAIN
*A new age plotter*

THIRD PRIZES

**Amina Azami, Chemseddine Bega**
BELGIUM
*Bio-indicators*

**Kai Eberspächer, Dominik Zayer, Andreas Gorbach**
GERMANY
*Computer-controlled waste-water purification*

**Padelis Ermilios**
GREECE
*Using computers in physics experiments*

**Vagelis Papadopoulos**
GREECE
*Extension of the integral calculus*

**Guillermo Guerrero Guerrero, Javier Villegas, Javier Rodríguez**
SPAIN
*Beewax recovery using solar energy*

**Eduardo Moling González, Ruth Morena, José Manuel Brell**
SPAIN
*Water rocket*

**Séverine Meynieux, Catherine Khamphan, Marie Montanard**
FRANCE
*Peat bogs fossils: unmasking the past*





Sterling EX2017
IPR 2025-00430
Page 8 of 18

**Nicolas Rebierre, Olivier Rebierre, Olivier Pesle**
FRANCE
*Real speed*

**Stéphan Fidanza, Olivier Pesc**
FRANCE
*Space-time theory*

**Sara Azimonti, Elena Porazzi, Giovanni Colombo Bolle**
ITALY
*Asbestos: properties, manufacturing, applications, legislation*

**Patrick Neuberg**
LUXEMBOURG
*Improved cell sectioning*

**Necibe Gezer**
NETHERLANDS
*Teenage restlessness in a Dutch town*

**Jorgen Carling**
NORWAY
*Examining voting patterns*

**Martin Franz Waldmann, Johannes Lackner, Josef Schmidbauer**
AUSTRIA
*Solar energy to ecological fuel*

**Jürgen Hintermayer, Attila Agoston**
AUSTRIA
*Brain waves and artificial intelligence*

**Michael Schachinger, Thomas Wetzlmaier, Jürgen Zauner**
AUSTRIA
*Telephoning via computer networks*

**Paulo Alexandre Machado**
PORTUGAL
*A real time digital spectrograph*

**Ana Simoes das Neves**
PORTUGAL
*The pharmacology of medicinal plants*

**Kaarlo Vaïsanen**
FINLAND
*Production of fullerenes by Draetschmer-Huffman's method*

**Magnus Viström, Pontus Forslund, Robert Hagglund**
SWEDEN
*A car hand brake: a potential life saver?*

**Annika Nyström**
SWEDEN
*From Salix Alba to modern medicine*

**Johanna Larnhed**
SWEDEN
*Antifouling*

**Caroline Turner**
UNITED KINGDOM
*A time interval analyser*

**Samantha Haines**
UNITED KINGDOM
*An electornic physiotherapy aid*

**Rebecca Anderton, Aaron Weller, Morgan Jones**
UNITED KINGDOM
*Delayed failure in ultra-high strength steels*

**Michael P. Germeyer-Petyke, Alexander Pohl**
EU SCHOOLS
*Vitamin C synthesis in germinating cress seedlings*

**Tamas Nagy, Sandor Mezei**
HUNGARY
*A Braille printer and school notebook for the blind*

**Daniel Kiss, Agnes Majoros, Lajos Kovacs**
HUNGARY
*Universal clamping head for industrial robots*

**Robert Varga**
HUNGARY
*Computerised navigation*

**Roman Evtushenko, Evgueni Milioutine, Evgueni Chelkovo**
UKRAINE
*Biohumus production by the red Californian worm*

**Serguei Semeniouk, Alla Atepalikhina, Karim Naser**
UKRAINE
*The role of the thiamine in neuthrophil phagocytic activity in smokers and nonsmokers*

**Kenna Mills, Diego Figueroa**
USA
*Water detoxification using duckweed*

## Newcastle Upon-Tyne 1995

### FIRST PRIZES

**Sven Siegle**
GERMANY
*Natural pulping or paper from straw*

**Brian Fitzpatrick, Shane Markey**
IRELAND
*Plants can tell us when they need a drink of water*

**Christopher Mead, Matthew Taylor**
UNITED KINGDOM
*Radio waves from comet Shoemaker-Levy 9*

### SECOND PRIZES

**Tycho van Meeuwen**
NETHERLANDS
*The witty wise writing writer*

**Nina Fraefel**
SWITZERLAND
*Biochemical control of salmonella in poultry feed*

**Oliver Hantschel, Kai Krüger, Nicole Stroh**
GERMANY
*Is isoguanine selectively mutagenic during virus replication?*

### THIRD PRIZES

**Aldis Helga Egildsdottir, Reynir Hjalmarsson**
ICELAND
*The Icelandic capelin: a behaviour study*

**Frank Ekpar, Erik Sos**
HUNGARY
*Mobile robots: motorless motion using shape memory alloy actuators*

**Klaus Mazanti Soerensen**
DENMARK
*Factorising factorials and Bertrand's postulate for primes 4k+3*

**Marcin Kowalczyk, Marcin Sawicki**
POLAND
*The force of a set and the Euler characteristic*

**Gergely Eberhardt**
HUNGARY
*A virus recognition programme to prevent computer infection*

**Michael Vorburger**
SWITZERLAND
*A fruity approach to memory management in C++*

**Roddy Vann**
UNITED KINGDOM
*The manufacture of closed-cage molecules in electric arcs*

**Alberto Lerena, Ricardo Martín, Víctor Sanz**
SPAIN
*A brake based on magnetically solidified fluid*

## Helsinki 1996

### FIRST PRIZES

**Tobias Kippenberg**
GERMANY
*A car ice-detection system based on electromagnetic waves*

**Yann Ollivier**
FRANCE
*Flexibility of an articulate lattice*

**Wouter Couzijn**
NETHERLANDS
*"Locator", a self-positioning robot*

### SECOND PRIZES

**Emil Laslo**
HUNGARY
*Braille display*

**Maciej Kurowski, Tomasz Osman**
POLAND
*Common solution sets of real polynomials*

**David Kelnar**
UNITED KINGDOM
*AMES, the accessible multimedia education system*

### THIRD PRIZES

**Andreas Derr**
GERMANY
*MediNet: an intelligent system for medical diagnosis*

**George Almpanis, Despina Scholidou**
GREECE
*Boundaries and stellar content of the LH52 and LH53 associations*

**Patricia Lyne, Rowena Mooney, Elsie O'Sullivan**
IRELAND
*Analysis of indigenous Irish strains of honeybee*





Sterling EX2017
IPR 2025-00430
Page 9 of 18

**Radoslaw Skibinski**
POLAND
*The Oligocene fish: discovery and reconstitution*

**Thomas Bürg**
SWITZERLAND
*An intelligent six-legged walking machine*

**Justin Marston**
UNITED KINGDOM
*The dripping tap as a model chaotic system*

## Milan 1997

### FIRST PRIZES

**Eike Hübner**
GERMANY
*Permanent self-conducting polymers*

**Fiona Fraser, Ciara McGoldrick, Emma McQuillan**
IRELAND
*Unravelling the secrets of the preservation of Europe's bog bodies*

**Christoph Lippuner, Antoine Wüthrich**
SWITZERLAND
*The digestive system of carnivorous plants*

### SECOND PRIZES

**Sebastian Hauer, Jan Nieberle**
GERMANY
*A circular saw active security-system*

**Bernardo Silva e Carmo**
PORTUGAL
*A control centre for school experiments*

**Serguei Idiatoulin**
RUSSIA
*The preparation of chromiferous coatings to absorb solar energy*

### THIRD PRIZES

**Álvaro Luis Maroto Conde**
SPAIN
*Paravision 1.0: window access for visually impaired*

**Thierry Caramigeas, Vivien Moliton, Michael Pressigout**
FRANCE
*A microwaves controlled household management system*

**Gábor Ivánka**
HUNGARY
*MATIKA: the game to solve your mathematical problems*

**Erik van Alphen, Tom van Diessen**
NETHERLANDS
*Less waste with bricks*

**Anni Könönen**
FINLAND
*Human impact on forest vegetation*

**Daniel Atwood, Andrew Teesdale**
UNITED KINGDOM
*How ecalyptus resins can prevent seeds from germination*

## Porto 1998

### FIRST PRIZES

**Gabor Bernath**
HUNGARY
*ScanGuru: the 3D scanner*

**Paul Pak, Peter Weilenmann**
AUSTRIA
*The virtual blind man's cane*

**Robert Carney, Matthew Tomas**
UNITED KINGDOM
*Yellowing of alkyd-based paints in the dark*

### SECOND PRIZES

**Karsten Weiss**
GERMANY
*Digi Cow: a completely new type of milking machine*

**Arthur Baas, Adrian de Groot, Chris Weel**
NETHERLANDS
*POSEIDON: the wave-motion power generator*

**Dasa Suput**
SLOVENIA
*Sea anemones*

### THIRD PRIZES

**Enrik Eriksen**
DENMARK
*KOMBI-2: a novel approach soil preparation and sowing*

**Juliane Richter**
GERMANY
*The phenomenon of fluctuation in concentration*

**Montserrat Coll Lladó, Mariona Picart Merino**
SPAIN
*Commercially viable sardine anchovy fish production*

**Raphael Hurley**
IRELAND
*The mathematics of monopoly*

**Grzegorz Kapustka, Michael Kapustka**
POLAND
*Some propertioes of polygons*

**Maxim Sergeev**
RUSSIA
*A new method to process some production waste*

## Thessaloniki 1999

### FIRST PRIZES

**Sarah Flannery**
IRELAND
*Cryptography: a new algorithm vs. the RSA*

**Sverrir Gudmundsson, Pall Melsted, Tryggvi Thorgeirsson**
ICELAND
*The galaxy cluster MS1621 +2640*

**Michal Ksiazkiewicz**
POLAND
*Estimation of urban pollution using Epiphytic Lichens*

### SECOND PRIZES

**Sebastian Gschwende, Michael Rödel**
GERMANY
*FinoPro simulates mechanical events, using finite elements*

**Lorraine Ruzié**
FRANCE
*Submarine volcano emergence forecasting device*

**Jure Leskovec**
SLOVENIA
*Detection of human bodies from a sequence of images*

### THIRD PRIZES

**Patrick Imper, Raphael Zulliger**
SWITZERLAND
*Speedometer for roller blades*

**Arlet Bellvehi Sampera, Joan Munich Arranz**
SPAIN
*Reestablishment of amphibian population despite exotic fish threat*

**Maciej Walczak**
POLAND
*Chemical synthesis of amionalkyl nucleoside phosphates*

## Amsterdam 2000

### FIRST PRIZES

**Grzegorz Niedzwiedzki**
POLAND
*New Finds of dinosaur tracks in the Holy Cross Mountains*

**Joanne Daniel, Gemma Dawson, Ally Wilkie**
UNITED KINGDOM
*Designing a disposable sample device*

**Nickoloz Tchankoshvil**
GEORGIA
*The monitoring and protection of bats in Georgia*

### SECOND PRIZES

**Vaclav Rehak**
CZECH REPUBLIC
*Prisoners dilemma: modelling of social phenomena using cellular automata*

**Janez Langus**
SLOVENIA
*Theoretical and practical aerodynamics*

**Jasmin Roya Djannatian**
GERMANY
*Cytotoxicity of different mistletoe preparations on leukaemic cells*

### THIRD PRIZES

**Florent Durrey**
FRANCE
*Globular clusters around the Milky Way*

**Gàbor Guta**
HUNGARY
*Simulator with ultra low noise*

**Yevgen Nazarenko**
UKRAINIA
*The processing of aluminous manufacture after-product*





Sterling EX2017
IPR 2025-00430
Page 10 of 18

Travel award to the Noble Prize Ceremony

**Jasmin Roya Djannatian**
GERMANY
*Cytotoxicity of different mistletoe preparations on leukemia cells*

**Anastasiya Efimenko**
UNITED KINGDOM
*My challenge to children's mortality*

## Bergen 2001

### FIRST PRIZES

**Thomas Aumeyr, Thomas Morocutti**
AUSTRIA
*CURE - Controlled Ultraviolet Radiation Equipment*

**Sebastian Abel**
GERMANY
*Cloud*

**James Lee Mitchell**
UNITED KINGDOM
*Characteristics of Azole drug resistance in candida tropicalis*

### SECOND PRIZES

**Bálint Pato**
HUNGARY
*Stress proteins as constituents of the Microtrabecular Lattice*

**Zbigniew Lech Pianowski**
POLAND
*New liquid crystal for holography*

**Marcin Wojnarski**
POLAND
*Neural network for solving classification problems*

### THIRD PRIZES

**Jimi Lee Truelsen**
DENMARK
*A new cryptographic algorithm*

**Shane Browne, Michael O'Toole, Peter Taylor**
IRELAND
*Symmetrical shapes formed by poligons*

**Richard Hulme, Yan Pugh-Jones**
UNITED KINGDOM
*Analysing the flight of Brazilian humming birds*

## Vienna 2002

### FIRST PRIZES

**Pawel Piotrowski**
GERMANY
*Special wings and ground effect for efficient transportation*

**Martin Etzrodt, Martin von der Helm**
GERMANY
*The slime mold physarum as a model organism for biotesting*

**Lauri Kauppila**
FINLAND
*Comparing the Oxidiser/Fuel ratio and heat released from Rocket Fuel Combustion*

### SECOND PRIZES

**Vincent Bougreau, Solene Broner**
FRANCE
*Are there germs in the highest layers of the atmosphere?*

**Arnhild Jacobsen**
NORWAY
*The Physics of a rolling soda can*

**David Sahrla**
SLOVENIA
*Chemiluminescence*

### THIRD PRIZES

**Maarten Vanhove**
BELGIUM
*Morphological diversity of cladoceran resting eggs in shallow lakes*

**Piotr Garbacz**
POLAND
*Influence of direction and intensity of gravity on plant growth*

**Ozgur Paksoy, Aslihan Akin Nuriye**
TURKEY
*A general approach to the proof of inequalities*

## Budapest 2003

### FIRST PRIZES

**Jana Ivanidze**
GERMANY
*pH sensitive GFP mutant*

**Uwe Treske**
GERMANY
*Low-cost scanning tunneling microscope*

**Gábor Németh**
HUNGARY
*Efficiency enhancement of plasma loudspeakers*

### SECOND PRIZES

**David Sehna**
CZECH REPUBLIC
*Math studio - a computer algebra system*

**László Nagy**
HUNGARY
*Phytocenology and environment protection of the central Hungarian plain*

**Lukasz Jaremko, Mariusz Jaremko**
POLAND
*Design and synthesis of two new immuno-suppressants*

### THIRD PRIZES

**Wim Cools**
NETHERLANDS
*A new compact operating system*

**Ksenia Rogova**
RUSSIA
*The key to the mystery of the stone book*

**Johannes Keller**
SWITZERLAND
*The influence of the quill shape on the harpsichord sound*

## Dublin 2004

### FIRST PRIZES

**Martin Knobel, Gerhard Schony, Florian Grossbacher**
ENGINEERING | AUSTRIA
*Breakthrough in the manufacturing of condenser microphones*

**Charlotte Stranvist**
CHEMISTRY | DENMARK
*Improving the method of synthesizing antidepressants*

**Mario Chemnitz**
PHYSICS | GERMANY
*Ultrasonic detector for gas chromatography*

### SECOND PRIZES

**Marcel Kolodziejcyk**
MATHEMATICS | POLAND
*A counterfeit coin problem*

**Roland Bauerschmidt**
COMPUTER | GERMANY
*Internet access for guests*

**Mehmet Halit Calayir, Mehmet Cakan**
PHYSICS | TURKEY
*Construction of a seismograph*

### THIRD PRIZES

**Ocan Sankur**
COMPUTER | TURKEY
*N-gram based language classification*

**Artur Lewandowski**
BIOLOGY | POLAND
*Ants learning process*

**Laurynas Pliuskys**
ENVIRONMENT | LITHUANIA
*Hydrochemical analysis of the lakes of Trakai*

## Moscow 2005

### FIRST PRIZES

**Igor Gotlibovitch, Renate Landig**
PHYSICS | GERMANY
*Corners in water - unexpected symmetry breaking in fluid dynamics*

**Javier Lopez Martinez Fortun, Eliecer Perez Robaina, Carlos Machado Carvajal**
BIOLOGY | SPAIN
*Sonchus leptacaulis: a new species consolidation in Gran Canaria*

**Silvana Konermann**
MEDICINE | SWITZERLAND
*Development of a system for the local prevention of catheter associated urinary tract infection*

### SECOND PRIZES

**Zdenek Janovosky**
ENVIRONMENT | CZECH REPUBLIC
*Vegetation dynamics of the small forest and open landscape ponds and its historical causes*





Sterling EX2017
IPR 2025-00430
Page 11 of 18

**Stephen Schulz**
CHEMISTRY | GERMANY
*Lab on the chip - new perspectives with electrons as universal reagent*

**Patrick Collison**
COMPUTER | IRELAND
*Croma: a new dialect of lisp*

### THIRD PRIZES

**Gitte Ahlquist Jonsson**
MEDICINE | DENMARK
*Aid for putting on and taking off stockings for handicapped persons*

**Margus Niitsoo**
MATHEMATICS | ESTONIA
*Generalizations of the Fibonacci sequence*

**Eric Deele, Pierre Haas**
BIOLOGY | LUXEMBOURG
*Cartography of galls*

## Stockholm 2006

### FIRST PRIZES

**Michael Kaiser, Johannes Kienl**
ENGINEERING | AUSTRIA
*Development of a completely new electro-thermo-mechanical De-Icing system for aircraft*

**Johannes Burkart, Alexander Joos**
PHYSICS | GERMANY
*Flight curves of table tennis balls*

**Tomasz Wdowik**
CHEMISTRY | POLAND
*Synthesis of a potential (beta)-blocker*

### SECOND PRIZES

**Thomas Gigl**
EARTH SCIENCE | GERMANY
*Radial velocity measurement of spectroscopic binaries*

**Michael Marcinkowski**
MATHEMATICS | POLAND
*On a geometric transformation relating the Euler and Nagel lines*

**Zoltan Tarjanyi, Csaba Vass**
BIOLOGY | HUNGARY
*New diagnostic method to define the errors of the apoptosis program*

### THIRD PRIZES

**Georgi Dyankov**
PHYSICS | BULGARIA
*A method of measurement of refractive indices, birefringence and thickness of a thin anisotropic layer*

**Aisling Judge**
BIOLOGY | IRELAND
*The development and evaluation of a biological food spoilage indicator*

## Valencia 2007

### FIRST PRIZES

**Florian Ostermaier, Henrike Wilms**
PHYSICS | GERMANY
*Flashing Water Drops*

**Márton Spohn**
CHEMISTRY | HUNGARY
*Examination of Plants' Self-Defence Against Pests*

**Abdusalam Abubakar**
MATHEMATICS | IRELAND
*An Extension of Wiener's Attack on RSA Encryption*

### SECOND PRIZES

**Martina Hafner**
ENVIRONMENT | AUSTRIA
*Energy from maize straw*

**Anne-Laure Delaye, Aude Latrive, Astrid Verpeaux**
PHYSICS | FRANCE
*Can we walk on water?*

**Yael Amarilyo**
BIOLOGY | ISRAEL
*Molecular Identification and Characterization of Phytoplasma Bacteria in Grapevines – Another Milestone Saving the Wine Industry*

### THIRD PRIZES

**Julian Glechner, Werner Pollhammer, David Stockinger**
ENGINEERING | AUSTRIA
*Latent heat storage system (Salt crystal as a new energy storage technology)*

**Eva Černohorská**
MATHEMATICS | CZECH REPUBLIC
*Generalization of method of tiling in triangular and hexagonal grid*

**Florian Schnös**
ENGINEERING | GERMANY
*SmartCam – Development of a universal 3D-Camera*

## Copenhagen 2008

### FIRST PRIZES

**Magdalena Bojarska**
MATHEMATICS | POLAND
*Hamiltonian cycles in generalized*

**Halin grap, Martin Tkáč**
ENGINEERING | SLOVAK REPUBLIC
*Tilting of bulk materials based on gravitation principle in cargo railway transport*

**Elisabeth Muller**
EARTH SCIENCE | UNITED KINGDOM
*From Microcosm to Magma Oceans: A Lunar Meteorite Perspective*

### SECOND PRIZES

**Michael Mikát**
BIOLOGY | CZECH REPUBLIC
*Ecology and Ethology of family Lestidae (Insecta: Odonata)*

**David Wittkowski**
PHYSICS | GERMANY
*Polygonal structures on rotating fluid surfaces*

**Émer Jones**
ENGINEERING | IRELAND
*Research and Development of Emergency Sandbag Shelters*

### THIRD PRIZES

**Aliaksandr Minets**
MATHEMATICS | BELARUS
*Orbital origamis and stabilizers of stair origamis*

**Etienne Lalique, Axel Talon**
PHYSICS | FRANCE
*Phaethon, the solar balloon*

**Eriks Zaharans, Janis Zaharans**
PHYSICS | LATVIA
*Monitoring of cardiovascular system*

## Paris 2009

### FIRST PRIZES

**Liam McCarthy, John D. O'Callaghan**
BIOLOGY | IRELAND
*The Development of a Convenient Test Method for Somatic Cell Count and it's Importanc in Milk Production*

**Fabian Gafner**
PHYSICS | SWITZERLAND
*Dikranos – the airplane with reverse gear*

**Aleksander Kubica, Wiktor Pilewski**
PHYSICS | POLAND
*Spiral Zone Plates*

### SECOND PRIZES

**Elodie Aubanel, Jérémy Dargent, Arnaud De Richecour**
PHYSICS | FRANCE
*Pick Up a Cosmic Wink*

**Philip Cardona**
ENGINEERING | MALTA
*Cappucino Logo Printer*

**Sara Vima Grau**
EARTH SCIENCE | SPAIN
*From mineral to Romanesque altarpiece: Identification of mineral pigments and reproduction of a Catalan Romanesque altarpiece*

### THIRD PRIZES

**Áron Hunyadi**
ENGINEERING | HUNGARY
*Walking through (a piece of) time with a timepiece*

**Stefan Strobel**
COMPUTING | GERMANY
*Development of a near-infrared vein imaging system*

**Omri Lesser**
PHYSICS | ISRAEL
*The Complex Potential and Its Application to the Planning of Dams*

## Lisbon 2010

### FIRST PRIZES

**Miroslav Rapcak**
PHYSICS | CZECH REPUBLIC
*Complete Phase Diagram Of CO2 Nanoclusters*





Sterling EX2017
IPR 2025-00430
Page 12 of 18

**David Pegrimek, Lukasz Sokolowski**
BIOLOGY | POLAND
*Foraging Strategy Of The Ant Formica Cinerea*

**Dávid Horváth, Márton Balassi**
SOCIAL SCIENCES | HUNGARY
*Nature On Your Screen - Computer Based Modeling And Local Area Network In The Education Of Ecology*

### SECOND PRIZES

**Justyna Slowiak**
BIOLOGY | POLAND
*Biodiversity, Palaeoecology And Taxonomical Position Of Vertebrates In The Middle Triassic Sea Ecosystem In Silesia (sw Poland)*

**Simon Schuldt**
ENGINEERING | GERMANY
*Aircraft Of The Future - A Practise based School Project*

**Luca Banszerus, Michael Schmitz**
PHYSICS | GERMANY
*Production And Charaterization Of Graphene Devices*

### THIRD PRIZES

**Aleksejs Sazonovs**
COMPUTING | LATVIA
*Applying Image Recognition Methods For Classification Of Astronomical Images*

**Davide Giacinto Lucarelli, Niccolò Pozzi, Stefano Sanfilippo**
MATHEMATICS | ITALY
*An Analysis of the Network*

**Inês Alexandra, Costa Kristoffer de Sá Høg**
ENVIRONMENT | PORTUGAL
*Rocks Of The Southwest - The Mysteries Written On The Stone*

## Helsinki 2011

### FIRST PRIZES

**Alexander Amini**
COMPUTING | IRELAND
*Tennis Sensor Data Analysis: An Automated System for Macro Motion Refinement*

**Pius Markus Theiler**
ENGINEERING | SWITZERLAND
*pi Cam - The Development of a Camming Device for Climbing*

**Povilas Kavaliauskas**
MEDICINE | LITHUANIA
*The Role of Houseflies (Musca domestica) in Spreading Antibiotic Resistant Bacteria*

### SECOND PRIZES

**Benjamin Walter**
PHYSICS | GERMANY
*Scanning Tunnelling Microscopy of Coronene Molecules on Germanium (111)*

**Natalie Mitchell**
PHYSICS | UNITED KINGDOM
*Auto Focusing Methods for Digital Microscopy*

**Georgi Atanasov, Georgi Georgiev, Kalina Petrova**
COMPUTING | BULGARIA
*DriveFreeZ - Driving Simulator*

### THIRD PRIZES

**Alex Bergsåker**
SOCIAL SCIENCES | NORWAY
*Guanxi – the Significance of Relations and Social Networks in Chinese Business*

**Michal Miskiewicz**
MATHEMATICS | POLAND
*The Charm of the 'mi' Set*

**Holly Rees**
BIOLOGY | UNITED KINGDOM
*Investigation into Embryonic Stem Cell Differentiation*

## Bratislava 2012

### FIRST PRIZES

**Mark James Kelly, Eric Doyle**
PHYSICS | IRELAND
*Simulation accuracy in the gravitational many-body problem*

**Jakub Nagrodzki**
CHEMISTRY | POLAND
*Development of molecular patches therapy: trimethylguanosine cap analogues synthesis*

**Philip Huprich, Manuel Scheipner, Daniel Zind**
ENGINEERING | AUSTRIA
*Cam Guard*

### SECOND PRIZES

**Nevzet Khasanov**
PHYSICS | SWITZERLAND
*Diffusion cloud chamber: the visible radioactivity*

**Jan Michael Rapp, Timo Schmetzer**
COMPUTING | GERMANY
*Information technology for a feedback control*

**Asbjørn Christian Nordentoft**
MATHEMATICS | DENMARK
*Applications of Dirichlet series*

### THIRD PRIZES

**Anna Maria Punab**
SOCIAL SCIENCES | ESTONIA
*The relationships between academic achievements and happiness among students in secondary education*

**Anna Julia Kuśnierczak**
BIOLOGY | POLAND
*Alternative pollination: influence of different ecosystems on the reproduction of red mason bee (Osmia rufa L.) on the example of a meadow, an orchard, a forest and an arboretum*

**Pavel Litvinka**
COMPUTING | BELARUS
*Development of hardware and software complex for the formation of threedimensional image*

## Prague 2013

### FIRST PRIZES

**Perttu Pölönen**
SOCIAL SCIENCES | FINLAND
*Music A'Clock*

**Ciara Judge, Emer Hickey, Sophie Healy-Thow**
BIOLOGY | IRELAND
*A statistical investigation of the effects of diazotroph bacteria on plant germination*

**Frederick Turner**
ENGINEERING | UNITED KINGDOM
*Genetics at home: Building a PCR machine and other equipment for setting up a home genetics lab*

### SECOND PRIZES

**Thomas Steinlechner, Dominik Kovacs, Yuki Trippel**
ENGINEERING | AUSTRIA
*Anastomose Robot Tool - ART*

**Lennart Kleinwort**
COMPUTING | GERMANY
*FreeGeo – the world's first dynamic Android mathematics system app*

**Jasmin Allenspach**
MATHEMATICS | SWITZERLAND
*LSLLSLSLLSLLSLS – Modern Mathematics in Islamic Mosaics*

### THIRD PRIZES

**Balázs Zsombori**
COMPUTING | HUNGARY
*PiktoVerb – Giving Everyone a Voice*

**Daniel Pflueger**
PHYSICS | GERMANY
*Measuring water waves*

**Maksim Bezrukov, Aliaksandr Stadolni**
MATHEMATICS | BELARUS
*Percolation games on Cayley graphs of groups*

## Warsaw 2014

### FIRST PRIZES

**Luboš Vozdecký**
PHYSICS | CZECH REPUBLIC
*Rolling Friction*

**Mariana de Pinho Garcia, Matilde Gonçalves Moreira da Silva**
BIOLOGY | PORTUGAL
*Smart Snails*

**João Pedro Estácio Gaspar, Gonçalves de Araújo**
MATHEMATIC | PORTUGAL
*A natural characterization of semilattices of rectangular bands and groups of exponent two*

### SECOND PRIZES

**Paul Clarke**
MATHEMATICS | IRELAND
*Contributions to cyclic graph theory*

**Aleš Zupančič**
CHEMISTRY | SLOVENIA
*Self-cleaning fabrics based on nanocovers*

**Petar Milkov Gaydarov**
MATHEMATICS | BULGARIA
*Hamming Distance of Polynomials over GF(2)*





Sterling EX2017
IPR 2025-00430
Page 13 of 18

### THIRD PRIZES

**Philipp Mandler, Anselm Bernhard PeterDewald, Robin Braun**
ENGINEERING | GERMANY
*Hexapod - Construction and Programming of a six-legged exploration robot*

**Matas Navickas**
BIOLOGY | LITHUANIA
*Flowering Apple Tree "Malus baccata x Malus prunifolia" in vitro*

**Ameeta Kumar, Aneeta Kumar**
MEDICINE | UNITED KINGDOM
*pHLIP? Beacon of hope*

## Milan 2015

### FIRST PRIZES

**Sanath Kumar Devalapurkar**
MATHEMATICS | UNITED STATES
*On the Stability and Algebraicity of Algebraic K-theory*

**Michał Bączyk, Paweł Piotr Czyż**
PHYSICS | POLAND
*The studies of behaviour of single and coupled on-off type oscillators on the example of bottle oscillators*

**Lukas Stockner**
COMPUTING | GERMANY
*Statistical modeling of volumescattered light*

### SECOND PRIZES

**Michael Bayrhammer, Florian Thaller**
MEDICINE | AUSTRIA
*Tendon Tissue Engineering - Development of a Novel Tissue Bioreactor for Culturing Tendons*

**Polina Vladislavovna Ledkova**
ENVIRONMENT | RUSSIA
*Successions of vegetation and recultivation of the anthropogenically changed landscapes in neighborhoods of the Krasnoye settlement and in the Nenets state nature reserve, 2013- 2014*

**Dominika Katarzyna Bakalarz, Joanna Michalina Jurek**
MEDICINE | POLAND
*Origami BioBandage - mathematically described multipotential bioimplant based on polymeric nanomaterial modified by hydroxyapatite and stem cells*

### THIRD PRIZES

**Timothy Matthew Logan**
ENVIRONMENT | NEW ZEALAND
*To Graze or Not to Graze?*

**Anselm von Wangenheim**
PHYSICS | GERMANY
*Monopod - Physics at the tipping point*

**Katariina Kisand**
CHEMISTRY | ESTONIA
*Synthesis and biochemical characterization of covalent fluorescent probes targeting mitotic protein kinase Aurora A*

## Brussels 2016

### FIRST PRIZES

**Ane Kristine Espeseth, Torstein Vik**
MATHEMATICS | NORWAY
*Motivic Symbols and Classical Multiplicative Functions*

**Valerio Pagliarino**
COMPUTING | ITALY
*LaserWAN: laser broadband internet connection*

**River Connell Grace**
BIOLOGY | USA
*Shining a Light on the Blind: Evolutionary Regression and Adaptive Progression in the Micro-vertebrate Ramphotyphlops braminus, a Model for Understanding Brain Organization and Complex Neurological Disorders*

### SECOND PRIZES

**Tassilo Constantin Schwarz**
COMPUTING | GERMANY
*Drone detection system: Detection, tracking and classification of potentially dangerous flight objects for multicopter defence*

**Kayley Noelle Ting**
MEDICINE | CANADA
*Analysis of Electrodermal Activity to Quantify Stress Levels in Autism*

**Ivo Zell**
PHYSICS | GERMANY
*A wing is enough: An improved flying wing based on a bell-shaped lift distribution*

### THIRD PRIZES

**Tomáš Heger**
MEDICINE | CZECH REPUBLIC
*Biological activity of essential oils and extracts from narrow-leaved lavender (Lavandula angustifolia Mill.) flower*

**Mari Louise Fufezan, Diana Bura**
ENVIRONMENT | IRELAND
*An Investigation into the Effects of Enzymes used in Animal Feed Additives on the Lifespan of Caenorhabditis Elegans*

**Yunji Seo, Yongchan Hong**
ENVIRONMENT | SOUTH KOREA
*Agricultural application of halobacteria and their compatible solutes in enhancing plant salinity endurance*

### Honorary awards

LONDON INTERNATIONAL YOUTH SCIENCE FORUM 2016

**Torstein Vik**
MATHEMATICS | NORWAY
*Motivic Symbols and Classical Multiplicative Functions*

**Valerio Pagliarino**
COMPUTING | ITALY
*LaserWAN: laser broadband internet connection*

STOCKHOLM INTERNATIONAL YOUTH SCIENCE SEMINAR 2016

**Ane Kristine Espeseth**
MATHEMATICS | NORWAY
*Motivic Symbols and Classical Multiplicative Functions*

**Tomáš Heger**
MEDICINE | CZECH REPUBLIC
*Biological activity of essential oils and extracts from narrow-leaved lavender (Lavandula angustifolia Mill.) flower*

**Ivo Zell**
PHYSICS | GERMANY
*A wing is enough: An improved flying wing based on a bell-shaped lift distribution*

### Special prizes

THE EUROPEAN SPACE AGENCY (ESA)

**Kristjan Kongas**
COMPUTING | ESTONIA
*Simulation of the collision of binary white dwarfs using a cubic grid - stability analysis by variation of diffusion constant and resolution*

THE EUROPEAN LABORATORY FOR PARTICLE PHYSICS (CERN)

**Uladzislau Hadalau**
COMPUTING | BELARUS
*Geneces – Cloud EcoSystem EUROFusion - JET*

**Jaime Redondo Yuste**
PHYSICS | SPAIN
*A study of the interaction between a magnetic field and electrolytic ions*

THE EUROPEAN SYNCHROTRON RADIATION FACILITY (ESRF)

**Eliška Bršlicová**
ENVIRONMENT | CZECH REPUBLIC
*Subvolcanic intrusions in South Bohemia*

THE EUROPEAN MOLECULAR BIOLOGY LABORATORY (EMBL)

**Rūta Prakapaitė**
MEDICINE | LITHUANIA
*Antimicrobial bacteriophage dressing in chronic wound treatment*

THE EUROPEAN SOUTHERN OBSERVATORY (ESO)

**Tassilo Constantin Schwarz**
COMPUTING | GERMANY
*Drone detection system: Detection, tracking and classification of potentially dangerous flight objects for multicopter defence*

THE INSTITUTE LAUELANGEVIN (ILL)

**Balduin Dettling**
ENGINEERING | SWITZERLAND
*Development of a 3D Display*

EUROPEAN X-RAY FREEELECTRON LASER FACILITY (XFEL)

**Péter Udvardi**
PHYSICS | HUNGARY
*Microelectromechanical structure for sensing of low frequency sounds and vibrations*

THE JOINT RESEARCH CENTRE (JRC)

**Daniel Andreas Höllerer, Jonathan Reisinger**
ENGINEERING | AUSTRIA
*Slackline Tensioning System*

**Luc Régis Baudinaud, Florent Alexis Baubet, Alexis Nabil Bossard**
PHYSICS | FRANCE
*Diffusion compensation by anticipation*

**Sahar Roxanne El-Hady**
CHEMISTRY | UNITED KINGDOM
*How extreme was climate change in South Wales at the end of the last glacial period?*





Sterling EX2017
IPR 2025-00430
Page 14 of 18

## Sponsors' prizes

### THE INTEL ISEF 2016 PRIZES

**Amalya Ben Asher, Yuval Feldman, Tal Cohen**
MEDICINE | ISRAEL
*Aggregated Drip Infusion System*

**Naama Schor**
SOCIAL SCIENCES | ISRAEL
*The morality of larks and owls: relationship between the biological clock and morality in decision making*

**Zane Grēta Grants, Daniela Gods-Romanovska**
ENGINEERING | LATVIA
*The textile-based tensoresistive sensors' operation and their usage in the innovative technologies*

### EUCHEMS

**Christian Schärf, Paul Rathke, Friedrich Wanierke**
CHEMISTRY | GERMANY
*Alpha-aluminium oxide-based gemstones: Development of a chemical synthesis process prompted by current mining conditions*

### BBI

**Modestas Gudauskas**
BIOLOGY | LITHUANIA
*Acetobacter spp. bacteria producing biopolymers simultaneously*

### FOODDRINKEUROPE

**Daniel Vasilica Copil, Sofia Onorato**
BIOLOGY | ITALY
*Natural antimicrobial extracted from medicinal plants*

### DUPONT

**Mari Louise Fufezan, Diana Bura**
ENVIRONMENT | IRELAND
*An Investigation into the Effects of Enzymes used in Animal Feed Additives on the Lifespan of Caenorhabditis Elegans*

### FERRERO

**Adam Andor Urmos**
CHEMISTRY | EUROPEANSCHOOLS
*Multifunctional application of natural sensor arrays*

### NESTLE

**Ana Milovanović, Ana Halužan Vasle**
BIOLOGY | SLOVENIA
*Designing Synthetic Gene Regulatory Networks*

### INNOVATION IN FOOD AND AGRICULTURE

**Ivan Hristov Ivanov, Vasilen Rosenov Tsvetkov**
ENGINEERING | BULGARIA
*Intelligent Planting*

### SALVETTI FOUNDATION

**Ethan Lee Dunbar-Baker, Po Yin Chau, Rogan Colin Michael McGilp**
ENGINEERING | UNITED KINGDOM
*David's Wheels; a disability accessible and driveable hot rod for social and physical mobility*

### PRACE

**Eero Valkama, Iiro Kumpulainen**
COMPUTING | FINLAND
*Digitalization of Chess Games using Computer Vision*

# Tallinn 2017

## FIRST PRIZES

**Karina Movsesjan**
BIOLOGY | CZECH REPUBLIC
*The role of RAD51 mutations in cancer development*

**Adam Jan Alexander Ohnesorge**
SOCIAL SCIENCES | SWITZERLAND
*The forgotten prisoners – Civilian prisoners of the Great War in Corsica*

**Danish Mahmood**
ENGINEERING | CANADA
*W.I.N.I.T.S. (Wireless Interconnected Non-Invasive Triage System)*

## SECOND PRIZES

**Kamil Humański**
ENVIRONMENT | POLAND
*Taxonomic diversity of the Middle Ordovician – early Silurian echinoderms from Siljansringen, Sweden*

**Yana Zhabura**
ENGINEERING | UKRAINE
*Enhancement of technical capabilities of delta robot*

**Colette Benko**
MEDICINE | CANADA
*Novel Pediatric Cancer Therapy: Targeting Epigenetics to Induce Differentiation*

## THIRD PRIZES

**Florian Cäsar, Michael Plainer**
MATHEMATICS | AUSTRIA
*Sigma – Learning how computers learn*

**Chavdar Tsvetanov Lalov**
MATHEMATICS | BULGARIA
*The structure of self-avoiding walks and the connective constant*

**Arne Jakob Geipel, Matthias Paul Grützner, Julian Egbert**
PHYSICS | GERMANY
*Liquid stream hits rough surfaces – showing an extraordinary and stable wave pattern*

## Honorary awards

### STOCKHOLM INTERNATIONAL YOUTH SCIENCE SEMINAR 2017

**Kamil Humański**
ENVIRONMENT | POLAND
*Taxonomic diversity of the Middle Ordovician – early Silurian echinoderms from Siljansringen, Sweden*

**Yana Zhabur**
ENGINEERING | UKRAINE
*Enhancement of technical capabilities of delta robot*

### LONDON INTERNATIONAL YOUTH SCIENCE FORUM 2018

**Karina Movsesjan**
BIOLOGY | CZECH REPUBLIC
*The role of RAD51 mutations in cancer development*

**Adam Jan Alexander Ohnesorge**
SOCIAL SCIENCES | SWITZERLAND
*The forgotten prisoners – Civilian prisoners of the Great War in Corsica*

**Chavdar Tsvetanov Lalov**
MATHEMATICS | BULGARIA
*The structure of self-avoiding walks and the connective constant*

## Special donated prizes

### THE JOINT RESEARCH CENTRE (JRC)

**Domen Kulovec, Uroš Prešern, Tristan Kovačič**
MEDICINE | SLOVENIA
*Active targeting of cysteine cathepsins with liposomes conjugated with cystatin C*

**Aleksander Paweł Kostrzewa**
BIOLOGY | POLAND
*A comparison of primates' memory and learnig skills, with use of an interactive platform in the Warsaw Zoological Garden*

**Solène Noémie Dumas-Grollier, Emma Marie-Christine Josette, Jacqueline Robin**
PHYSICS | FRANCE
*Les mystères de la Tasse (A mysterious cup)*

### THE INTEL ISEF 2018 PRIZES

**Juan Sánchez Mateos, Claudia Rodríguez Rodríguez**
BIOLOGY | SPAIN
*On the structure and mechanics in vivo of the ostial cells and the aortic valve of the Drosophila melanogaster larva heart by analyzing high resolution microscopic images*

**Gabriel Silva Silva, Eduardo Teixeira Rocha Nogueira, Francisca Santos Martins**
ENVIRONMENT | PORTUGAL
*SheaIS - Sea Heals Soil*

**Áron Molnár**
ENGINEERING | HUNGARY
*New high accuracy tilt sensor*

## Special donated prizes by The Eiroforum

### THE EUROPEAN LABORATORY FOR PARTICLE PHYSICS (CERN)

**Florian Cäsar, Michael Plainer**
MATHEMATICS | AUSTRIA
*Sigma – Learning how computers learn*

### EUROFUSION (JET)

**Arne Jakob Geipel, Matthias Paul Grützner, Julian Egbert**
PHYSICS | GERMANY
*Liquid stream hits rough surfaces – showing an extraordinary and stable wave pattern*

### THE EUROPEAN MOLECULAR BIOLOGY LABORATORY (EMBL)

**Nina Chiara Kathe**
MEDICINE | SWITZERLAND
*Small non-coding RNA induced gene silencing of tetracycline resistance gene in E. coli*

### THE EUROPEAN SOUTHERN OBSERVATORY (ESO)

**Can Pak**
PHYSICS | TURKEY
*Measuring the surface vibration frequency with laser diode*

### THE EUROPEAN SPACE AGENCY (ESA)

**Dávid Puskás**
MATERIALS | HUNGARY
*3D printed Moonbase*

### THE EUROPEAN SYNCHROTRON RADIATION FACILITY (ESRF)

**Johannes Nicolas Waller, Philipp Nikolas Kessler**
CHEMISTRY | GERMANY
*Fehling's solution – Do we need a new interpretation?*





Sterling EX2017
IPR 2025-00430
Page 15 of 18

THE INSTITUTE LAUELANGEVIN (ILL)

**Miroslav Kurka**

PHYSICS | SLOVAKIA

*Dynamic magnetization behavior in soft magnetic alloys of different structure*

THE EUROPEAN X-RAY FREE-ELECTRON LASER FACILITY (XFEL)

**Mykola Veremchuk**

PHYSICS | UKRAINE

*The investigation of the distribution of the density in gases using the Schlieren photography*

## Bioeconomy prizes

BBI JU

**Gal Levy**

ENVIRONMENT | ISRAEL

*Production of biodiesel from organic wastes çby the "black-soldier" fly larvae*

EUROPEAN FOOD AND DRINK INDUSTRY

**Matas Aliuškevičius**

ENGINEERING | LITHUANIA

*Honeybee Colony Sounds Reveal Secrets of Life in Hives*

DANONE

**Kendra Zhang**

ENVIRONMENT | USA

*A paper-based microbial fuel cell for self-powered glucose monitoring in saliva*

DSM

**Camilla Hurst**

MATERIALS | EUROPEAN SCHOOLS

*The role of materials and surfaces in the transmission of bacteria in public places*

PEPSICO

**Ayumi Rie Mayer, Olivia Linnea Rygaard-Hjalsted**

ENVIRONMENT | DENMARK

*Sound PoliSea*

EUROPEAN ASSOCIATION FOR CHEMICAL AND MOLECULAR SCIENCES (EUCHEMS)

**Songrui Zhao**

CHEMISTRY | CHINA

*A Research on Synthesis, Characterization and CO2 Absorptive Character of Pyridinium-based Ionic Liquids*

SWISS INTERNATIONAL TALENT FORUM

**Alexandr Jankov**

MATHEMATICS | CZECH REPUBLIC

*The Basel problem*

WOLFRAM RESEARCH

**Andrei Shvedau, Nikolay Sheshko**

MATHEMATICS | BELARUS

*Any Heron Set can be Embedded in Z2*

**Andrei Shvedau, Nikolay Sheshko**

MATHEMATICS | BELARUS

*The Basel problem*

**Aleksandrs Jakovlevs, Edvards Janis Recickis**

MATHEMATICS | LATVIA

*Magic Polyiamonds*

**Alena Igorevna Teselkina**

MATHEMATICS | RUSSIA

*Centered figurate numbers*

**Tjaš Božič, Miha Torkar, Sara Maraž**

MATHEMATICS | SLOVENIA

*Origamics: Mathematical exploration of the equilateral triangle through paper folding*

**Adam Piotr Klukowski**

MATHEMATICS | POLAND

*The floor-polynomials*

**Gustav Møller Grimberg**

MATHEMATICS | DENMARK

*Use of comparative entropy analyses for dating and quantifying historical divergences between languages*

**Florian Cäsar, Michael Plainer**

MATHEMATICS | AUSTRIA

*Sigma – Learning how computers learn*

**Barry Philip Owiti**

MATHEMATICS | FINLAND

*An Application of Queuing Theory On Relief Systems*

**Chavdar Tsvetanov Lalov**

MATHEMATICS | BULGARIA

*The structure of self-avoiding walks and the connective constant*

## Special donated prizes

SALVETTI FOUNDATION

**Philipp Sinnewe**

ENGINEERING | GERMANY

*A more energy-efficient aeroplane engine*

PRACE

**Adomas Paulauskas**

COMPUTING | LITHUANIA

*Virtual Reality Games for Rehabilitation*

## Host country awards

THE TALLINN CITY GOVERNMENT

**Luís Miguel Afonso Pinto, Beatriz Sampaio Bastião, Olavo Filipe Estima Saraiva**

ENGINEERING | PORTUGAL

*EasyPark*

MINISTRY OF EDUCATION AND RESEARCH

**Gustav Møller Grimberg**

MATHEMATICS | DENMARK

*EasyPark Use of comparative entropy analyses for dating and quantifying historical divergences between languages*

# Dublin 2018

## FIRST PRIZES

**Adrian Fleck, Anna Amelie Fleck**

MATERIALS | GERMANY

*FleckProtec – Body Protec on Made From Starch*

**Nicolas Fedrigo**

MEDICINE | CANADA

*Improving Spinal Fusions: Redesigning the Pedicle Probe to Prevent Vertebral Breaches*

**Brendon Matusch**

ENGINEERING | CANADA

*Development of a Level 2 Autonomous Vehicle Using Convolutional Neural Networks and Reinforcement Learning*

## SECOND PRIZES

**Alexandru Liviu Bratosin, Petru Molla, Mihnea Vlad Bojian**

BIOLOGY | FRANCE

*DNAdrive*

**Karl Hendrik Tamkivi**

BIOLOGY | ESTONIA

*Positioning of bat maternity roosts in relation to surrounding landscape complex in Western Saaremaa*

**Francisco Miguel Araújo**

MATHEMATHICS | PORTUGAL

*Commuta vity theorems for groups and semigroups*

## THIRD PRIZES

**Marina Gudzhabidze, Dea Ilarionova, Shorena Gudzhabidze**

PHYSICS | GEORGIA

*Hand-Held Detector With Retroreflective Mosaic Screens To Visualize Optical Inhomogeneities*

**Kyuhee Jo, Chaeyoung Lee**

COMPUTING | SOUTH KOREA

*Building a robust classifica on model for speech-based Parkinson's Disease diagnosis*

**Sijia Zhang**

SOCIAL SCIENCES | CHINA

*Investigation into the Verbal Conflict Problem in Middle School Students' Families*

## Honorary awards

STOCHHOLM INTERNATIONAL YOUTH SCIENCE SEMINAR 2018

**Adrian Fleck**

MATERIALS | GERMANY

*FleckProtec – Body Protec on Made From Starch*

**Francisco Miguel Araújo**

MATHEMATHICS | PORTUGAL

*Commutativity theorems for groups and semigroups*

LONDON INTERNATIONAL YOUTH SCIENCE FORUM 2019

**Anna Amelie Fleck**

MATERIALS | GERMANY

*FleckProtec – Body Protec on Made From Starch*

**Karl Hendrik Tamkivi**

BIOLOGY | ESTONIA

*Positioning of bat maternity roosts in relation to surrounding landscape complex in Western Saaremaa*

## Special donated prizes

JRC-JOINT RESEARCH CENTRE

*3 prizes: two-day stays at the JRC's Institutes in Ispra, Italy*

**Aleksandar Kostadinov Shopov, Atanas Konstantinov Stefanov**

PHYSICS | BULGARIA

*Colour relations in young stellar objects*

**Lisa Battistini, Thomas Boissin, Léo-Nils Boissier**

ENGINEERING | FRANCE

*Eyeprint, give relief to your senses*

**Stefan Gruber-Hofer, Johannes Ortner, Michael Eder**

ENGINEERING

*Development of a sampler for solid recycled materials*

INTEL ISEF 2019 Prizes

*3 prizes: participate at Intel ISEF 2019, Phoenix (AZ), USA*

**Ivaylo Malinov Zhelev**

COMPUTING | BULGARIA

*Digital image denosing based on sphereconstrained total variation optimization with an additional noise component*





Sterling EX2017
IPR 2025-00430
Page 16 of 18

**Ginés Marín Martínez**
SOCIAL SCIENCES | SPAIN
*Collaborative economy supended, The Legal Challenge of Uber and BlaBlaCar: Job Precarity? Unfair Competition?*

**Tobia Simon Ochsner**
COMPUTING | SWITZERLAND
*Creating playlists with artificial intelligence*

## Special donated prizes by The Eiroforum

EIROFORUM PRIZES
CERN - THE EUROPEAN LABORATORY FOR PARTICLE PHYSICS
*One week stay in Geneva, Switzerland*
**Kasper Fredenslund**
PHYSICS | DENMARK
*Neural Networks for Detecting Elementary Particles*

EUROFUSION - JET
*One week stay at Culham, United Kingdom*
**Paraskevi-Marina Kandreli, Nikolaos-Panagiotis Kalampokis, Konstantinos Lolos**
ENGINEERING | GREECE
*Algorithm Guided Modular Probe (AGMP)*

EMBL - THE EUROPEAN MOLECULAR BIOLOGY LABORATORY
*One week in Heidelberg, Germany*
**Janka Motešická**
MEDICINE | SLOVAKIA
*Influence of PKC regulators on photodynamic therapy efficacy*

ESO - THE EUROPEAN SOUTHERN OBSERVATORY
*Visit to ESO site in Chile*
**Sébastien Christophe Garmier**
PHYSICS | SWITZERLAND
*cuRRay: CUDA ray tracer for light rays in relativistic Kerr-Newman spacetime*

ESA - THE EUROPEAN SPACE AGENCY
*Participate at a major European space sciencie conference under the sponsorship of the European Space Agency, including coverage of their travel and accommodation costs*
**Max von Wolff**
PHYSICS | GERMANY
*A method for particulate raindrop analysis contributing to more accurate weather forecasts*

ESRF - THE EUROPEAN SYNCHROTRON RADIATION FACILITY
*One week stay in Grenoble, France*
**Emily Shao Ting Xu**
CHEMISTRY | UNITED KINGDOM
*Chiral separation of racemic mixtures using liquid phase separation techniques with homochrical metal organic frameworks*

ILL - THE INSTITUTE LAUELANGEVIN
*One week stay in Grenoble, France*
**Ittai Eden**
PHYSICS | ISRAEL
*Paleomagnetic Dating of a Mud Brick Wall in Tel Megiddo*

XFEL - THE EUROPEAN X-RAY FREEELECTRON LASER FACILITY
*One week stay in Hamburg, Germany*
**Joshua Luke Mitchell**
ENGINEERING | UNITED KINGDOM
*The PlyBot - A Low-Cost Flatpack SCARA 3D Printer*

## Bioeconomy prizes

BBI JU
*Study trip to Belgium*
**Gabija Imbrasaitė**
MATERIALS | LITHUANIA
*Bioplastic film with Penicillium roqueforti for pear preservation*

THE EUROPEAN FOOD AND DRINK INDUSTRY
**Ioanna Karaiskaki, Anna Maria Agathokleous, Pavlos Makrides**
ENVIRONMENT | CYPRUS
*Platics in the marine environment of Cyprus: monitoring and potential bioremediation strategies*

CARGILL
*Visit to its state of the art R&D centre at Vilvoorde, Belgium*
**João Maria Pinto Leite, Mário Jorge Queirós Ribeiro, Catarina Isabel Fonseca Brandão**
ENVIRONMENT | PORTUGAL
*ENTOFARM.PT*

KERRY
*Visitt back to Dublin for winning team*
**Blanka Novák**
BIOLOGY | HUNGARY
*Innovative approach to the an bacterial and prebiotic Lycium barbarum extract*

TATE&LYLE
*Visit to either France or Germany laboratories*
**Kārlis Emīls Vītols, Annija Kotova**
BIOLOGY | LATVIA
*The research of the feed base of Riga State German Grammar School's bee colonies*

EUCHEMS
**Leandra Marie Viktoria Zinke, Katarina Juhart, Sofia Quitter**
CHEMISTRY | EUROPEAN SCHOOLS
*Anti-Bacterial Silvernanoparticle Coating*

SWISS INTERNATIONAL TALENT FORUM
**Ivaylo Malinov Zhelev**
COMPUTING | BULGARIA
*Digital image denosing based on sphereconstrained total variation optimization with an additional noise component*

SALVETTI FOUNDATION
**Mariia Andreevna Solov**
CHEMISTRY | RUSSIA
*Protection of metal from destructive corrosion*

PRACE
*Visit to supercomputing center*
**Filip Kučerák**
COMPUTING | SLOVAKIA
*Trevo: Trees as a result of an algorithm*

BULGARIAN MATHEMATICS SUMMER SCHOOL
*Visit to Summer School in Bulgaria*
**Tobia Simon Ochsner**
COMPUTING | SWITZERLAND
*Creating playlists with artificial intelligence*

EXPO SCIENCES LUXEMBOURG
*Visit to Expo Sciences Luxembourg*
**Simon Meehan**
BIOLOGY | IRELAND
*Investiga on of an microbial effects of both aerial and sections parts of selected plants against Staphylococcus aureus*

WOLFRAM RESEARCH
*All Mathematics, Physics and Computing projects receive a one year licence to Mathematica and WolframAlphaPro*

## Host Orfanizer prizest

SCIENCE FOUNDATION IRELAND (SFI)
**Qingyang Wang**
PHYSICS | CHINA
*The Study of Carbon Dots Synthesis and Fluorescence with Assistance of Mihcroplasma Processing*

IRISH RESEARCH COUNCIL
**Dahyeon Choi**
ENGINEERING | SOUTH KOREA
*Development of an interactive and dynamic artificial intelligence storytelling system based on neural conversation models and speech recognition*

INSTITUTE OF PHYSICS
**Daniel Zion Kang**
MATERIALS | USA
*Paintable Electronics - Novel Graphene Acrylic Thin Film*

# Sofia 2019

## FIRST PRIZES

**Leo Li Takemaru, Poojan Pandya**
BIOLOGY | USA
*Investigating the Role of the Novel ESCRT-III Recruiter CCDC11 in HIV Budding: Identifying a Potential Target for Antiviral Therapy*

**Adam Kelly**
COMPUTING | IRELAND
*Optimised Simulation of General Quantum Circuits*

**Alex Korocencev, Felix Sewing**
ENGINEERING | GERMANY
*Hoverboard – a Magnetically Levitated Vehicle*

**Magnus Quaade Oddershed**
ENGINEERING | DENMARK
*The wingtip's influence on the efficiency of airplane wings*

## SECOND PRIZES

**Saba Gogichaishvili, Nia Gogokhia**
CHEMISTRY | GEORGIA
*Novel Biodegradable Polymer for Pharmaceutical Applications*

**Olli Järviniemi**
MATHEMATICS | FINLAND
*On the Common Prime Divisors of Polynomials*

**Jaehyun Lee**
PHYSICS | SOUTH KOREA
*Introduction of a Novel Diodicity Evaluation Criteria and 1-D Approximate Model for Multistaged NMP (No-Moving-Parts) Check Valves and Methods for Valve Stage Optimization*

**Claudia Lídia Pubill Quintillà**
SOCIAL SCIENCES | SPAIN
*With Death at His Heels. Chronicle of an Escape and Two Wars*

## THIRD PRIZES

**Antoni Ignacy Lis – Poland**
CHEMISTRY | POLAND
*Nanoparticles in antitumor therapy*

**Noah Scheiring, Andreas Ladner, Tobias Schauer**
ENGINEERING | SWITZERLAND
*Diffrec PRO*

**Océane Zofia Adrienne Patiny**
ENGINEERING | CHINA
*Remote Controlled Cylinder*





Sterling EX2017
IPR 2025-00430
Page 17 of 18

**Aliaksandr Piachonkin**
MATHEMATICS | BELARUS
*On the number of points on an algebraic curve in a ring of residues*

## Honorary awards

**LONDON INTERNATIONAL YOUTH SCIENCE FORUM (LIYSF)**
*All-expenses paid trip to London to attend the London International Youth Science Forum (LIYSF)*

**Adam Kelly**
COMPUTING | IRELAND
*Optimised Simulation of General Quantum Circuits*

**Magnus Quaade Oddershede**
ENGINEERING | DENMARK
*The wingtip's influence on the efficiency of airplane wings*

**Olli Järviniemi**
MATHEMATICS | FINLAND
*On the Common Prime Divisors of Polynomials*

**STOCKHOLM INTERNATIONAL YOUTH SCIENCE SEMINAR (SIYSS)**
*All-expenses paid trip to Stockholm to attend the Stockholm International Youth Science Seminar (SIYSS) and the Nobel Prize Ceremony*

**Alex Korocencev, Felix Sewing**
ENGINEERING | GERMANY
*Hoverboard – a Magnetically Levitated Vehicle*

## Special awards

**THE EUROPEAN SPACE AGENCY (ESA)**
*Attend a major space science conference in Europe or to spend a week at ESA's main technical centre, ESTEC, in The Netherlands*

**Océane Zofia Adrienne Patiny**
ENGINEERING | SWITZERLAND
*Remote Controlled Cylinder*

**EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH (CERN)**
*A week's visit to CERN Geneva site*

**Mateusz Mazurkiewicz, Łukasz Gałecki, Jan Struzińsk**
ENGINEERING | POLAND
*High Altitude Micro Air Vehicle*

**EUROFUSION (JET)**
*One week stay at their Culham, Oxfordshire, UK site*

**Manning Whitby**
ENGINEERING | CANADA
*An Interpretation of Life Through Vibration Motors*

**EUROPEAN SYNCHROTRON RADIATION FACILITY**
*One week visit to ESRF site in Grenoble*

**Alexandr Zarivnij**
MEDICINE | CZECHIA
*Inhibition of glutamate excitotoxicity in glaucoma by liposomes*

**THE EUROPEAN MOLECULAR BIOLOGY LABORATORY (EMBL)**
*A week's placement at EMBL premises in Heidelberg, Germany*

**Mattias Akke, Elsa Axby**
CHEMISTRY | SWEDEN
*Catching the Bad Guys: Capturing Oligomers of the Amyloid-beta Peptides*

**EUROPEAN SOUTHERN OBSERVATORY (ESO)**
*A visit to ESO facilities in Chile including trips to the Paranal Observatory and ESO's Scientific Centre in Santiago, Chile*

**Ségolène Mosser, Louise Richard, Hugo Montan**
PHYSICS | FRANCE
*Advanced ARAGO, a „gravitational wave" detector*

**THE INSTITUT LAUE-LANGEVIN (ILL)**
*One week visit to their Grenoble site*

**Nadia Brzostowicz**
PHYSICS | SPAIN
*Acoustic levitation. Building and analyzing two different acoustic levitators based on piezoelectric transducers, and exploring its current and possible future applications using simple physical and chemical experiments*

**EUROPEAN X-RAY FREE-ELECTRON LASER FACILITY GMBH (XFEL.EU)**
*One week placement at their site near Hamburg, Germany*

**Roman Rouba**
PHYSICS| BELARUS
*Investigation of the Prince Rupert's drop properties*

## Sponsor' awards

**EUROPEAN ASSOCIATION FOR CHEMICAL AND MOLECULAR SCIENCES (EUCHEMS)**
*A prize of €1000*

**Zeyad Bady**
CHEMISTRY | EGYPT
*High particulate matter filtration efficiency Nano-fibrous membrane*

**EUCYS BIOECONOMY BIO-BASED INDUSTRIES**
*A paid 5-day trip to Brussels for the winning project including travel to/from, accommodation and daily allowance in Brussels and participating in a tailor-made experience related to the science behind the BBI JU programme*

**Ronja Holopainen**
MATERIALS | FINLAND
*EcoMe: a reusable, ecological and affordable menstrual hygiene product for developing regions*

**EUROPEAN FOOD AND DRINK INDUSTRY**
*A check for 2,000 euros*

**Emma Nielsen**
ENVIRONMENT | DENMARK
*MOOSIC: a mean for productivity optimisation*

**UNILEVER**
*A two-day mini-internship, he will get to experience how products from brands like Knorr, Hellmann's and Lipton are being developed*

**Miklós Zsigó**
ENGINEERING | HUNGARY
*Moth.NET*

**PEPSICO**
*A day at our Beaumont Park R&D centre in the UK, following a range of different activities with our R&D team*

**Hannah Schatz, Yasemin Gedik**
ENVIRONMENT | AUSTRIA
*Microplastic on our doorstep*

**EXPO-SCIENCES LUXEMBOURG**
*Present his project alongside our national participants*

**Zvezdin Besarabov**
COMPUTING | BULGARIA
*Distributed creation of Machine learning agents for Blockchain analysis*

**INTERNATIONAL SWISS TALENT FORUM (ISTF)**
*Participate at The International Swiss Talent Forum – February 5th – 8th 2020*

**Elisa Seghetti**
SOCIAL SCIENCES | ITALY
*OnMind: an IoT wearable biofeedback system for the treatment of psychosomatic disorders*

**JOINT RESEARCH CENTRE (JRC)**
*A two day stay at its Ispra site in Italy*

**María Bouso Posada, Xiana Rego Fernández, Ana Rubal Sánchez**
BIOLOGY | SPAIN
*O da la miúda. Distribution, ethology and phenology of the Iberian wolf*

**Jannik Wyss**
BIOLOGY | SWITZERLAND
*Gene regulation during development: The roles of the genes xbp1, creb3l1 and creb3l2 in axial mesoderm differentiation*

**Andrey Gizdov**
MEDICINE | BULGARIA
*A novel method for skeletal age estimation based on cranial suture analysis*

**Elias Elias**
MEDICINE | ISRAEL
*The effect of the E12 antibody on multiple sclerosis*

## Host country awards

**INTERNATIONAL STUDENTS OF HISTORY ASSOCIATION (ISHA)**
*Parcipate in a relevant conference and present their results*

**Claudia Lídia Pubill Quintillà**
SOCIAL SCIENCES | SPAIN
*With Death at His Heels. Chronicle of an Escape and Two Wars*

**BULGARIAN SUMMER RESEARCH SCHOOL**
*Participate in the Summer Research School of the Bulgarian High School Students Institute of Mathematics and Informatics*

**Aalia Sellar, Brendan Miralles, Grace Lord**
COMPUTING | UNITED KINGDOM
*Music Splash*

**Alexander Alexandrovich Sokko**
ENGINEERING | RUSSIA
*Next generation of solid-fuel rocket engines*

**NATIONAL WORKSHOP ON CODING THEORY "PROFFESSOR STEFAN DODUNEKOV"**
*Parcipate in the next edition of NWCT (November 2019, Chiflika, Bulgaria)*

**Ján Varga**
COMPUTING | SLOVAKIA
*Prevention of Cheating in eSports*

**Constantin Schott**
MATHEMATICS | GERMANY
*Neural Network application to key-point-detection in radiographs*





Sterling EX2017
IPR 2025-00430
Page 18 of 18