

#digitale21



The Effects of Digitalization on Training,
Learning and Working in the 21st Century

11 – 13 APRIL 2018, LUGANO
SUPSI TREVANO CAMPUS
www.digitale21.ch   

Youth Parliament | Bellinzona | 8 – 9 March 2018 | upon invitation
Experts in education event | 11 April 2018 | for teachers with advanced registration
Symposium | 12 April 2018 | free admission | aperitif and dinner by invitation
Symposium | 13 April 2018 | free admission



akademien der wissenschaften schweiz
académies suisses des sciences
accademia svizzera delle scienze
academias svizas de las ciencias
swiss academies of arts and sciences

Education is the foundation of prosperity for the entire population of a nation, and especially so for one lacking in natural resources. Through the combined efforts of researchers and specialists, products and services are created that are globally competitive despite high wages. In the educational and professional training fields, teachers and professors tirelessly transmit inspiration and lifelong values to their students.

Every revolution leads to upheavals, particularly in the digital sector where machines increasingly perform activities that humans undertake. What can we do to prepare the Swiss workforce for the challenges of the 21st century?

In the midst of the digital revolution, actors from the educational, research, innovation and economic spheres now come together to discuss the ways of bringing the flexibility that already exists to a certain degree in the dual educational system to the entire pedagogical structure.

We wish to thank our partners, who have so readily adopted the ideas conceived by the Swiss Academies of Arts and Sciences and who have performed a vital networking role between all parties. Platforms for exchange contain the potential for new solutions. We are very pleased to welcome you to this symposium and we await your contributions!



Maurice Campagna
President



Claudia Appenzeller
Secretary General

Regionally strong and internationally connected:
In Italian and English with simultaneous interpretation

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The Effects of Digitalization on Training, Learning and Working in the 21st Century

Bellinzona | 8 – 9 March 2018 | Youth Parliament: Dibattito #digitale21
Cantonal High School of Commerce, Bellinzona. Two days of debate with 40 students to understand the limits and opportunities for digitizing training

Lugano | Wednesday, 11 April 2018
Event for teachers and experts in education | with advanced registration

Lugano | Thursday, 12 April 2018

Symposium, free admission (aperitif and dinner by invitation only)

Moderation: **Claudia Appenzeller**, Secretary General, Swiss Academies of Arts and Sciences

- 04:15 pm Overture
University of Music, Conservatorio della Svizzera italiana
-
- 04:30pm Welcome address
Alberto Petruzzella, President of the Board, University of Applied Sciences and Arts of Southern Switzerland (SUPSI)
-
- 04:45pm Introducing guest speaker Federico Capasso
Maurice Campagna, President of the Board, Swiss Academies of Arts and Sciences
-
- 04:55 pm The Master of Light: Metamaterials- and photonics-based products for the markets of tomorrow **Federico Capasso**, Harvard University, Balzan Prize winner 2016, **Balzan Lecture**
-
- 05:40pm Digitalization from the individual point of view **Laura Perret Ducommun**, Secretary General, Swiss Federation of Trade Unions
-
- 05:55 pm Are we ready for the future?
Rudolf Minsch, Chief Economist, economiesuisse
-
- 06:10 pm Musical interlude
University of Music, Conservatorio della Svizzera italiana
-
- 06.15 pm Closing remarks
Monica Duca Widmer, President of the Board, Università della Svizzera italiana (USI) and Vice-President of the Swiss Academy of Engineering Sciences (SATW)
-
- 07:00 pm **Aperitif and dinner at the Hotel Lido Seegarten, Lugano** (by invitation only)

Lugano | Friday, 13 April 2018

Symposium | free admission

Moderation: **Dimitri Loringett**, Media relations and content editor, USI

09:00am Arrival of participants and coffee

09:30am Welcome address

Maurice Campagna, President of the Board, Swiss Academies of Arts and Sciences

09:40am Digitalization in the 21st century – impacts on society

Franco Gervasoni, Director General, SUPSI

Boas Erez, Rector, Università della Svizzera italiana (USI)

Cornelia Oertle, Director General, Swiss Federal Institute for Vocational Education and Training (SFIVET)

Luca Albertoni, Director, Chamber of Commerce of Canton Ticino and Member of the Managing Director's Committee, economiesuisse

10:10 am Innovation through expertise and openness

Mauro Dell'Ambrogio, State Secretary, State Secretariat for Education, Research and Innovation (SERI)

10:30 am Lifelong learning: from an apprenticeship to CEO

Peter Voser, Chairman of the Board of Directors, ABB Group

10:50 am Interactions between science and innovation

Katharina Fromm, Vice-President of the Research Council, SNSF

11:00 am Round table

Mauro Dell'Ambrogio, Peter Voser, Katharina Fromm

11:40 am Poster session with **Lucio Negrini**, lunch and networking

01:10 pm Presentation – Debate outcomes (Dibattito, 8 - 9 March, 2018)

Youth Parliament

01:20 pm **Short film:** Innovative educational experiences, Centro scolastico per le industrie artistiche (CSIA)

01:25 pm Research, training and work: a necessary and virtuous dialogue

Manuele Bertoli, President and State Councillor, Canton Ticino

01:45 pm New educational models – discussion with up-and-coming scientists

Federico Capasso, Harvard University, Balzan Prize winner 2016

02:35 pm Breakout Sessions

02:35 pm SESSION 1: DIGITALIZATION AND EDUCATION

Chair: **Marcel Tanner**, President, Swiss Academy of Natural Sciences

- “No time and everywhere”: Anthropological and cognitive implications of digitalization **Fabio Merlini**, Regional Director, Swiss Federal Institute for Vocational Education and Training
- Education and learning in compulsory schooling, **Alberto Piatti**, Director, Department of Education and Learning, SUPSI
- Presentation of projects in the public health and industrial sectors **Furio Bednarz**, Director of continuous Training and Innovation office, Canton Ticino

02:35 pm SESSION 2: DIGITALIZATION AND SOCIETY

Chair: **Jean-Jacques Aubert**, President, Swiss Academy of Humanities and Social Sciences

- Ageing society and digitalization, **Markus Zürcher**, Secretary General, Swiss Academy of Humanities and Social Sciences
- Impact of data science: the example of rapid emergency response, **Antonietta Mira**, Professor of statistics and data science, USI

02:35 pm SESSION 3: DIGITALIZATION AND CREATIVITY

Chair: **Claudia Appenzeller**, Secretary General, Swiss Academies of Arts and Sciences

- From science to innovation, **Federico Capasso**, Harvard University, Balzan Prize winner 2016
- **Young researchers and startup founders**

02:35 pm SESSION 4: DIGITALIZATION AND THE ECONOMY

Chair: **Stefano Santinelli**, CEO, Swisscom Directories AG

- Open collaboration in a digitalized world, **Giambattista Ravano**, Director of Research and Innovation, SUPSI
- Digitalization at Ferriere Cattaneo, **Aleardo Cattaneo**, Chairman of the Board of Directors and CEO, Ferriere Cattaneo
- The challenges of digitalization for vocational training, **Laura Perret Ducommun**, Secretary General, Swiss Federation of Trade Unions

03:45 pm Session reports and plenary discussion

M. Tanner, J.-J. Aubert, C. Appenzeller, S. Santinelli

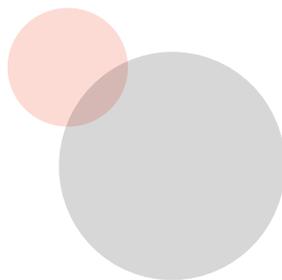
Recommendations for training the “21st century workforce”

Thomas Zeltner, President of the Science et Cité foundation

04:15 pm Closing remarks and acknowledgements

Maurice Campagna and Claudia Appenzeller

04:20 pm Aperitif



 International Balzan Prize Foundation

Federico Capasso

Harvard University, Balzan Prize winner 2016

«My first 40 years of research were guided not as much by discipline but by a “problem solving” attitude. I have tremendously enjoyed working at the interface between disciplines. As I like to say nature does not know what optics, solid state physics, chemistry, etc. are! With this pragmatic approach at Bell Labs we invented the quantum cascade laser by exploiting advances in materials engineering and quantum design. This laser dramatically extended the wavelength range of lasers and opened the door to important new applications. At Harvard I launched a company which develops a handheld device based on this technology that can be used to quickly and precisely analyse chemicals at a safe distance. I have come to realise that in science and technology it is all about passion and working persistently, being focused and yet still being open for

surprises. Creativity is critical of course but to some extent can be learned!

I am looking forward to this event, where I will share my experience as a researcher and a teacher engaged in problem-solving by working with students and young colleagues on an equal footing. Science thrives when we forget about hierarchies and authority»





Mauro Dell'Ambrogio, State Secretary, SERI

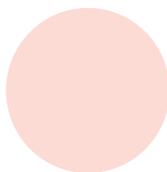
« Switzerland has already responded to the increasing importance of digitalisation and thus positioned itself well for the future. We aim to provide the conditions needed to adapt education, research and innovation to the increasingly rapid pace and widespread use of new technologies. Continuing education and training programmes are key instruments helping prepare our workforce for today's digital challenges. Multi-stakeholder partnerships are also becoming increasingly important. Together we can take advantage of the opportunities created by digital transformation »



Manuele Bertoli, President and State Councillor, Canton Ticino

« It is crucial to adapt to digitalization and for this we need quality training today. The pitfalls of digitalization must be actively managed. I see kids who are only talking to each other through their mobile phones, I think this issue has to be addressed. The human relationship within society, even in the face of major change – I would say almost sneaky and deceptive – remains extremely important »

Alberto Petruzzella,
President of the
Board, SUPSI



Monica Duca Widmer, President of the
Board, USI and Vice-President,
Swiss Academy of Engineering Sciences



Franco Gervasoni,
Director General,
SUPSI

« Every future-oriented change must immediately affect all school orders and be tackled in close collaboration with the professional world »

Boas Erez,
Rector, USI



« Avere il mondo a portata di mano », « At your fingertips », « Au bout des doigts », « In den Fingerspitzen ». This is what the digital age promises. But doesn't the world need a broader reach?



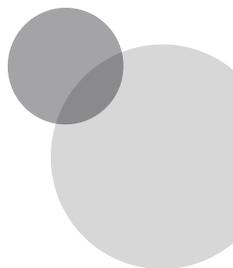
Cornelia Oertle,
Director General, SFIVET

« Digitalization is omnipresent in today's society, changing our professional world at an almost impossible pace. In the field of vocational education and training, digitalization opens up completely new opportunities for knowledge transfer but also creates huge challenges for working life »



Katharina Fromm, Full Professor for
Chemistry at the University of Fribourg
and Vice-President of the Research
Council, SNSF

« Digitalization is a fast revolution in our society. Time to study its effects and opportunities on/in Science, Innovation and our Society! »



Luca Albertoni,
Director, Chamber
of Commerce of
Canton Ticino
(Cc-Ti)



Rudolf Minsch,
Chief Economist,
economiesuisse

« Digitalization will reshape our economic and social landscape. Do we have the necessary requirements, resources, education, mentality, etc. in Switzerland to successfully adapt to the digital revolution and to remain the most innovative country in the world? »



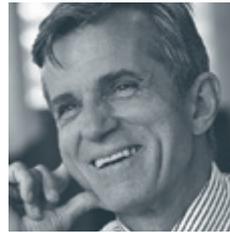
**Laura Perret
Ducommun,** Secretary
General, Swiss
Federation of Trade
Unions

« The digitalization process has a deep impact on our activities and our relationship to others. Risk or opportunity? »



Peter Voser, Chairman of the Board of
Directors, ABB Group

« In the age of digitalization, it has become more evident that lifelong learning will be key. Based on a solid education we have to be open, agile and flexible and be able to adjust to an ever faster changing world »



Thomas Zeltner,
President of the
Science et Cité
foundation

« Digitalization will profoundly transform the way we train, learn and work in the 21st century. The biggest challenge of this transformation will be to reach out to all parts of society and to leave no one behind »

Welcome to Lugano!

Be part of the dialogue: Luca Albertoni, Claudia Appenzeller, Jean-Jacques Aubert, Furio Bednarz, Manuele Bertoli, Maurice Campagna, Federico Capasso, Aleardo Cattaneo, Mauro Dell'Ambrogio, Claudio Della Santa, Monica Duca Widmer, Boas Erez, Katharina Fromm, Franco Gervasoni, Fabio Merlini, Rudolf Minsch, Antonietta Mira, Lucio Negrini, Cornelia Oertle, Daniele Parenti, Giovanni Pellegri and members of the Youth Parliament, Laura Perret Ducommun, Alberto Petruzzella, Alberto Piatti, Giambattista Ravano, Stefano Santinelli, Marcel Tanner, Peter Voser, Thomas Zeltner, Markus Zürcher

INITIATOR

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