

The International Conference on:

Excellence

Innovation

Creativity

Basic-Higher Education

Psychology

Welcome to the 13th International Conference

The International Centre for Innovation in Education (ICIE) is committed to the development of all learners as productive world citizens and leaders for the future. This International Conference will provide a conference programme with the highest calibre of: Nobel Laureate, keynote speakers, invited speakers, and a large number of scholars and presenters. The ICIE conferences are milestones in the journey towards Excellence, leadership, creativity and innovation.

Conference Aims and Objectives:

Encourage volunteer spirit; **Promote** excellence and sustain quality; **Connecting** Communities; **Strive** for improvement; **Evolve** responsibly; **Meet** community expectations of quality; **Sustain** competitiveness and viability; and **Balance** innovation with core essentials.

This conference provides you with the opportunity to:

- **Explore** the latest developments in education & psychology in general, and innovation in basic and higher education in particular;
- **Examine** the need for sustainable educational systems;
- **Integrate** the latest technology into the education system;
- **Debate** the future of education & psychology: What are the challenges ahead?
- **Learn** from innovative case studies where educational institutions have taken the initiative;
- **Engage** in a series of seminars designed to debate the theory and practice of real improvement in Basic-Higher Education & psychology; and
- **Participate** in workshops designed to develop participants' competencies.

Conference Categories:

- **Excellence in Education:** Basic & Higher Education;
- **Gifted Education;**
- **Creativity & Innovation;**
- **Educational Technology;**
- **Psychology**, including all branches (e.g., applied psychology; cognitive psychology; organizational psychology; developmental psychology; experimental psychology; clinical psychology; educational psychology; cross-cultural psychology; positive psychology; social psychology; comparative psychology);
- **Innovative Learning Environment:** Standards and curricula; tasks and materials; and communication;
- **Instructors and Teacher:** Competencies; innovative teaching methods; and staff development;
- **Learner:** competencies, individual differences, intervention and development;
- **Programme Development:** Examples, planning models and components, implementation and evaluation;
- **Global Education for Peace;**
- **Organizational & Social Issues in Education;**
- **Integrated Services:** Guidance and counselling; community services; parenting and caring; and mentorship; and
- **Future Trends:** Globalisation and networking; civic education; ethical issues; and building creative climates.

Conference Programme

Important Notes:

The full schedule of presentations for keynotes, workshops, symposia, oral presentations, and posters is now available on the conference website. If you are presenting, please refer to this schedule as a confirmation of the date and time of your presentation and download the pdf file.

The conference has six Rooms/lecture halls (**A; B; C; D; E; F**) that will accommodate all presentations. If the code of your presentation is (A.1), this presentation will take place in Room/lecture hall (A).

Please refer to the printed conference programme that will be distributed onsite, for the exact location and time of your session.

The first presenter in each session will be assigned a **moderator** to assist with speaker transitions and to move the session along.

Abstracts: Abstracts will not be printed; however the full abstracts and technical session schedule will be available on the conference website. Abstracts will be listed by track, by primary author's first name.

Registration: All presenters need to register and pay to attend the conference.

International Centre for Innovation in Education (ICIE)

Program Development Award

Presented to:

Alan Wiebe

**In Recognition of His Provincial, National, and International
Contribution in the Areas of Mentoring and Community Outreach.**

Rijeka – Croatia (May 18, 2016)

Day One (May 18, 2016):



- 07:00 – 09:00 Registration
- 09:00 – 10:00 Posters
- 10:00 – 11:00 *Opening Ceremony*
- 11:00 – 12:00 Welcome Reception
- 12:00 – 13:00 **Keynote Speaker 1: Joseph S. Renzulli** Chair: Sandra Krpan
- 13:00 – 14:00 **Keynote Speaker 2: Pero Lu in** Chair: Snježana Priji -Samaržija
- 14:00 – 15:00 **Keynote Speaker 3: Todd Lubart** Chair: Philip Baker
- 15:00 – 15:30 *Coffee Break*
- 15:30 – 16:30 **Keynote Speaker 4: Ken McCluskey** Chair: Sandra K. Linke
- 16:30 – 17:30 **Keynote Speaker 5: Sally M. Reis** Chair: Meredith McLaughlin
- 17:30 – 18:40 **The Nobel Laureate: Roald Hoffmann** Chair: Joseph Goulet



Notes:

Day Two (May 19, 2016):



- **08:00 – 10:00 Workshops:**

Room A	Room B	Room C	Room D	Room E	Room F
W ₁	W ₇	W ₃	W ₄	W ₅	W ₆

- **10:00 – 10:15 Coffee Break**

- **10:15 – 11:15 Keynote Speaker 7: Uur Sak**

Chair: Maruška Željeznov Seničar

- **11:15 – 12:15 Keynote Speaker 8: Jacques Grégoire**

Chair: Ewa Piotrowska

- **12:15 – 13:15 Parallel Sessions:**

Room A	Room B	Room C	Room D	Room E	Room F	Main Hall
Creativity (A.1) (A.2) (A.3)	Excellence (B.1) (B.2) (B.3)	Gifted Edu. (C.1) (C.2) (C.3)	Gifted Edu. (D.1) (D.2) (D.3)	Excellence (E.1) (E.2) (E.3)	Creativity (F.1) (F.2) (F.3)	Excellence and Creativity in Practice

- **13:15 – 14:15 Lunch**

- **14:15 – 15:15 Keynote Speaker 9: Don Ambrose (Video & Skype)**

Chair: Petra Karaniki

- **15:15 – 16:15 Keynote Speaker 10: Boris Joki**

Chair: Snježana Prijić-Samaržija

- **16:15 – 16:30 Coffee Break**

- **16:30 – 18:00 Symposia:**

Room A	Room B	Room C	Room D	Room E	Room F
Symposium 1	Symposium 2	Symposium 3	Symposium 4	Symposium 5	Symposium 6

- **18:00 – 19:00 Parallel Sessions:**

Room A	Room B	Room C	Room D	Room E	Room F
Creativity (A.4) (A.5) (A.6)	Excellence (B.4) (B.5) (B.6)	Gifted Edu. (C.4) (C.5) (C.6)	IT & Technology (D.4) (D.5) (D.6)	Contemporary Issues (E.4) (E.5) (E.6)	Gifted Edu. (F.4) (F.5) (F.6)

Day Three (May 20, 2016):



- **08:00 – 10:00 Workshops:**

Room A	Room B	Room C	Room D	Room E	Room F
W ₂	W ₈	W ₉	W ₁₀	W ₁₁	W ₁₂

- **10:00 – 10:15 Coffee Break**

- **10:15 – 11:15 Keynote Speaker 11: Svjetlana Koli -Vehovec** Chair: Kornelija Mrnjaus

- **11:15 – 12:15 Keynote Speaker 12: Alan C. Wiebe** Chair: Christiane Kirsch

- **12:15 – 13:15 Parallel Sessions:**

Room A	Room B	Room C	Room D	Room E	Room F
Creativity (A.7)	Excellence (B.7)	Gifted Edu. (C.7)	IT & Technology (D.7)	Contemporary Issues (E.7)	Science Edu. (F.7)
(A.8)	(B.8)	(C.8)	(D.8)	(E.8)	(F.8)
(A.9)	(B.9)	(C.9)	(D.9)	(E.9)	(F.9)

- **13:15 – 14:15 Lunch**

- **14:15 – 15:15 Keynote Speaker 13: Heinz Neber** Chair: Iva Rin i

- **15:15 – 16:15 Keynote Speaker 14: Jasminka Ledi** Chair: Željko Ra ki

- **16:15 – 16:30 Coffee Break**

- **16:30 – 18:00 Symposia:**

Room A	Room B	Room C	Room D	Room E	Room F
Symposium 7	Symposium 8	Symposium 9	Symposium 10	Symposium 11	Symposium 12

- **18:00 – 19:00 Parallel Sessions:**

Room A	Room B	Room C	Room D	Room E	Room F
Creativity (A.10)	Excellence (B.10)	Gifted Edu. (C.10)	IT & Technology (D.10)	Contemporary Issues (E.10)	Science Edu. (F.10)
(A.11)	(B.11)	(C.11)	(D.11)	(E.11)	(F.11)
(A.12)	(B.12)	(C.12)	(D.12)	(E.12)	(F.12)

Day Four (May 21, 2016):



- 08:00 – 10:00 **Workshops:**

Room A	Room B	Room C	Room D	Room E	Room F
W ₁₃	W ₁₄	W ₁₅	W ₁₆	W ₁₇	W ₁₈

- 10:00 – 10:15 *Coffee Break*

- 10:15 – 11:15 **Keynote Speaker 15: Mojca Juriševi**
- 11:15 – 12:15 **Keynote Speaker 16: Kristof Kovacs**
- 12:15 – 13:15 **Keynote Speaker 17: Anies Al-Hroub**

Chair: Jasna Arrigoni

Chair: Jasna Cvetkovi -Lay

Chair: Hussam Diab

- 13:15 – 14:15 *Lunch*

- 14:15 – 15:45 **Parallel Sessions:**

Room A	Room B	Room C	Room D	Room E	Room F
Creativity	Excellence	Gifted Edu.	IT & Technology	Contemporary Issues	Science/ Excellence
(A.13)	(B.13)	(C.13)	(D.13)	(E.13)	(F.13)
(A.14)	(B.14)	(C.14)	(D.14)	(E.14)	(F.14)
(A.15)	(B.15)	(C.15)	(D.15)	(E.15)	(F.15)
(A.16)	(B.16)	(C.16)	(D.16)	(E.16)	(F.16)
(A.17)	(B.17)	(C.17)	(D.17)	(E.17)	(F.17)

- 15:45 – 16:45 Youth Summit Symposium

- 16:45 – 17:30 Closing Ceremony



*See you
Next
year*

Workshops Programme



Day Two (May 19, 2016):

No.	Title	Conductor
W ₁	Talented Females: Obstacles, Challenges, & Choices.	Sally M. Reis
W ₃	Learning in the Digital Age: The Use of Film in Education.	Maher Bahloul
W ₄	Creating Creative, Cooperative Environments Creatively and Cooperatively.	Ken W. McCluskey
W ₅	The Use of the Creative Reversal Act (CREACT) to Develop Creative Potential in the Classroom.	U ur Sak
W ₆	Evaluation of Potential Creativity (EPoC).	Todd Lubart
W ₇	Identifying and Developing Creative and Productive Giftedness: Major Challenges for the 21st Century Learners.	Joseph S. Renzulli

Day Three (May 20, 2016):

No.	Title	Conductor
W ₂	Problem-Based Learning (PBL).	Heinz Neber
W ₈	Lost Prizes: Recognizing and Nurturing the Talent of At-Risk Students.	Ken W. McCluskey
W ₉	The Use of the Creative Reversal Act (CREACT) to Develop Creative Potential in the Classroom.	U ur Sak
W ₁₀	Scientific Evidence of Neuronal Phenomena.	Dubravko Ki i
W ₁₁	Active Learning in Science: The Case of Colours.	Mojca epi
W ₁₂	Evaluation of Potential Creativity (EPoC).	Taisir Subhi Yamin

Day Four (May 21, 2016):

No.	Title	Conductor
W ₁₃	Problem-Based Learning (PBL).	Heinz Neber
W ₁₄	Gifted First Graders in Digital Age –Individual Projects in ICT and Robotics.	Ana Sovi -Križi Jasna Cvetkovi -Lay Tomislav Jagušt
W ₁₅	The Use of the Creative Reversal Act (CREACT) to Develop Creative Potential in the Classroom.	U ur Sak
W ₁₆	Learning in the Digital Age: The Use of Film in Education.	Maher Bahloul
W ₁₇	Lost Prizes: Recognizing and Nurturing the Talent of At-Risk Students.	Ken W. McCluskey
W ₁₈	Active Learning in Science: The Case of Colours.	Mojca epi

Sessions Distribution According to the Topic

(1) Creativity:

- A.1 Kyunghwa Lee. *Development of K-DHA Model and Programme for Developing Human Creativity based on TRIZ and Design Thinking.*
- A.2 Orest Cap; Karen E. Smith. *A Closer Look at Canada's Federal Vocational Education Acts: Is Innovation Being Fostered for the Future?*
- A.3 Jacques GREGOIRE; Todd LUBART. *A New Test for Assessing Mathematical Creativity.*
- A.4 Bilge Bal-Sezerel; Nazmiye Nazli Ozdemir. *A Review on the Assessment of Mathematical Creativity.*
- A.5 Bilge Bal-Sezerel; Nazmiye Nazli Ozdemir. *Key Themes within the Studies of Mathematical Creativity.*
- A.6 Çi dem Nilufer UMAR. *The Effects of Differentiated Curriculum with Blended Learning Method on Gifted Students' Critical Thinking Abilities and Creativity.*
- A.7 Dengchuan Cai; Jhongpei Wu; Tingkai Chang; Wanyu Cheng; Sheng-chun Huang; Jia-wei Jhang. *Creativity Investigation of Graduate Students in Taiwan.*
- A.8 Ivan Alagi . *Content Analyses of School Books: The Relationship between Convergent and Divergent Thinking.*
- A.9 Josipa Mamuži . *Games that Foster Creativity.*
- A.10 Gabriela Konkol; Anna Kalarus. *Creativity in Zofia Burowska's Concept and its Implementation into School Practice in Poland.*
- A.11 Gayle B. Roege. *Answering the Demand for Art & Design Thinking, Innovation, and Creativity: Developing the Talent of Artistically Gifted Adolescents.*
- A.12 Giovanni Corazza; Christiane Kirsch; Sergio Agnoli. *The Creative Potential Questionnaire: An Innovative Measurement Tool.*
- A.13 Marie Thillot; Maud Besançon; Todd Lubart . *Evaluation of Potential Creativity (EPoC): A new Social Creativity Domain.*
- A.14 Fakolade, Olufemi Aremu. *Socio-Cultural Barriers and Blocks: Its Implication on Creativity and Innovations Among Africans.*
- A.15 Fariha Asif. *Creativity, Commitment and Thinking through English in EFL Classroom.*
- A.16 Laura Herceg; Nina Licul. *Systematic Development of Artistic Creativity and Innovation of Elementary School Students.*
- A.17 Petra Karaniki . *The Role of Creativity, Innovation and Education in Science Development.*
- F.1 Tina Refning Larsen. *Asynchronous Development in Gifted Underachievers - Obstacles in the Pursuit of Excellence. (F.1)*
- F.2 İle Güçyeter. *Revising Problem Solving Subtests of Similarity and Relation Based Test of Thinking in Math.*
- F.3 Tina Madunic. *Children's Photographs- A Creative Way to Explore Children's Understanding of Aesthetics.*

(2) Excellence:

- B.1 Andreja Kozmus. *Saturday Schools for Gifted Pupils – A Way of Developing Human Excellence.*
- B.2 Baha Zoubi. *Thinking Styles of Gifted, Excellent, Regular and Special Needs Students in Junior and High Schools in the Arab Society in Israel.*
- B.3 Beryl Cox Pittman. *"Think and Do:" Developing the Entrepreneurial Engineer at North Carolina State University.*
- B.4 Bruno Fiala; Josipa Mamuzic. *"I've Got an idea!" – A Presentation of an Afterschool Programme.*

- B.5 Christian Herbig. *Creating Personalized Learning Settings: (Intermediate) Results of a Delphi Study on Dealing with Students' Diversity in Secondary Education.*
- B.6 Csilla Fuszek. *Hungarian Talent Support Network Model: Operational Experience (2006-2016).*
- B.7 Damir Marinic; Ida Marinic. *Educational Challenges in Global Society: Integration-Processing Approach.*
- B.8 Eva Vondrakova. *Gifted Children Education as a Result of Attitude to Excellence.*
- B.9 Gordana Friš i ; Gala Gudec. *Opening the Centre of Excellence in the Primary School Izidor Krsnjavi.*
- B.10 Hatice Kübra SÖZEL. *A Comparative Study on the Teachers' Self-Efficacy.*
- B.11 Gül ah BATDAL KARADUMAN. *The Effects of Visual-Spatial Ability on Teaching Geometry.*
- B.12 Maher Bahloul. *Pushing Forward the Creative Mind: Learning Through Filmmaking.*
- B.13 Nena Ron evi , Marko Turk; Bojana Vignjevi . *Research Papers are what Counts: Excellence in Teaching is Neither Supported nor Properly Evaluated.*
- B.14
- B.15 Nataša Mesaroš Grguri . *Contemporary School Aims to be Modern, Humanistic, Open and Creative.*
- B.16 Sanja Sko i Mihi , Renata epi . *Teaching Gifted Students: Teacher's Perceived Acquired Competency in Different Forms of Professional Development.*
- B.17 Rabia Aslam. *Studying Abroad Need or a Choice.*
- E.1 Phillip Baker. *"Winnipeg Realizing Project".*
- E.2 Sanja Sko i Mihi ; Kathleen Beaudoin; Anna Giugno Modrušan. *Gifted Students and Students with Disabilities: Teachers' Competence for Differential Teaching.*
- E.3 Sharon Lierse. *Characteristics University Outstanding Lecturers have in Common.*
- F.15 Kialala Kiala John. *The Learning Activity: An Object of Research and Innovation?*
- F.16 Ton ica Šiško; Ivona Pierobon; Dubravka Verši . *How to Enrich Learning with Creative Art Therapies and NLP.*
- F.17 Wil Meeus. *Excellent Academic Teacher Education Programmes.*

(3) Contemporary Topics:

- E.4 Veronika Wolf Cohen. *Musical Mirrors and Mirror Neurons.*
- E.5 Barbara Friehs. *Religious Traditions and Cultural Clashes the Influence of Islam on Public Education in German Speaking Countries.*
- E.6 Danijel Vasilj. *School Sport as an Innovative Approach for Social Inclusion of Students with fewer Opportunities.*
- E.7 Jo Suyeon. *The Research about the Difference in the Perceptions on Counselor between Middle School Students and their Parents.*
- E.8 Kornelija Mrnjaus; Bojana Vignjevic. *Discourse on Elements and Benefits of Positive Teacher – Student Relationship in the Academic Context – Students' Perspective.*
- E.9 Maaouia Haj Mabrouk. *Learning Through the Art (LTTA).*
- E.10 Nada Kegalj; Maja Ba i Ostovi . *Debate as a Strategy for Teaching and Personal Development.*
- E.11 & E.12 Nina Meyerhof. *Peace Education.*
- E.13 Pijus Barua. *Conflict Resolution in South Thailand: Roles of Religious Leaders.*
- E.14 Tiloka Nanda Sraman. *A Comparative Study between General Educational and Buddhist Educational and Professional Training.*
- E.15 Christos Dimitriadis. *Provision for the Highly Able Student of Mathematics in Primary Classrooms: A Pilot Study in England.*
- E.16 Anne Justus. *Highs and Lows of Experiential Teaching Group Psychotherapy with Graduate Students in Egypt.*
- E.17 Naif Kara. *The Role of Communication in the Development Process and the Emotional Quotient.*

(4) Gifted Education:

- C.1 Smiljana Valcl. *Gifted Students in a Volunteer Project.*
- C.2 Ahmet Keskin; Cem Oktay Güzeller; Eda Gürten; Nilgün Baysal Metin. *Who Am I? Gifted Students' Opinions on their Needs and Interests.*
- C.3 Esranur DULGER; Omer Faruk TAMUL; Hatice Kübra SOZEL. *Peer Relationships of the Gifted Students.*
- C.4 Ömer Faruk TAMUL. *A Literature Review: The Identification of the Gifted Students with Learning Difficulties.*
- C.5 Ömer Faruk TAMUL; Hatice Kübra SÖZEL; Esranur DÜLGER. *Teachers' Belief in Giftedness.*
- C.6 Zeynep EN; Tülin ACAR; Eda GÜRLEN; Nuray SENEMO LU. *Investigation of Postgraduate Theses about Gifted/Talented Education in Turkey.*
- C.7 Ercan Opengin; Fatih Tokmak. *Relationship of Academic Self Concept and Life Satisfaction among Gifted Children.*
- C.8 Ercan Opengin; brahim Tasdemir. *Teachers' Views with regard to Gifted Students Education and Resource Room Programme.*
- C.9 Hatice Kubra SOZEL; Esranur DULGER; Omer Faruk TAMUL. *A Literature Review on the Effectiveness of Mentorship Programmes for Gifted and Talented Students.*
- C.10 Joseph Toh Kim Leng; Yeo Soo Ling. *Talent Development in a Singapore School for High-Ability Learners.*
- C.11 Sonja Artac. *Gifted Students in the Shadow of Science Misconception.*
- C.12 ule Güçyeter. *Opinions of Pre-service Teachers of Guidance and Psychological Counseling about Giftedness, Gifted Education and the Needs of Gifted Students.*
- C.13 Kellie Clarke. *A is for Acceleration.*
- C.14 Ksenija Ranogajec Benakovic. *"Sparks" Programme for Gifted Children.*
- C.15 Maja Gerden. *Enthusiastic Mentors and Talented Students' Achievement.*
- C.16 Nazmiye Nazli Ozdemir. *A Review on Teachers' Perceptions and Attitudes towards Giftedness across Cultures.*
- C.17 Ozlenen OZDIYAR; Abdul Samet DEMIRKAYA; Eda GURLEN; Sevgi TURAN. *An Analyses of the Gifted Students' Occupation of their Dreams.*
- D.1 Suzana Vajngerl. *Research Skills of Gifted Students.*
- D.2 Tarika Sandhu; Shweta Prashar. *Dynamics of Flow in the Creatively Gifted.*
- D.3 Željko Ra ki. *Insights on Gifted Education in Croatian Elementary Schools.*
- F.4 Maruška Željcnov Seni ar. *Creative Problem Solving.*
- F.5 Alena Dika; Ivan Draži . *e-Classroom - Extra Curricular.*
- F.6 Ewa Piotrowska. *"Train Your Brain! Think Out of the Box".*

(5) IT & ICT

- D.4 Rafael Saracchini. *Latest Developments in Informatics: Virtual & Reality Augmented.*
- D.5
- D.6 Jose Rodrigo Zubiri; Sofia Carmen Tomacruz. *Digital Demands: Addressing The Digital Divide in Basic Education and Its Relation to Academic Performance and Aspirations.*
- D.7 Marwa M. A. A. Hegab. *Do We Need to Shift from Power Point to Prezi in Teaching?*
- D.8 Anna Maria. *Integrating Technology into the Curriculum.*
- D.9 Christopher Arrighi; Nicole Arrighi. *What Good Mobile Instruction Looks Like.*
- D.10 Jean SIMON; Veronique SEBASTIEN. *The Use of a CSCW Platform: Professional Training Programme Vs. General Education Training Programme.*

- D.11 Jessica Potts. *New Form of Education: Virtual Schools.*
D.12 Michael Canuel; Mary Stewart. *How to Make Sound Decisions About Educational Delivery Modes in an Age of Increasing Technology.*
D.13 Mojca Juriševič; Alenka Baggia; Tomaž Bartol; Danica Dolničar; Saša Aleksej Glažar; Mirjana Kljajić Borštnar; Andreja Pucihar; Blaž Rodič; Irena Sajovic; Andrej Šorgo; Bojana Bohar. *Motivational Aspects of Information Literacy in Higher Education.*
D.14 Pedro Sanchez Escobedo; William Reyes Cabrera. *ICT in Mexico.*
D.15 Silviu Daniel Brebulet. *Online Career Counseling.*

(6) Science Education:

- F.7 Anisija Žižić; Andrina Granić. *Supporting Creativity in Computer Science Education.*
F.8 Anita Hodak; Zeljka Modrić Surina. *Natural Sciences and the Gifted Children in Rijeka-Croatia.*
F.9 Bahadır Ayas. *Threshold Theory in the Area of Science: Creative Potential of School Children.*
F.10 Hussam Diab. *Scientific and Technological Leadership Reserve.*
F.11 Martin Konečný. *Experience of Teaching Physics at a Lower Level Gymnasium for Gifted Children.*
F.12 Sanja Martinko; Sanja Tatalović Vorkapić. *Could Students' Attitudes Towards Learning Physics Significantly Predict their Learning Outcomes: Implications for Innovative Methods in Teaching Physics.*
F.13 Vesna Ivasović; Alma Rovis Brandić. *Meeting the Needs of Twice Exceptional Students.*
F.14 Gülşah BATDAL KARADUMAN. *The Views of Gifted and Talented Students and their Teachers About Mathematics Projects.* (F.14)

(7) Posters:

- P.1 Aleksandra Gajda; Maciej Karwowski. *Creative Learning in Polish Schools.*
P.2 Carole-Lynne Le Navenec. *Characteristics of Outstanding Teachers for those Beginning School: A Case Study of the Lived Experience of a Retired Professor.*
P.3 Darko Lončarić; Anela Nikčević Milković. *Learning to Self-Regulate Creative Writing in Schools: Effects of Goals and Motivation on Writing Self-Regulation and Performance.*
P.4 Dorota M. Jankowska; Maciej Karwowski. *Types of Imaging Abilities.*
P.5 Ercan Opengin; Fatih Tokmak. *The Comparison of the World's Top 100 University Rectors with Turkey's Top 100 University Rectors In Terms Of Several Variables.*
P.6 Jasna Arrigoni; Danijela Blanuša Trošelj; Jasna Borbeljeko; Ljiljana Brašnić. *Center for Gifted Children - Non-Profit Organization as a Part of a Social Care for the Gifted.*
P.7 Jenny Horsley; Carolyn Tait. *Self-Efficacy and High-Academic Achievement in Minority Students.*
P.8 Katarina Amir Aljaž; Mojca Juriševič. *Problems of the Definition and the Identification of Twice-Exceptional Students by Slovenian Primary School Educators.*
P.9 Kristina Rimani; Petra Rimani. *Opportunities for Puppetry Use in Creative Activities and Creative Play Production.*
P.10 Ksenija Ondrašek; Vlatka Kovač; Višnja Cuculić. *Model of the Educational Support Development for Potentially Gifted Students in the Primary School Grigor Vitez.*
P.11 Nilgun Kirisci; N. Nazli Ozdemir. *Gifted Students: Out of the Educational Context.*
P.12 Sungmoon Lim; Seokyong Cho; Jijun Lim. *The Relationship between Parental Psychological Control and Relational Aggression: An Exploration of Intervening Variables.*
P.13 Tanja Černe. *Comparative Case Study of Competence Learning for both Students with Learning Difficulties and Normal.*

P.14 Vesna Ivasovi ; Mihaela Alfirev. *Synesthesia and Creativity – Close Friends?*

P.15 Piotr Gindrich. *The Effect of Middle School Teachers' Creative Potential on their Self-Assessments of Professional Skills.*

P.16 Zdzisław Kazanowski. *Self-Assessed Professional Competence of Teachers and Strategies for Finding the Solutions to the Problems of Children with Special Educational Needs.*

(8) Excellence & Creativity in Practice

(Main Hall (Thursday, May 19, 2016: 12:15 – 13:15))

- **European Capital of Culture Rijeka 2020.**
- **Elementary School Ivan Mažurani (Novi Vinodolski).**
- **High School Hrvatski kralj Zvonimir (Krk).**
- **REPRESENTING CROATIA IN BRUSSELS AND STRASBOURG.**
- **INTERNATIONAL SCHOOL PARTNERSHIPS / E-TWINNING PROJECTS.**
- **FOSTERING AND PROMOTING THE ISLAND'S HERITAGE.**

Sessions Distribution

According to the First Name of the First Author

A

- Ahmet Keskin; Cem Oktay Güzeller; Eda Gürlen; Nilgün Baysal Metin. *Who Am I? Gifted Students' Opinions on their Needs and Interests.* (C.2)
- Aleksandra Gajda; Maciej Karwowski. *Creative Learning in Polish Schools.* (P.1)
- Alena Dika; Ivan Draži . *e-Classroom - Extra Curricular.* (F.5)
- Andreja Kozmus. *Saturday Schools for Gifted Pupils – A Way of Developing Human Excellence.* (B.1)
- Anisija Žiži ; Andrina Grani . *Supporting Creativity in Computer Science Education.* (F.7)
- Anita Hodak; Zeljka Modric Surina. *Natural Sciences and the Gifted Children in Rijeka-Croatia.* (F.8)
- Anna Maria. *Integrating Technology into the Curriculum.* (D.8)
- Anne Justus. *Highs and Lows of Experiential Teaching Group Psychotherapy with Graduate Students in Egypt.* (E.16)

B

- Baha Zoubi. *Thinking Styles of Gifted, Excellent, Regular and Special Needs Students in Junior and High Schools in the Arab Society in Israel.* (B.2)
- Bahadır Ayas. *Threshold Theory in the Area of Science: Creative Potential of School Children.* (F.9)
- Barbara Friehs. *Religious Traditions and Cultural Clashes the Influence of Islam on Public Education in German Speaking Countries.* (E.5)
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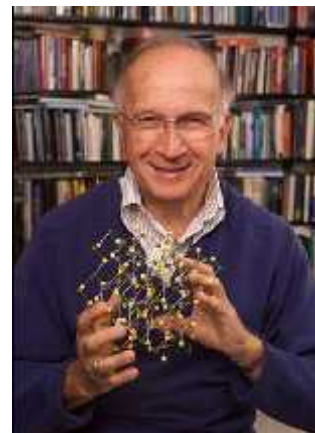
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The Nobel Laureate Roald Hoffmann:
My Life Journey, Creativity, Innovation, and Excellence in Science & Education:
Cornell University, Ithaca - USA

The International Centre for Innovation in Education (ICIE) is very pleased, proud, and honored to announce that the Nobel Laureate Prof. Dr. Roald Hoffmann is the first keynote speaker at the 13th International Conference on Excellence & Innovation in Basic-Higher Education & Psychology Rijeka-Croatia, May 18-21, 2016). This keynote covers a large number of issues relating to his life journey, creativity, innovation, and excellence in science, education, and technology. In addition, Professor Hoffmann will highlight the importance of: Mentorship programmes, talent development, education in general and gifted education in particular, and the required competences for teachers. The General Director of the ICIE has interviewed Professor Hoffmann at Cornell University in Ithaca-USA. This interview will be published in the International Journal for Talent Development and Creativity (IJTDC).



Roald Hoffmann was born in 1937 in Zloczow, Poland. Having survived the war, he came to the U. S. in 1949, and studied chemistry at Columbia and Harvard Universities (Ph.D. 1962). Since 1965 he is at Cornell University, now as the Frank H. T. Rhodes Professor of Humane Letters Emeritus. He has received many of the honors of his profession, including the 1981 Nobel Prize in Chemistry (shared with Kenichi Fukui).

"Applied theoretical chemistry" is the way Roald Hoffmann likes to characterize the particular blend of computations stimulated by experiment and the construction of generalized models, of frameworks for understanding, that is his contribution to chemistry. The pedagogical perspective is very strong in his work.

Notable at the same time is his reaching out to the general public; he participated, for example, in the production of a television course in introductory chemistry titled "The World of Chemistry," shown widely since 1990. And, as a writer, Hoffmann has carved out a land between science, poetry, and philosophy, through many essays and three books, "Chemistry Imagined" with artist Vivian Torrence, "The Same and Not the Same and Old Wine" (translated into six languages), "New Flasks: Reflections on Science and Jewish Tradition," with Shira Leibowitz Schmidt.

Hoffmann is also an accomplished poet and playwright. He began writing poetry in the mid-1970s, eventually publishing the first of a number of collections, "The Metamict State," in 1987, followed three years later by "Gaps and Verges," then "Memory Effects" (1999), "Soliton" (2002). A bilingual selection of his poems has appeared in Spanish. He has also co-written a play with fellow chemist Carl Djerassi, entitled "Oxygen," which has been performed worldwide, translated into ten languages. A second play by Roald Hoffmann, "Should've," has had several workshop productions since 2006; a new play, "We Have Something That Belongs to You," had its first workshop production in 2009.

Unadvertised, a monthly cabaret Roald runs at the Cornelia Street Café in Greenwich Village, "Entertaining Science," has become the hot cheap ticket in NYC.

The Underachievement Dilemma & Gifted Girls & Women

Sally M. Reis

*Vice Provost of Academic Affairs and a Board of Trustees Distinguished Professor
The University of Connecticut, USA*

The underachievement of gifted students is one of the most frustrating issues that teachers and researchers encounter in our field. What causes underachievement? How can parents and teachers help to develop talents in students who underachieve in school but pursue creative outlets outside of school? The underachievement of gifted and talented students and the interventions that work for different types of underachievement will be discussed in this keynote, as will the underachievement of gifted girls and women. Suggestions for reversing underachievement will also be discussed.

Sally M. Reis is Vice Provost of Academic Affairs and a Board of Trustees Distinguished Professor at The University of Connecticut. She is past Department Head of Educational Psychology Department, where she also serves as a Principal Investigator for the National Research Center on the Gifted and Talented. She was a teacher for 15 years, 11 of which were spent working with gifted students on the elementary, junior high, and high school levels. She has authored or co-authored over 250 articles, books, book chapters, monographs and technical reports. Her most recent work is a computer-based assessment of student strengths integrated with an Internet based search engine that matches enrichment activities and resources with individual student profiles. **Dr. Reis** is the Co-Director of [Confratute](#), the longest running summer institute in the development of gifts and talents. She is co-author of *The Schoolwide Enrichment Model*, *The Secondary Triad Model*, and *Dilemmas in Talent Development in the Middle Years*. Dr. Reis serves on several editorial boards, including the *Gifted Child Quarterly*, and is a past President of the National Association for Gifted Children. She recently was honored with the highest award in her field as the Distinguished Scholar of the National Association for Gifted Children and named a fellow of the American Psychological Association.



Schools for Talent Development: A Comprehensive Plan for Program Planning and Implementation

Joseph S. Renzulli

Director, The Neag Center for Creativity, Gifted Education, and Talent Development, USA

The economic, cultural, and social development of nations depends on the creativity and productivity of its most gifted citizens. Developing the gifts and talents of young people is the best way to invest in expanding the reservoir of future scientists, authors, inventors, entrepreneurs, and persons who will contribute to the cultural heritage of a country. This presentation will provide an overview of a talent development model that is based on over thirty years of research and development and that is being used in countless schools in the U. S. and a number of other nations around the world. Topics include comprehensive strength assessment, modifying the curriculum for high achieving students, using technology to provide enrichment opportunities for all students, and guidelines for providing advanced level creative and investigative activities and projects. Emphasis will be on practical applications of the theories and research underlying this approach to talent development.



Joseph S. Renzulli is Director of UConn's National Research Center on the Gifted and Talented and Board of Trustees Distinguished Professor of Educational Psychology at the Neag School of Education. A leader and pioneer in Gifted Education, Dr. Joseph S. Renzulli was named among the 25 most influential psychologists in the world by the American Psychological Association. He received the Harold W. McGraw, Jr. Award for Innovation in Education, and was a consultant to the White House Task Force on Education of the Gifted and Talented. His work on the Enrichment Triad Model and curriculum compacting and differentiation were pioneering efforts in the 1970s, and he has contributed hundreds of books, book chapters, articles, and monographs to the professional literature. **Dr. Renzulli** established UConn's annual Confratute Programme with fellow Educational Psychology Professor Sally Reis; the summer institute on enrichment-based differentiated teaching has served more than 25,000 teachers from around the world since 1978. He also Renzulli established UConn Mentor Connection, a summer Programme that enables high-potential high school students to work side by side with leading scientists, historians, and artists, and is the founder of the Joseph S. Renzulli Gifted and Talented Academy in Hartford, which has become a model for local and national urban school reform.

Shaping our Future in Developing Creativity in Scientific Research

Jacques Grégoire

School of Psychology and Educational Sciences, Catholic University of Louvain, Belgium

Worldwide, the money spent on research and the number of scientific publications have never been more important. However, the amount of money and the number of scientific papers are not necessarily good indicators of scientific creativity. In this presentation, we show that scientific education, research funding, and criteria for scientific publication and scientific recognition (i.e. impact factor) does not support creativity. Instead, they favor caution and conformity. To stimulate scientific creativity, it is essential to rethink science education from primary school to university. It is also necessary to change the criteria for funding and recognition of researchers. Scientific creativity must be a political priority for the next future. Several concrete proposals that could be easily implemented are discussed.



Jacques Grégoire, Ph.D., is Full Professor at the School of Psychology and Educational Sciences of the Catholic University of Louvain, Belgium. His research interests include intelligence, mathematical learning, assessment of gifted children, methods for psychological diagnostic, and relationship between learning and emotions. He developed or adapted in French several tests for the assessment of intelligence and mathematical learning. He was scientific adviser for the US development of the WISC-IV and the WISC-V. His academic publications include over 100 journal articles, book chapters, and books/monographs. He is author of two French books on intelligence assessment: “*Clinical assessment of child intelligence*” and “*Clinical assessment of adult intelligence*” and a reference book on the methodology of test development, written with Dany Laveault: “*Introduction to test theories in Psychology and Education*”. He is Consulting editor of several scientific Journals. He has served as secretary of the International Test Commission (1995-2004) and President of the same organization (2006-2008). With the collaboration of Ron Hambleton, he organized the 5th ITC

international conference in Brussels (July, 2006) on “*Psychological and Educational Test Adaptation Across Languages and Cultures*”.

Creative Intelligence in the 21st Century: Grappling with Enormous Problems and Huge Opportunities

Don Ambrose

Rider University, Lawrenceville, New Jersey, USA.

This keynote describes the results of a large-scale, collaborative project involving leading scholars of creativity and giftedness in discussions of the ideal nature of education in the globalized 21st-century. In collaboration with leading psychologist Robert Sternberg he initiated this project to establish a broader vision of 21st-century education based on insights from multiple academic disciplines. The prominent thinkers involved in the project reacted to a conceptual model that synthesized research and theory from multiple disciplines to portray the threat of enormous macroproblems and the potential benefits of unprecedented macro-opportunities that arise from socioeconomic, cultural, political-ideological, and scientific developments in the 21st century. The macroproblems threaten to crush individuals and societies that find themselves mired in a miserable trap underneath the wave of globalization. Fortunately, the macro-opportunities promise to lift individuals and societies toward unprecedented success, if the education system can enable today's young people to overcome a “creative intelligence gap” and leap to the crest of the globalization wave. After the analysis of 21st-century demands, suggestions are made about the blend of knowledge, skills, and dispositions required for dealing with the macroproblems and capitalizing on the macro-opportunities.



Don Ambrose is professor of graduate education at Rider University in Lawrenceville, New Jersey, editor of the *Roeper Review*, and past chair of the Conceptual Foundations Division of the National Association for Gifted Children. He serves on the editorial boards of most of the major journals in the field of gifted education and for several book series. Don has initiated and led numerous interdisciplinary scholarly projects involving eminent researchers and theorists from gifted education, general education, creative studies, cognitive science, ethical philosophy, psychology, political science, economics, law, history, sociology, and critical thinking. Most of his scholarship entails theoretical syntheses and philosophical analyses based on a wide-ranging, interdisciplinary search for theories, philosophical perspectives, and research findings that challenge, refine, and expand thinking about the development of creative intelligence. Some of his published and in press books include *How Dogmatic Beliefs Harm Creativity and Higher-Level Thinking* (Routledge, with Robert J. Sternberg); *Confronting Dogmatism in Gifted Education* (Routledge, with Robert J. Sternberg and Bharath Sriraman); *Creative Intelligence in the 21st Century: Grappling with Enormous Problems and Huge Opportunities* (with Robert J. Sternberg); *Expanding Visions of Creative Intelligence: An Interdisciplinary Exploration* (Hampton Press); *Morality, Ethics, and Gifted Minds* (Springer Science, with Tracy L. Cross); *Creative Intelligence: Toward Theoretic Integration* (Hampton Press; with LeoNora M. Cohen and Abraham J. Tannenbaum); *Imagitronics* (Zephyr Press); *A Critique of Creativity and Complexity: Deconstructing Clichés* (Sense, with Bharath Sriraman and Kathleen Pierce), *The Roeper School: A Model for Holistic Development of High Ability* (Sense, with Bharath Sriraman & Tracy L. Cross); and *The Paradox of Constraints on Creativity: An Interdisciplinary Exploration* (Sense, with Catrinel Haught). Honors include selection to the 2014 Routledge/Taylor & Francis Educational Expert Panel; the Creativity Award from the International Center for

Innovation in Education; the outstanding book chapter award from the American Creativity Association; the Research Briefs article of the year award from the Research and Evaluation Division of the NAGC; the Iorio Research Prize for outstanding scholarship; and the Frank N. Elliott Award for outstanding university service.

Heroes to the Rescue?

The Social-Evolutionary Boundaries for Benign Gifted Intervention in the Envisioned Future of Societal Prosperity

Roland S. Persson

Jönköping University, School of Education & Communication, Jönköping, Sweden

The gifted and talented population of the world is increasingly heralded as tomorrow's problem solvers and as ultimate human capital in the emerging global knowledge economy. While such hope is justified in one sense it is also misplaced in another. While we plan ahead, educate and support tomorrow's envisioned work force, we tend simultaneously to ignore the evolutionary legacy Homo Sapiens imposing above all social boundaries on what is possible or not to do. This presentation endeavours to explain these boundaries, their significance to future plans on national and global levels and to propose the limitations and possibilities of benign gifted and talented population intervention within the frames of a probabilistic social problem space.



Roland S. Persson is professor of educational psychology at Jönköping University, School of Education & Communication in Jönköping, Sweden; former editor-in-chief of High Ability Studies. He serves on the editorial boards of several scholarly journals focusing on giftedness, talent and creativity. He has advised the Hungarian and Swedish governments on the nature and necessity of some form of gifted education being part of national school systems, and is currently key-figure in implementing gifted education at all levels in the Swedish school system. Research has always been eclectic in an effort to bring together the knowledge and wisdom of all academic disciplines with an interest in individuals of high ability and their function, given or taken, in society. At first interest was on musical talent and musicianship, followed by the nature of gender identity and social cognition, cross-cultural dynamics, to currently land in high-functioning intelligence in the light of evolutionary function as well as its issues related to Human Resources. In short, through a multitude of perspectives the individual gifted and his or her world has always fascinated. Roland S. Persson is affiliated to the American Psychological Association, and the British Psychological Society; he is member of the Behavior and Evolution Society, the World Council for Gifted and Talented Children; honorary member of the European Council for High Ability, fellow of the British College of Teachers, and serves on the Advisory board for the International Centre for Innovation in Education (ICIE).

Unpredictable Development of Giftedness through Multipliers

Uur Sak

Director, Center for Practice and Research on Gifted Education, Anadolu University, Turkey

This talk will include a discussion of the influence of multipliers on the transformation of early childhood proclivities into adult competencies. The interaction between innate skills and competence and person and environment usually is initiated by early developed skills and produces a type of multiplier over time on the development of intellectual abilities (Dickens & Flynn, 2001). Each

increase in innate skill causes a slight increase in competence and the increase in competence initiates better designs in environment. In turn, the better environment further increases competence. This reciprocal causation between skills and environment produces faster rates of subsequent development. The effect of multipliers was investigated in children's reading skills. Children who were better in reading in their early years compared to those children who were poor readers got much better readers later in their life. It is hypothesized that early advantages can bring about reciprocal causation between the development of reading skills and reading itself. Such effects also were partly proven by the author's research in mathematics besides reading. Gifted students who had better skills in reading and mathematics at first grade did indeed better in later grades. This presentation also will include a critics of well-known effect models such as Matthew effect, social multipliers and dynamical systems and their influences on talent development and on the development of society as a whole.



Uur Sak is Professor and the founding director of the Center for Practice and Research on Gifted Education and of the master's and doctoral Programmes on gifted education at Anadolu University in Turkey. He also is the founding editor of the Turkish Journal of Giftedness and Education. His research has focused on the identification and education of gifted students and creativity education. He has published many articles both in English and Turkish in major journals of creativity and giftedness. He is the founder of Selective Problem Solving and Creative Reversal Act models and the author of three books on giftedness and creativity written in Turkish.

Motivational Portraits of the Gifted: Psychology, Development and Teaching

Mojca Juriševi

Faculty of Education, University of Ljubljana, Slovenia

The unique challenge of the psychological implications deduced from contemporary motivation research concerns how to motivate students and optimise learning in order to maximise the potential for excellence in education for all students. This issue is even more pronounced with gifted students. On the one hand, we can expect them to achieve the highest levels of performance, while, on the other hand, we are confronted with the fact that these students may progress through schooling without ever facing academic challenges that match their abilities, resulting in their ending up as underachievers. This keynote will discuss several constructs that have been a focus of motivation research in the sociocultural context of gifted education, arguing that teachers should possess adequate knowledge related to understanding the many motivational portraits of their students in order to support their learning in the zone of proximal motivational development.



Mojca Juriševi is Associate Professor of Educational Psychology at the Faculty of Education of the University of Ljubljana. She is the Head of the faculty's Centre for Research and Promotion of Giftedness and the Chair of the inter-departmental strategic group for the preparation of the National Strategy in Gifted

Education at the Ministry of Education, Science and Sports of the Republic of Slovenia. From 2009 to 2013, she was a member of the National Group of Experts in Gifted Education at the National Education Institute. Mojca Juriševič is the author of the chapter on gifted education in the White Paper on Education in the Republic of Slovenia, published in 2011. She is a member of ECHA and a WCGTC national delegate, as well as being an affiliated member of the American Psychological Association. She serves as the Chair of the “Psychologists in Education” division of the Slovenian Psychologists’ Association.

ADHD: Disorder or Gift?

Ken McCluskey

Faculty of Education, University of Winnipeg, Canada

As the term itself indicates, ADHD is typically viewed as a "disorder." And certainly, hyperactive and inattentive children present some interesting challenges at home, at school, and in the community. This session highlights many of the problems, and acknowledges that the prognosis for ADHD is sometimes "far from benign." However, an attempt is also made to put a more positive spin on things by recasting reality and pointing to the creative strengths that frequently go hand in hand with the condition. To illustrate, with proper support, might not stubborn behaviour in childhood grow into determination in adulthood? Might not inattentive daydreaming turn into creative invention, overactivity into productive energy, and off-the-wall behaviour into outside-the-box thinking? The overall intent here is to offer a humane, flexible approach to help parents and educators turn negatives into positives and identify and nurture the talents of an oft-misunderstood population.



Dr. Ken McCluskey, Dean and Professor of Education at the University of Winnipeg, is known internationally for his work in several areas, including mentoring, ADHD, gifted education, and at-risk children and youth (where his *Lost Prizes* and related projects serve as models worldwide for those interested in identifying and developing the talents of marginalized young people). Before becoming a Professor (in 1998), Associate Dean (in 2003), and Dean of Education (in 2005) at U of W, Ken had 25 years experience as a psychologist, special educator, and administrator in the public school system. He has received major Programme development, creativity, distinguished service, and publication awards from the Canadian Council for Exceptional Children, the International Centre for Innovation in Education (ICIE), the World Council for Gifted and Talented Children, and Reclaiming Youth International (along with his institution's teaching, research, governance, and community service awards). A popular keynote and invited speaker, Ken has written well over 100 professional articles and chapters, and is the author, co-author, or editor of 20 books, including *Mentoring for Talent Development*, *Understanding ADHD: Our Personal Journey*, and *Lost Prizes: Talent Development and Problem Solving with At-Risk Populations*.

A Process Overlap Theory of the Positive Manifold in Intelligence

Kristof Kovacs

Eszterhazy Karoly College, Hungary

One of the most replicated results in psychology is that people who perform better on one kind of mental ability test tend to perform better on other kinds of tests as well. This result is called the positive manifold, and is usually described with a general factor, 'g'. g, in turn, is usually identified with a domain-general, within-individual cognitive mechanism, general intelligence. This interpretation, however, does not sit well with a number of phenomena in cognitive psychology and

neuroscience: double dissociations, localization data, and patterns of sex differences all contradict the existence of a general cognitive ability. An alternative explanation, the process overlap theory, is proposed, which is similar to sampling, but is based on a cognitive theory of overlapping item response processes. The theory assumes that any item or task requires a number of domain-specific as well as domain-general cognitive processes and their corresponding neural mechanisms. Domain-general processes involved in executive attention, and mainly tapping the dorsolateral prefrontal cortex, are activated by a large number of test items, alongside with domain-specific processes tapped by specific types of tests only. Such an overlap of executive processes explains the positive manifold as well as the hierarchical structure of cognitive abilities. The theory also accounts for a number of other, previously unexplained phenomena in differential psychology, such as the central role of fluid inductive reasoning in cognitive abilities or the higher across-domain variance in low ability groups (differentiation).



Kristof Kovacs obtained an MA in Psychology from the University of Szeged and an MPhil as well as a Ph.D. in Psychology from the University of Cambridge, having gained a Benefactors' Scholarship from St. John's College, Cambridge. Subsequently, he was a Zoltan Magyary Postdoctoral Fellow at the Budapest University of Technology and Economics, and a Marie Curie Fellow at the University of Amsterdam. Currently, he is senior research fellow at Eszterhazy Karoly College, Hungary. His main interest is individual differences in cognitive abilities; his research bridges experimental cognitive psychology, psychometrics, and statistical modeling. He is the International Supervisory Psychologist of Mensa, and the National Supervisory Psychologist of Mensa HungarIQa.

How Schools Learn - Inside the Secrets of Success?

Uwe Hameyer

Kiel University, Germany

The metaphor of organizational learning is frequently used as a smart label of quality - schools are expected to improve by reflecting their work organizationally. But what does it mean? How do reflective patterns of work look like inside a school? This keynote refers to organizational learning patterns such as learning by systemic choices, contrasting feedback, peer reviews, reflective team work, sustained ways of using knowledge and sharing good practices as well as by a clearly shaped cross-level communication. For this purpose, the keynote draws upon knowledge about how schools learn. The keynote uses major insights from this domain to develop an index for organizational learning which will be illustrated by examples from various countries such as Sweden, Switzerland, and Germany. Major outcomes are channeled for transfer into practice. Thus, the keynote is building a condensed baseline for schools which sustain patterns of creative work as learning communities. This aim is primarily bound to categories such as reflective systems, transforming schools, and transforming schools by using validated knowledge and experiences in a sustained, creative way. It

will conclude with ideas and proposals for a creative process of school development and lasting transformation.

Uwe Hameyer is professor of education at Kiel University (since Oct. 2014 emeritus) and founder of *hameyer / systemberatung* [www.hameyer-systemberatung.de] with emphasis on coaching, learning consultancy, educational planning, school evaluation, further education for teachers, school heads, and other experts from non-schooling areas.

His major domains of research and innovation studies are curriculum design and theory, innovation research, change management, organizational learning, school leadership development, research on school transformation, and school development. He started and shared in four major curriculum development projects, partly emerging from IPN [1986], partly in cooperation with the Club of Rome and Greenpeace (the newest curriculum - on globalization in view of DESERTEC - was issued a few weeks ago together with prof. dr. h. c. *Helmut Schreier, Eiken Prinz* and others, 2015).



Uwe Hameyer is a research consultant at the OECD (Paris, 1977). 1984 until 1990 academic director at the Institute for Science Education, Kiel University. Eight research visits and, predominantly, guest professorships in Sweden, the Netherlands, and Austria. Main editor of two handbooks on curriculum research (1975, three volumes; 1983, one volume; co-editor of the international handbook on school improvement, OECD, international books and articles).

Uwe Hameyer initiated school networks in Germany, co-founded two schools, analyzed and compared school development in European countries, contributed to science studies on the primary level; out of more than 25 books he published, he co-authored e.g. *IMPACT - Implementing Activity-Based Learning in Elementary Science Teaching in Four Countries*, published in 1995: »Portraits of Productive Schools«, SUNY press, New York, together with *Prof. Dr. Jan van den Akker* (the Netherlands), *Prof. Dr. Mats Ekholm* [Sweden] and *Prof. Dr. Ron Anderson* [United States of America].

Since more than 30 years he is continuously investigating school development, consulting educational organizations and exploring long-term change management.

Co-founder of a new lower and upper secondary reform school in Langenfeld (since 2014) and Wolfsburg (VW, since 2008) (www.neue-schule-wolfsburg.de).

Co-Editor of several journals such as *Journal für Schulentwicklung*; *Grundschule*; *Weltwissen Sachunterricht* (co-founder); *Studies in Educational Evaluation* (until 1990); *Pädagogische Führung*.

Concerning private art activities, he did several exhibitions on photography (www.foto-art-online.de) and shares in jazz music playing the baritone sax as a member of a bigband called *jazzline* (Kiel).

Psychometric Versus Dynamic Assessment for the Identification of Twice Exceptional Learners

Anies Al-Hroub

Department of Education, American University of Beirut (AUB), Beirut, Lebanon

Traditionally, psychometric tests have been found to underestimate the intellectual potential of exceptional learners (e.g., gifted and talented children, students with specific learning difficulties [LDs]). Consequently, dynamic measures have been extensively used to identify the untapped learning potential of students with LDs, and yet only recently entered the identification procedures in gifted education. The purpose of this talk is to investigate the efficacy of psychometric and dynamic

assessment (DA) in identifying a group of dual exceptional students who exhibited mathematical giftedness and specific learning difficulties. This research takes mathematics as a model for investigating the definitions, identification, classification and characteristics of a group of gifted student related to the notion of 'dual-exceptionality'. An extensive process using qualitative and quantitative methods was conducted by a multidisciplinary team to develop and implement a multidimensional approach to dual-exceptionalities of 'mathematical giftedness' and 'learning difficulties' (MG/LD) in upper elementary students in public schools in Jordan. A multidimensional evaluation involving eight criteria (e.g. teacher nomination, parent and teacher interviews, documentary evidence and direct observation) and a combination of psychometric (i.e. WISC-III-Jordan, Perceptual Skills Tests, and a diagnostic Arabic Literacy Language Skills Test) and dynamic mathematics assessment was used.



Anies Al-Hroub is the Chairperson of the Department of Education at the American University of Beirut. He is an Associate Professor of Education Psychology and Special Education and the coordinator of the special education Programme. Al-Hroub completed his Ph.D. and MPhil in Special Education (Giftedness and Learning Disabilities) from the University of Cambridge and his MA (Special Education) and BA (Psychology) from the University of Jordan. He also obtained a Higher Diploma in "Learning Disabilities" from Balka Applied University. He was selected as the British Academy Visiting Scholar to the Faculty of Education at the University of Cambridge in 2010. His publications appeared in leading international gifted and special education journals in addition to a book published titled 'Theories and Programmes of education for the gifted and talented'. Al-Hroub research interests focus on gifted and talented education, learning disabilities, dyslexia, dual-exceptionality, early childhood education, educational assessment, psychometric and dynamic assessment, guidance and counseling, metacognition and school dropout. He led a number of educational projects sponsored by UNICEF, UNRWA, the British Academy, USAID, Issam Fares Institute for Public Policy and International Affairs (IFI), and Welfare Association and served as consultant for UNESCO and the Center for Civic Engagement and Community Service (CCECS) at AUB.

What are the Key Elements Inherent in a Successful Mentorship Programme?

Alan C. Wiebe

Mentorship and Outreach, University of Winnipeg, Canada

Done right, mentoring can be a powerful tool for connecting with at-risk youth. Underlying models and strategies that have guided successful mentoring efforts, past and present, are examined. Elements such as definition, tone, flexibility, selection/matching/preparation of mentors and mentees, relationship technology, talent spotting, and Programme evaluation will also be included in this presentation.



Alan Wiebe is currently the Community Outreach Mentorship Coordinator at

the University of Winnipeg. He has worked in many capacities helping to develop programming for “at-risk” youth in Manitoba, Canada, and served in the public school system as a regular classroom teacher, alternative Programme director, and counselor. Alan, who teaches courses such as Education Today, Issues with At-Risk Children and Youth, and Mentoring At-Risk Youth, has done many presentations on the international stage (including major sessions in Jerusalem, Nairobi, and Ulm, Germany). He has written and co-edited articles, chapters, and books emphasizing the power of reaching out to vulnerable populations through mentorship, and is lead author of a recent publication entitled *Connecting with At-Risk Children and Youth through Mentoring: Ten Elements to Consider*. He will also be lead author of the forthcoming text, *Mentoring for Talent Development in the North American Context*.

Problem-Based Learning – A Framework to Transform Students into Knowledge Generators

Heinz Neber

ICIE, Ulm – Germany

“Traditional teaching” is based on lecturing and direct instruction. It provides learners with all required information and presents the to-be-learned knowledge in completely structured formats. Even the acquisition process is prescribed, controlled, and teacher-guided. This “handed-down” approach to teaching has been repeatedly criticized (e.g., already by Guilford, Bloom or Bruner). The acquisition of non-inert, meaningful knowledge requires much more (mentally) active learners who contribute in creating and self-generating their knowledge by their own thinking.



How to provide instruction for transforming students into such knowledge generators, and how to design learning environments as knowledge generating communities? Many single approaches have been developed for realizing these transformations. Problem-Based Learning (PBL) offers a general framework for integrating such singular and special solutions. PBL establishes instructional conditions (“I”) for generative learning processes (“P”) of students that result in more meaningful, transferable knowledge and competencies (“K”). This keynote will focus on the most important components of PBL, and ways to implement them for developing more effective school based instruction.

Heinz Neber has received degrees in education, and psychology. Currently, he teaches classes in Educational Psychology at the University of Duisburg-Essen, and at the University of Munich.

Publications (selection): author of more than 50 publications (books, chapters, and peer-reviewed articles in journals). E. g. as author and editor: Learning by Discovery (1982, 3rd ed.); Self-directed Learning (1979); and Applied Problem-Solving Psychology (1987). Articles – e.g.: Usable knowledge by conditionalized and functionalized technical explanations (2000); Self-regulated science learning with highly gifted students: the role of cognitive, motivational, epistemological, and environmental variables (co-author M. Schommer-Aikins, 2002); Evaluation of a summer school Programme for highly gifted secondary-school students (co-author K. A. Heller, 2002); Epistemic questions: Fostering knowledge-generation by the students (Korea Journal of Thinking & Problem Solving, 2009); Chinese

high school students in physics classrooms as active, self-regulated learners (International Journal of Science and Mathematics Education, 2008). **Research:** A major research area is learning and instruction with special consideration on active knowledge acquisition. In collaboration with the Department of Chemistry at the University of Munich, a project is focusing on the improvement of inquiry learning in Chemistry, and another on developing Problem Based Learning in Biology.

Robust Measures of Creative Potential in Children, Adolescents and Adults

Todd Lubart

Director of LATI, Université Paris Descartes, France

An overview of historical efforts to measure creativity is provided. Then current work on children and adolescents, using the EPoC battery (Evaluation of Creative Potential) is presented. These measures cover major domains of creative thinking, and offer a comprehensive approach to creative ability. For adults, the Creativity Profiler tool is described; it is based on a multivariate conception of creative ability as a product of both cognitive and conative factors, adapted to each job context. Examples using these tools are described. Implications for practical use of creativity measures are discussed.



Todd Lubart is Professor of Psychology at the Université Paris Descartes, and Member of the Institut Universitaire de France. He received his Ph.D. from Yale University and was an invited professor at the Paris School of Management (ESCP). His research focuses on creativity, its identification and development in children and adults, the role of emotions, the creative process and intercultural issues. Todd Lubart is author or co-author of numerous books, research papers, and scientific reports on creativity, including the books *Defying the crowd: Cultivating creativity in a culture of conformity* (NY: Free Press, 1995), *Psychologie de la créativité* (The psychology of creativity, Paris: Colin, 2003), and *Enfants Exceptionnel* (Exceptional Children, Bréal, 2006). He is the co-founder of the International Centre for Innovation in Education (ICIE), and the associate editor of *The International Journal for Talent Development and Creativity* (IJTDC).

A New World of Learning

Pero Lu in

The Rector, University of Rijeka

Exponential development of information and communication technologies is changing the world of learning. As a consequence of exponential exposure to media and information flows, our brains are adapting and new skills are arising. This especially occurs with the new generation of people who encounter media and information tools at the earliest stages of life. Although many of us are aware of such changes, there is very little research-based information to explain them. In recent years, evidence was presented demonstrating neuroplastic basis of human brain adaptation, although neuroplastic mechanisms are still poorly understood. Today's schools and universities are still analogue, whereas the students can be said to be digital. The educational system does not properly recognize the skills of the new



generations and does not respond to their needs. New aspects of social evolution suggest that we should also think not only of adapting our learning skills, but also our social skills. These skills should be integrated into all learning processes, from preschool education to lifelong learning. The aim of this editorial is to facilitate discussion within the medical profession about the arising new world of learning.

Professor Pero Lu in is the Rector of the University of Rijeka and in the past he served in the position of the President of the Board of the National Foundation for Science, Higher Education and Technological Development of the Republic of Croatia (2003-2010). He was also a Member of the Steering Committee for Higher Education and Research (CD-ESR) of the Council of Europe (2002-2004) and a BFUG member (2002-2004).

Does the Academia Instigate Excellence?

Jasminka Ledi

Department of Education; Faculty of Humanities and Social Sciences; University of Rijeka

Although university missions, strategies and procedures claim to foster excellence as one of the main principles in higher education, this presentation will introduce research results which indicate that the professional development of junior researches is not dominantly driven by the principle of excellence. The research results on professional socialization of junior researches in Croatia refer to situations of instigating intellectual egalitarianism and stifling excellence during academic career.



Jasminka Ledi, *Ph.D.* has been a full professor with tenure employed at the Department of Education at the Faculty of Humanities and Social Sciences in Rijeka University since 1982.

She has published twelve scientific monographs and a number of research and professional papers in the area of education, individually or as a co-author. Her research interests are related to higher education, the European dimension in education, history of education and civil society.

She has led and participated in several research projects on the international and national level. She is currently head of the Croatian Science Foundation project: “*Academic Profession Competencies Framework: Between New Requirements and Possibilities*” (APROFRAME) as well as the project supported by the University of Rijeka: “*The European Dimension in Education: Approaches and Challenges*”. She was a Fulbright grant recipient and she won the Annual State Award “Ivan Filipovi ” for contribution to the development of higher education. She also received the Annual Award of the City of Rijeka for her contribution to the popularization of science as a member of the steering board of the association “Zlatni rez”.

Combination for Success: Metacognition and Motivation

Svjetlana Koli -Vehovec

University of Rijeka

Metacognition involves two essential components: the knowledge of cognition (one’s own cognitive processes, task demands, and the procedures necessary to perform a task) and the regulation of cognition and action (the planning of learning, monitoring learning activities, and evaluating those activities and



learning outcomes). Metacognition is proposed to be an important determinant of effective problem solving, and high level of metacognition was related to high ability or giftedness. Furthermore, metacognitive knowledge and control always intervene in creative problem solving. It was found that extended metacognitive instruction had positive impact on students' creative thinking abilities. However, the motivation determines whether the high cognitive capacity and creative potentials will develop in expertise and result in success. The sources of motivation are different, from valuing the task and flow experience, to personal goals, self-efficacy and grit or perseverance of effort. The dynamic interplay of student metacognition and motivation will be discuss, as well as the teacher's role in encouraging metacognitive development and enhancing motivation in their students.

Svjetlana Koli -Vehovec is Professor of Educational Psychology at the University of Rijeka. She is engaged in Programmes for professional development of teachers at different educational levels, including university teachers, and promoting innovations in basic and higher education toward active knowledge acquisition. Her research focuses on cognitive and metacognitive processes in reading and learning, as well as in motivation for self-regulation of learning. Svjetlana Koli -Vehovec is author or co-author of many research papers and book chapters on those topics. She is now engaged in several research projects on using ICT in education with the aim of promoting active learning. She is a member of European Association of Research in Learning and Instruction, and a member of editorial board of European Journal of Psychology of Education.

Educational Change in Croatia: Mantra, Illusion or Reality

Boris Joki

Centre for Educational Research and Development; Institute for Social Research; Zagreb-Croatia.

This keynote concentrates on challenges facing educational change and implementation of new national curriculum reform in Croatia.

Boris Joki , *Ph.D.*, Graduated in Psychology at the Faculty of Philosophy, University of Zagreb. He holds a Ph.D. from Faculty of Education, University of Cambridge. Scientific Associate in Centre for Educational Research and Development at Institute for Social Research in Zagreb, currently working on a project of Evaluation of syllabi and development of curriculum model for compulsory education.

His fields of interest are research methodology, psychology of education, religious and science education.



Symposia

Symposium (1): Networking in Gifted Education.

Symposium (2): The Use of ICT in Learning and Teaching: Contemporary Experiences in Croatia.

Symposium (3): RRI Tools - How to Align Scientific Research with the Needs of Society?

Symposium (4), Schwäbisch Gmünd Symposium: Supporting Mathematically Talented Children in the Classroom - A Chance to Develop All Children's Interest in Mathematics.

Symposium (5): Increasing Creativity Capacity in the Entrepreneurial Classroom.

Symposium (6): Innovative Approaches in Working with Children and Youth with Special Needs: Youth Activism, Acting and Community Programming.

Symposium (8): Winnipeg Symposium: Publications – International Journals – Achievements & Challenges – Future Trends.

Symposium (9): Best Practices in Talent Search.

Symposium (10): Entrepreneurial Learning in Higher Education: A Case Study of the Business School PAR.

Symposium (11): The Wyoming USA Symposium: Building 21st Century Learning Skills through Music, Civic Engagement, and Service.

Symposium (12): Primorje - Gorski Kotar County: Models of Excellence.

Symposium One:

Networking in Gifted Education

Organiser:

Centre for Research and Promotion of Giftedness at Faculty of Education, University of Ljubljana, Slovenia

Presenters:

Csilla Fuszek

ETSN, European Talent Centre Budapest, Hungary

Silvia Péter Szarka

University of Debrecen; European Talent Centre – Budapest, Hungary

Mojca Juriševi

Centre for Research and Promotion of Giftedness at Faculty of Education, University of Ljubljana, Slovenia

Jasna Cvetkovi Lay

Centar za poticanje darovitosti djeteta Bistri, Croatia

Discussant:

Janez Krek

Janez Vogrinc

Centre for Research and Promotion of Giftedness at Faculty of Education, University of Ljubljana, Slovenia

Abstract:

The popularity of networking in different fields of our lives is growing over the past few years, and it plays an important role also in the educational context. However, a special aspect of networking will be presented in the symposium that relates to gifted education at national and international level. Precisely, the focus of the symposium is going to be threefold: (1) to present different approaches to networking in gifted education; (2) to promote European Talent Support Network; and (3) to stress the benefits as well as the shortcomings of networking in gifted education. Characteristics of the network development will be discussed by socio-cultural contexts, triggers as starting points, strengths and experiences of difficulties, solutions and implications, as well as challenges and opportunities – the “why” and the “how” for the future.

Symposium Two:

The Use of ICT in Learning and Teaching: Contemporary Experiences in Croatia

Objective:

The aim of this symposium is to present and discuss today’s experience of introducing information and communication technologies into the learning and teaching process in Croatian educational system.

In the first part, specialists from the Croatian Academic and Research Network – CARNet will present the project “e-Schools: Establishment of the system for the development of digitally mature schools (pilot project)”.

After that, scientists from the Center for Applied Psychology will show the study results of the determinants of students’ and teachers’ attitudes toward ICT in learning and teaching and their perceived digital competencies.

In the third part, teachers from the Primary school Vežica, Croatian pioneer in introducing the tablets in education, will show how the use of iPads makes both the learner and the teacher change.

Chairpersons:

Zoran Sušanj and Svjetlana Koli -Vehovec

Center for Applied Psychology
Department of Psychology
Faculty of Humanities and Social Sciences
University of Rijeka

Presenters:

- Specialists involved in “e-Schools” project from CARNet, Zagreb
- Members of the Center for Applied Psychology, Rijeka
- Teachers from the Primary school Vežica, Rijeka

Duration: 90 minutes

Pilot project “e-Schools” – pilot project implementation

Andrijana Prskalo Maek and Zvonimir Stani

CARNet, Zagreb

Croatian Academic and Research Network – CARNet has initiated the project “e-Schools: Establishment of the system for the development of digitally mature schools (pilot project)”. This structural project is about developing digitally mature schools and it will include 150 primary and secondary schools in the pilot phase 2015 – 2018, while the next phase 2019 – 2022, should include 60 % of all schools in Croatia. Through the project schools will not only be provided with modern equipment, infrastructure and digital content, but will be encouraged to implement new methods in teaching and learning and also new and more transparent administrative procedures. This includes better Internet access and network infrastructure; computers, tablets and presentation equipment for easier use of digital contents produced during the project; new e-services and training for school staff. Most of these activities have already started in the year 2015 in the first 20 schools. The main objective of this project is not purchasing equipment for schools but developing digitally mature schools, schools in which students will become digitally competent, directed towards learning and research and prepared for further studying and for the labour market in the 21st century.

Students’ Attitudes Towards ICT in Learning and their Perceived Digital Competence

Tamara Mohori , Svjetlana Koli -Vehovec, Barbara Ron evi Zubkovi , Barbara Kalebi Maglica and Vladimir Takši

Center for Applied Psychology, Faculty of Humanities and Social Sciences, University of Rijeka
Information and communication technology (ICT) can lead to improved student learning and better teaching methods. During recent years, digital competence has become a key concept in the discussion of what kind of skills and understanding students should have in the knowledge society. The purpose of this study was to investigate determinants of students` attitudes toward ICT in learning, as well theirs perceived digital competences. A sample of 1256 elementary school and 1494 high school students from 20 schools (13 elementary schools and 7 high schools) completed several online questionnaires. The data were collected in spring and autumn 2015. as a part of a larger baseline study conducted within the first phase of the “e-Schools” pilot project (CARNet). Results of hierarchical regression analysis showed that significant predictors for perception of benefits of ICT use in learning were perception of benefits and risks of ICT use in general, perception of school value and self-efficacy and intrinsic interests for ICT use. The most important predictor of risks perception of ICT use in learning was risk perception of ICT use in general which is expected since they are very similar constructs. Single best predictor of students’ perceived digital competence is perceived self-efficacy, followed by perception of advantages in using ICT activities. Those students who see more advantages in using ICT activities (as opposed to those students who perceive more risks in using ICT activities) and who perceive themselves as more self-efficient also have better self-assessed digital competence.

Perceived Digital Competence and Teachers' Attitudes and Usage of ICT in Teaching

Rosanda Pahljina Reini , Sanja Smojver-Aži , Tamara Martinac Dor i , Zoran Sušanj and Irena Mileti

Center for Applied Psychology, Faculty of Humanities and Social Sciences, University of Rijeka

This study is focused on the identification and analysis of important determinants of teachers' successful implementation of ICT in classrooms. Specifically, the study aimed to investigate which factors contribute the most to explaining teachers' attitudes towards ICT in education, their self-reported digital competence and their use of ICT based activities for students. The data were collected in spring and autumn 2015 as a part of a larger baseline study conducted within the first phase of the "e-Schools" pilot project (CARNet). An online survey methodology was employed involving a sample of nearly all the teachers in 13 middle (N=307) and 7 high schools (N=306). The results indicated that student-centered teaching, teachers' positive attitudes to ICT in general and especially their strong sense of self-efficacy in using ICT were the most relevant predictors for teachers' perception of possible benefits of ICT in education. Similarly, teachers' favorable perceptions of the potentials of using ICT in education as well as their perceived self-efficacy in ICT use were best predictors of their self-reports on actual use of ICT based activities for students. Teachers holding more positive attitudes towards ICT in education reported higher levels of digital competence. However, the most relevant predictors of teachers' perceived digital competence were fewer years of teaching service and higher mastery goal orientation. These results suggest that for teachers, fostering student-centered and mastery oriented teaching along with training in how to use the potentials of ICT in teaching and direct experience of how to handle ICT in classrooms is needed.

Presentation of the Implementation of iPads in the Teaching and Learning Process in Primary School "Vežica" – Rijeka

Klara Starkl Crnkovi and Davor Kolari

Primary School Vežica, Rijeka

The use of iPads brings changes to the way teaching takes place, but it also makes the learner and the teacher change. This is what our four years' experience in the implementation of iPads in all school subjects with different age groups has shown. The more dynamic teaching process demands a bigger involvement of the learner as well as of the teacher. Teachers are mentors and assistants to learners who become researchers, inventors and creators. Problem solving activities, which allow students to find solutions and come to conclusions by themselves, arise learners' interest and motivation. The use of iPads offers a new range of possibilities of individualization of the teaching and learning process as well as various opportunities of developing students' teamwork and social abilities. Students become more autonomous and more responsible. The teaching and learning environment also changes. The classrooms' appearance changes according to the new approach. iPads allow teachers and students to leave the classroom virtually, but also to experience different field trips of a different kind.

Symposium Three:

Responsible Science in Science Education (RRI Tools)

Moderators:

ur a Timotijevi

Psychologist; RRI Trainer; Center for the Promotion of Science, Department of International Cooperation

Katarina An elkovi

Sociologist; RRI Trainer; Center for the Promotion of Science, Department of International Cooperation

Science can and should contribute to solving many global challenges our society faces, such as climate change, health, pollution, and resource depletion. With that aim in mind, the European Commission recently pushed

forward the concept of **Responsible Research and Innovation (RRI)** to foster and facilitate research and innovation in an inclusive, societally oriented way.

The goal of **RRI Tools project**, funded by EC, is to emphasize the importance of societal issues in science and innovation and to empower collaboration between different groups of stakeholders in research and innovation process (e.g. scientists, science educators and policy makers).

The aim of this symposium, as a mixture of training and discussion with the audience, is to highlight the **importance of science communication** within science & education communities, to **initiate a self-reflection** regarding responsibility in our practice but also to create ideas and offer some **practical tools and guidelines** on how to implement concepts of RRI in science education in schools, with reference to the RRI Toolkit.

Responsible Science in Education – RRI Tools symposium is organized by **University of Rijeka Foundation** in partnership with **Center for the Promotion of Science**.

University of Rijeka Foundation is an independent organisation but fully incorporated in the University's goals with the focus on the development of the scientific and research infrastructure, activities, education and human resources. At the same time, the mission of the Foundation is realized by encouraging and rewarding significant achievements in the field of science and art, promotion of the idea of knowledge society and active and inclusive citizenship. Modalities of action include yearly grants for the co-financing of the participation at scientific conferences, organisation of scientific meetings, publishing activities, and for the co-financing of student activities. Also, one of most prominent project is the grant for the Award of the Foundation, carried out continuously since 2004. The University of Rijeka cooperates with the academic community, public institutions, government and NGOs on local, national and international level.

Apart from being one of the partners at the RRI Tools project, the **Center for the Promotion of Science** also acts as the SEE (Southeast) Hub Coordinator in Serbia, Croatia, Albania, Montenegro and Bosnia & Herzegovina. The Center for the Promotion of Science in Serbia is a public institution established by the Law on Scientific Research with the task to promote science and technology. The Center cooperates with research and educational institutions (universities, research centers and schools) in Serbia and worldwide, works closely with the government ministries as well as the media and the private sector.

Symposium (4): Schwäbisch Gmünd Symposium:

Supporting Mathematically Talented Children in the Classroom - A Chance to Develop All Children's Interest in Mathematics

Klaus-Peter Eichler; Hans Peter Nutzinger

PH Schwäbisch Gmünd – Germany.

We know that the support of mathematically gifted children is important and meaningful for our society. To do so there are many effective and well established activities, such as math circles, Mathematical Olympiads etc. We also know, that it's necessary to support not only mathematically gifted children. We have not only to enable all children to successfully cope with mathematical performance requirements. We must find ways to develop creative behavior for wide range of children. The everyday teaching has to face this. We believe, that the support of mathematically gifted children in daily teaching in mathematics classes not only raises the level of teaching results in general. This also has positive impacts onto children's creative behavior and their motivation. However, this requires carefully chosen tasks and a suitable working with these tasks. Characteristics of such kind of tasks and working with tasks appear in our presentation using examples from grade 4 up to 7. For us grade 4 up to grade 7 are very important, because this is the transition period from primary to secondary education. Nevertheless, we find a lot of materials for grade 1 up to grade 4 and also for grade 8 up to grade 12, but there are only few materials for this important period. We will not only present a lot

of tasks with bright ideas, moreover we will show possibilities for and characteristics of a successful work with these tasks.

Symposium Five:

Increasing Creativity Capacity in the Entrepreneurial Classroom

Presenting/Corresponding Author

Tina Lee Odinsky Zec

Director, Innovation and Entrepreneurship Center at Zagreb School of Economics and Management

Presenters:

Victor Ricardo Altimira Vega (Spain); **Helena Habdija** (Croatia/UK), **Erik Lindberg** (Sweden); and Corresponding Author, **Tina Lee Odinsky-Zec** (USA/Croatia)

Abstract:

Our panel will illustrate how we initiate, design, implement and document creativity as it unfolds in and around the classroom through teacher, student and community collaboration. The panel is diverse in offering a wide variety of perspectives and will showcase both original pedagogical designs as well as twists on popular strategies such as design thinking to bring about entrepreneurial mindsets. Our session intends to engage, inspire and inform how the entrepreneurial classroom is taking shape in and across countries and contexts.

About the Presenters:

Victor Ricardo Altimira, Phd. is Multicultural Professor and Consultant. He has lived in 5 different countries for more than one year and has extensive experience in managing teams both in large corporations and start-ups. He is committed to innovation in health and sports as well as design thinking and cross-cultural skills. He has been an associate professor at IE Business School since 2001 and a visiting professor at a range of institutions including Cotrugli (Croatia), Fundacao Getulio Vargas (Brazil), Bocconi (Italy) and USI (CH). Contact: raltimira@gmail.com

Helena Habdija, MA is a trained artist with an entrepreneur's drive. She has extensive experience working with diverse groups, including those as young and creative as first graders to those more systems oriented like IT founders. While she has been mentoring startups since 2012, she is also an active team member of several startups herself. In 2015, she joined DotForge Impact accelerator as a Community Manager. Originally from Bjelovar, Croatia, she holds an undergraduate and master's degree in Education and... is a fraternal twin. Contact: helena@dotforgeaccelerator.com

Erik Lindberg, Phd. is a Senior Lecturer USBE at Umeå University. Lecturer within nearly all sub-disciplines of business administration, but the last decade with focus to entrepreneurship at both undergraduate and master's level and been supervisor for over 30 theses. He is fascinated by the interplay of stress and performance and has researched and written on the topics extensively as it relates to teaching, leadership, and entrepreneurial mindsets. Contact: erik.lindberg@umu.se

Corresponding Author: Tina Lee Odinsky-Zec, Msc. is the Director of the Innovation and Entrepreneurship Center at ZSEM, Zagreb School of Economics and Management where she leads courses in Entrepreneurship, Creativity & Innovation and CRM for undergraduates and professional development. She has taught over 3000 students since 1997 and believes that along with traditional roles of lecturer, teacher, facilitator and coach that professors also must be curators and will showcase a retrospective of student outputs. She is completing her P.h.d. work in Visualizing Social Entrepreneurship in Croatia using Macro-Meso-Micro Level Analysis. Contact: tina.zec@zsem.hr

Symposium (6):

Innovative Approaches in Working with Children and Youth with Special Needs: Youth Activism, Acting and Community Programming

Nana Guli ; Iva Mar elja; Nataša Tepša

The three panelist each engage with children and youth, who are either gifted of experience learning/developmental or behavioural difficulties, through 'out-of-the box' approaches.

Iva Marčelja is a Youth Centre Programme Coordinator at Dom mladih - City of Rijeka institution whose main activity is organization of free time for children and youth. In this symposium she will talk about how they animate children with the qualitative and diversified Programmes, and then, with the help of expert advisors and modern equipment, introduce them into the world of technical culture, fine arts and music. A discussion will take place on how they help elementary and secondary school children, through various activities, develop their potentials, explore their interests, develop creativity and creative intelligence, as well as learn in an interesting way.

Nataša Tepša, Happy Things Academy will talk about her experience with working as a drama teacher and clown doctor with children with special needs. She will do a manifestation of her work and will „drive you through“scene work that contains some acting practices such as breathing, movement, group games and improvisation.

Children and youth are not only our future, they are a very important part of our present. When given a chance, little bit of guidance, trust and encouragement children and youth make miracles. During her presentation, Nana Gulić, Child and Youth Worker, Elementary School Kastav will talk about methods and impact of high level youth engagement (especially 'at risk' youth) in community projects and social justice work.

Symposium Eight, Winnipeg Symposium:

Publications – International Journals – Achievements & Challenges – Future Trends

Ken McCluskey; Taisir S. Yamin; Todd Lubart; Roland S. Persson; U ur Sak

Coordinator:

Joseph Goulet

Symposium Nine:

Best Practices in Talent Search

Organiser:

European Talent Centre, Budapest, Hungary

Participants:

Csilla Fuszek

European Talent Centre, Budapest

Balázs Klein

University of Debrecen

Kristóf Kovács, Ph.D.
Eszterházy Károly College
Mensa International

Szilvia Péter-Szarka, Ph.D.
University of Debrecen

Discussant:

Mojca Juriševič, Ph.D.
Centre for Research and Promotion of Giftedness at Faculty of Education, University of Ljubljana, Slovenia.

The Hungarian Templeton Programme, lasting until 28 February 2017, is a pilot Programme that aims to identify, nurture and support exceptional Hungarian cognitive talents aged between 10 and 29. The Programme identified 315 exceptional Hungarian cognitive talents between the age of 10 and 29 (Hungarian Junior Templeton Fellows), out of nearly 20,000 applicants whose test results were evaluated in two age groups (10-19 and 20-29). Participants of the workshop will be provided with an overview of the Programme in general and the identification phase in particular. This is followed by an introduction to the first round of the identification process for the age group of 10-19 (the “Big Ability Test” of the Hungarian Templeton Programme), which consisted of four online tests of cognitive ability: an adaptive test of fluid intelligence, an adaptive vocabulary test, a test of working memory (the N-back test), and a problem-solving test requiring divergent thinking. Participants will also gain an understanding of the basic principles of computerized adaptive testing and the advantages of adaptivity in large-scale identification processes.

Symposium Ten:

Entrepreneurial Learning in Higher Education: A Case Study of the Business School PAR

Chairpersons:

Gordana Nikolic
Dean, Business School PAR, Trg Rijecke rezolucije 4, Rijeka, Croatia.

Presenters:

Gordana Nikolic, Ph.D.,
Dean of the Business School PAR.

Ms. Zeljka Mrksa,

Entrepreneurial Learning Expert, South East European Centre for Entrepreneurial Learning.

Vidoje Vujic, Ph.D., President of Croatian Chamber of Economy - County Chamber Rijeka.

Denis Khermayer, the Headmaster of the High School “Andrije Ljudevita Adamica”

Laura Grubisic, the Headmaster of the High School for Economy

Duration: 90 minutes

Abstract:

The idea of integrating entrepreneurship and education has been a part of the EU’s endeavors since the introduction of the Lisbon Strategy in 2000. Since then, it has found its way into the curricula in all levels of

education, as a valuable approach in raising students' awareness on the importance of critical thinking, proactivity, creativity, and innovation (Expert Group on Indicators on Entrepreneurial Learning and Competence: Final Report, DG Education and Culture Framework Contract, 2014). Moreover, it has been a part of the Croatian National Curriculum Framework as a basic competence. (Strategy for the construction and development of the national curriculum for preschool education, general compulsory and secondary school education, 2007). This lecture will provide an insight into some examples of entrepreneurial education in higher education in Europe, and focus on the example of the Business School PAR. The Business School PAR is the first and only private higher education institution in Rijeka and the surrounding region. It offers a BA study in Business Management with a special emphasis on encouraging entrepreneurship learning through the Student business incubator, and forming partnerships with SMEs and entrepreneurial institutions from the region.

Symposium Eleven:

The Wyoming USA Symposium:

Building 21st Century Learning Skills through Music, Civic Engagement, and Service

Service-Learning: Challenging Students beyond the Classroom

Trista Ostrom

Executive Director of the Wyoming Congressional Award for Youth; Albany County School District Students

We hope to establish community within our classrooms by creating a connection between the environment of the classroom and the outside community in which students live. We have expectations of our students as they enter the world in terms of service; however, we are not preparing students in the classroom to be contributing members of society. Through service-learning, students have the unique opportunity to build critical thinking skills and the value of teamwork. Students who participate in service learning demonstrate increased social and civic responsibility in addition to academic achievement. Thus, this professional development opportunity elaborates on the incorporation of service learning in the classroom to prepare students to contribute to the world in which they live. Furthermore, educators learn how to utilize community connections to complete successful service learning projects.

Integrated Project-Based Learning to Fuel Civic Engagement: the Ultimate in Student Challenge

Meredith McLaughlin

Lead Teacher at the University of Wyoming Lab School; Albany County School District Students

Laboratory schools in America were initially conceptualized by John Dewey in the late 1800s as places for children to explore how “life itself . . . should furnish the ground experience for the education of children” and how the freedom of a child to express action contributes to “satisfaction and emotional stability” (Mayhew and Edwards, 1936). The University of Wyoming Lab School maintains this initial vision over 100 years later and serves as a founding member of the National League of Democratic Schools, whose express purpose is to use a variety of approaches to engage and prepare students for participation in civic society (Goodlad, 2004). As a Lab School, mentor teachers, pre-service teachers and students learn together how to use school as a platform for building a better world. Students and educators alike will present exemplary projects in civic engagement and how those projects have catapulted them to higher levels of performance in math, reading, writing, social studies, and a full range of the P21's Framework for 21st Century Learning Skills. Specific materials shared will include: templates for unit and lesson design that are aligned to national standards and involve learners of all

ability levels in project-based civic engagement, strategies for managing effective collaborative work, and assessment techniques used to further student learning.

Developing Everyday Musicians: How Music education in the United States fits 21st Century Learning Needs

Chris Olson

Music Educator in Albany County School District #1; Albany County School District Students

This workshop will examine the unique approach to music education in the United States: Marching Bands, Concert Bands, Jazz Bands, Choirs, and Orchestras. Students will demonstrate how critical, scientific, reflective, metacognitive, and creative thinking are combined to create the unique human product of a performing ensemble. We will discuss the neurobiology of the brain and how it is affected by playing a musical instrument. We will also explore character education and leadership development as it occurs within this structure.

Symposium Twelve

Primorje - Gorski Kotar County: Models of Excellence

Language: English and Croatian

Schools Participating:

Primary School Frana Krste Frankopana (Brod na Kupu), Primary School Ivana Rabljanina (Rab), High School Gimnazija Andrije Mohorovi i a (Rijeka), Maritime School in Bakar (Bakar) and High School Markatun de Dominis Rab (Rab)

Abstract:

Primorje-Gorski Kotar County is a place where mountains meet the Mediterranean. In our County one can visit 55 islands in the summer or admire the Adriatic sea from heights of ski slopes. It is also one of the most diverse counties, as it encompasses people living in big cities, small towns, islands and mountain areas. Each of those environments carry specific historical and cultural context, but also a different way of life. In this symposium, 5 schools from different areas of the county will talk about their unique teaching experience and will describe different models of excellence in practice across the County.

Schedule:

Primary School Frana Krste Frankopana Brod na Kupu) 20 minutes
Primary School Ivana Rabljanina (Rab) 25 minutes
High School Gimnazija Andrije Mohorovi i a (Rijeka) 10 minutes
Maritime School in Bakar (Bakar) 25 minutes
High School Markatun de Dominis Rab (Rab) 10 minutes

Individual abstracts:

Primary School Frana Krste Frankopana Brod na Kupu: The smallest primary school in the region of Gorski kotar - The Centre of The Universe

Presenters: Jelena Glad and Marija Tonkovi - primary education teachers

Primary school Frana Krste Frankopana in Brod na Kupa is a school with the smallest number of pupils in the region of Gorski kotar, out of which 84% are of Romany origin. They come from families that live in difficult socio-economic conditions, have underdeveloped graphomotor skills and lack communication skills. We have managed to overcome these difficulties and introduced an experimental programme called 'Team teaching' for pupils from class 1 to class 4. It is a programme which enables us an individual approach to every pupil, meeting his/her educational needs throughout every school subject. By making adjustments in content and teaching methods, and by encouraging them, the pupils are able to cope with their teaching loads, and are taking a positive attitude towards schooling in general. Likewise, numerous activities and projects have given them the opportunity to put their knowledge into practice, get to know the world they live in and prepare for their future life.

Primary School Ivana Rabljanina Rab: Working with gifted students within the project “Public communication”

Presenters: Mona Othman (librarian), Tanja Rizner (psychologist)

The project 'Public communication' in primary school Ivana Rabljanina Rab included students from fifth to eighth grade who are identified as gifted in the area of speaking skills. The goal of the project through working with students in two extracurricular activities -Debate club and Media group – is to learn and develop the skills of public communication, that is oratory and presentation skills, critical thinking and creativity, and creativity in the area of the communication culture of the students. The project is focused on the area of working with children which is not covered by the institutions and / or organizations due to lack of organization and opportunities and living conditions on the island. It includes activities such as the founding of the Children's City Council and the media coverage of its work. The importance of the project has been recognized by the Ministry of Science, Education and Sport, which funded the project as part of the Tender for the implementation of the project in the context of extracurricular activities in primary and secondary schools in working with gifted students in the school year 2015/2016.

Gimnazija Andrije Mohorovi i a Rijeka: Science+

Presenter: Henry Ponte, principal

For over two decades Gimnazija Andrije Mohorovi i a Rijeka has been creating and promoting excellence through regular school activities and through extra curriculum activities. The aim of our high school is to stimulate and support social, educational and personal development of our students so that they can face all the upcoming challenges. The results that our high school accomplishes every year in state competitions, international competitions and school-leaving examinations rank our school as one of the best high schools in Croatia. The number of students that participate in regional competitions and the overall results that have been achieved from the beginning of the implementation of external evaluation of high schools in Croatia shows that our students have an above average level of acquired knowledge and skills. Not only is this evident on the individual level of each student, but also when observing the generation as a whole. We are proud of the fact that our students do not only achieve outstanding results in maths and science subjects, which our school is credited for, but they also achieve excellent results in languages, social studies, arts and sports. In order to ensure that future

generations will continue to flourish in all of these fields, Gimnazija Andrije Mohorovića Rijeka together with its partners is currently participating in a project called Znanost+ which will result in 15 new curricula in STEM and ICT areas.

The Maritime School in Bakar: Preparing Students for International Careers through Multicultural Projects

Presenters: Marica Kujan, prof., Dr.sc. Juraj Bukša, prof

The Maritime School in Bakar is a four-year school offering qualifications of officers and watch personnel on seagoing merchant ships. The main advantage of our school is that right after graduation our students can compete in the international labour market in a multicultural environment. Our educational programme is determined not only by the national curriculum, but also by the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (or STCW), which sets the qualification standards for seafarers. Also, our educational programme is in compliance with the International Convention for the Prevention of Pollution from Ships (MARPOL). In order to prepare our students better, we participate in numerous international projects in order to insert our students in a multicultural environment and to raise their awareness of how important it is to preserve marine environment. Some of our projects are „Upoznajmo susjede“ (*‘Getting to Know Our Neighbours’*) and the International Rowing Regatta, where our students meet, work and compete with students from other maritime schools in our region (Italy, Slovenia, Serbia, Montenegro, Hungary etc.). We also participate in South-Eastern Mediterranean Environmental Project (SEMPEP), which provides an opportunity to consider environmental issues that are of common concern to countries in the region, interrelating education with cultural values. Its objective is to promote sustainable development through environmental education. It is a UNESCO environmental education project focusing primarily on the South Eastern Mediterranean sea region. There is also „Plavi dan“, an annual event which has been organized for 10 consecutive years in order to draw our students’ attention to the importance of preservation of marine biodiversity. Our school is also a member of Foundation for Environmental Education (FEE) and our school boat flies the Blue Flag, while our school is proud to fly the Green Flag. In addition to the above, the Maritime School in Bakar has a Dormitory, and a school boat, ‘Vila Velebita 2’, where our students have professional practice.

***Markantun de Dominis Rab High School: „OUR COLOURFUL WORLD“
Developing and encouraging creativity in “Markantun de Dominis Rab” High School***

Presenter: Zoran Antunović, pedagogue

The subject of the “Our Colourful World” project is working with students who are assessed as talented and creative in different fields. The objective of this project is studying and encouraging students to detect and develop their creativity and, eventually, become open-minded, productive, flexible and able to search for new solutions. In this way we inspire students to be original, unique and spontaneous. This presentation shows various workshops and activities for the development and encouragement of creativity. A particular attention is paid to the activities of the “Kameleoni” drama group, journalist group and “KUŠ” student cooperative, which comprises creative, sports, gastronomical and other groups. The groups have been highly successful on regional and state competitions. This kind of work is particularly important when specific life circumstances on the island and the lack of different associations and institutions are considered, where students would otherwise have an opportunity to work on their talent.

Workshops

Workshop (W₁):

Talented Females: Obstacles, Challenges, & Choices

Sally M. Reis

Vice Provost for Academic Affairs; University of Connecticut; USA

As a follow-up to Dr. Reis' keynote, this workshop will focus on talented girls and women including the types of decisions that talented females make, and the personal and environmental obstacles that they encounter. At which stages during one's lifetime are these decisions made? How can parents and teachers help develop gifts and eliminate obstacles in young girls? These and other questions, as well as possible solutions, will be explored in this workshop.

Workshop (W₂):

Problem-Based Learning (PBL)

Heinz Neber

ICIE, Ulm - Germany

“PBL should be considered as a general approach for designing learning environments on all levels, and for all kinds of learners. As a consequence, all components of instruction are concerned, like types of learning tasks and learning materials presented to the students, ways to organize student’s learning activities including their collaboration, how to provide help and support by the teacher, and even how to assess and evaluate the results of learning. All these instructional conditions should stimulate and support the learning processes of the students. These processes are best described as inquiry cycles, beginning with understanding the problem given to the students and formulating questions for needed but missing information. The main function of all PBL processes is to generate knowledge in terms of usable, non-inert knowledge.

The workshop will focus on how to design some of the most important components of PBL. In particular on how to formulate adequate problems as learning tasks, on processes enabled by such tasks, on ways to organize students into groups, and how to distribute work by specifying adequate roles in such groups. These components will be experienced by several short exercises in the workshop.”

Workshop (W₃):

Learning in the Digital Age: The Use of Film in Education

Maher Bahloul

Education Through Arts Institute - Maher Language Institute (MLI), Paris, France

The presentation is about an innovative pedagogy whereby performing and audio-visual media play a key role in teaching and learning. On the basis of my latest book ‘*Lights! Camera! Action and the brain: The Use of Film in Education*’, the presentation combines theory and practice; as such, it lays solid neurological foundations for media literacy and provides several practical applications from worldwide scholars. The book contains thirteen chapters three of them address a number of theoretical issues related to the camera and the brain while the remaining ten are practical illustrations of the extent to which film and video are used as pedagogical tools. In the book preface, Nikos Theodosakis, author of ‘The Director in the Classroom’, writes that the book contributors ‘have built a wonderful bridge for us to travel over’. In fact, the book chapters transcend age restrictions to include diverse age groups, children and young adults. The topics range from learning language and philosophy to learning about one’s self, one’s environment, and one’s cultural identity. Much more importantly, the book addresses regular and special learners’ needs. Arts in general, and films in particular, are shown to display salient and dynamic roles in appealing to a wide variety of regular and special needs learners. In short, the presentation unveils a recent learning methodology by showcasing the works of a number of authoritative figures in the field of edutainment.

Workshop (W₄):

Creating Creative, Cooperative Environments Creatively and Cooperatively

Ken W. McCluskey

Dean, Faculty of Education, The University of Winnipeg, Canada

Researchers often consider how to develop creative environments through “person” (the characteristics and problem-solving styles of the people involved), “process” (the operations they perform), and “product” (the resultant outcomes). However, in education, in business, and indeed in all areas of human endeavour, the problem-solving environment is equally important. And there are tangible things that can be done to help establish an energizing, stimulating climate. The focus of this session is on nurturing creativity in schools, post-secondary institutions, and the workplace by setting a positive tone which builds trust and openness, challenge and motivation, autonomy, dynamism, playfulness and humour, and idea support. Certainly, educators (at any level) and parents would be the main target groups, but researchers and business people would also be interested in many of the topics that will be addressed in this workshop.

Workshop (W₅):

The Use of the Creative Reversal Act (CREACT) to Develop Creative Potential in the Classroom

U ur Sak

Center for Research and Practice on Gifted Education, Anadolu University, Eskisehir, Turkey

The last decades have witnessed a number of new theories and models about the development of creativity. Some of these models were translated into practice. We have come to believe that creative ability is not a fixed capacity; rather, it can be improved through interventions. Indeed, research shows that educational and training Programmes make a considerable improvement in creative capacity. This talk will include the discussion of creativity studies first, and then a review of the CREAT (Creative Reversal Act), its theoretical background, and research carried out on its effectiveness on students’ creativity. The CREAT is a creative teaching technique (Sak, 2009) developed based on the theory of the janusian process that was originally proposed by Rothenberg (1971). The janusian process plays a role in many creative accomplishments, such as the theory of natural selection and the general theory of relativity. Creative ideas holding oppositions, paradoxes, and paradoxical metaphors can be produced through the use of the CREAT. It is composed of five steps: construction, segregation, opposition, combination and elaboration processes. A series of research was carried out on the effectiveness of the CREAT. One of the studies showed that the use of the CREAT improved students’ creative performance significantly on the poem and story tasks. Second study involved students’ performance on concept learning and construction of paradoxes. In this study, experimental groups showed higher performance than did the control groups on the both tasks. In another study, the social validity (social acceptance) of the CREAT was investigated. Students’ satisfaction with use of the CREAT was found very high. Research findings imply that the CREAT can be used effectively in a variety of settings, including classrooms and workplaces.

Workshop (W₆):

Evaluation of Potential Creativity (EPoC)

Todd Lubart

University Paris Descartes, France

This instrument, the Evaluation of Potential Creativity (EPoC 2009), is a new instrument that allows creative giftedness to be measured. It includes verbal and graphic sub-tests that measure the two key modes of creative cognition—divergent-exploratory thinking and convergent-integrative thinking—in elementary and middle-

school students. Psychometric results concerning the instrument were developed, as well as an original, internet-based scoring system that enhances inter-rater reliability is under construction. The instrument, developed initially with a sample of French school children, can be used as an efficient diagnostic tool to identify creative potential and to monitor progress, using pre-tests and post-tests, in educational Programmes designed to enhance creativity. This instrument is available in six languages, including: French; English; Arabic; Turkish; German; and Portuguese. In the second phase of this project, the instrument will be available in other languages. This workshop enables you to learn more about the theoretical background, current practices and new theories relating to this field of knowledge.

Workshop (W₇):

Identifying and Developing Creative and Productive Giftedness: Major Challenges for the 21st Century Learners

Joseph S. Renzulli;

Director, Neag Center for Creativity, Gifted Education and Talent Development, The University of Connecticut, USA

The economic, cultural, and social development of a nation is dependent on the creative productivity of its most gifted and talented individuals. In this presentation we will first explore the characteristics of young people that are capable of contributing to high levels of creative productivity and procedures used for identifying these students for special services. The second part of the presentation will deal with: (1) how to make curricular modifications that allow time for personalizing learning; (2) how to infuse 21st Century skills into the curriculum; and (3) how we can provide the opportunities, resources, and encouragement for young people to apply their talents to challenging types of learning experiences. Three interrelated types of enrichment will be described and practical examples of how teachers can organize enrichment clusters and learning experiences that focus on creative and productive giftedness will be presented.

Workshop (W₈):

Lost Prizes: Recognizing and Nurturing the Talent of At-Risk Students

Ken W. McCluskey

Dean, Faculty of Education, The University of Winnipeg, Canada

If we expect students to communicate and behave in positive ways in our schools and elsewhere, there must obviously be rules, order, and organization. And clearly, educational environments should be consistent and stable for all children and youth. However, when overly rigid, punitive regulations are put in place, many kids – especially those who do not respond positively to inflexible reactions and approaches – may be harmed instead of helped. Indeed, under certain conditions, teachers may inadvertently say and do things that essentially drive nonconforming, relationship-resistant young people from our system. Even with the best will in the world, educators can sometimes make unfortunate choices, draw lines in the sand, and push marginalized students over and out. This session will identify some pitfalls to avoid and review *Lost Prizes* projects that have used Creative Problem Solving and Mentoring to identify and develop the talents of troubled youth at risk for alienation, academic failure, and gang involvement.

Workshop (W₉):

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Workshop (W₁₀):

Scientific Evidence of Neuronal Phenomena

Dubravko Ki i

CEO & President of the Board of Bicro BIOCentre Ltd., Zagreb, Croatia

This workshop will focus on neuronal basis of everyday human behavior relevant for educators at all levels of education. In an interactive setting, a basic brain anatomy will be introduced along with the most common noninvasive brain imaging techniques that enable us to “see into the brain”. We will play with 3-D brain anatomy, choose different brain areas to display, zoom, explore and discuss their functions. If we are good, we will have a pleasure of meeting a “little man” in our brain (his name is Homunculus!). A realistic movie resulting from a mathematical model will show us the complexity of neuronal signaling between different brain areas. That signaling is initiated from environment that is full of auditory, visual, tactile and cognitive stimuli that are literally causing our brains to grow. Moving further, we will present results from several sets of neuroimaging data acquired on several types of brain scanners and link them to some of the observed behaviors. We will learn why “monkey does what monkey see” and why humans are not very far from monkeys? Actually, we will even jump around the classroom! – but this will teach us that our neuronal motor control carefully differentiates between bilateral vs. unilateral movements. Doing things together, we'll demonstrate which part of our brains is “social” and why we sometimes think differently.

Workshop (W₁₁):

Active Learning in Science: The Case of Colours

Mojca epi

Faculty of Education University of Ljubljana, Slovenia

Although every learning is an active process, the term active learning in science education is used for the approach, in which students discover relations among relevant variables in a mode of scientific method through performing experiments as an inquiry. Scientific method is usually considered as collecting data from observations and measurements to become familiar with the problem, an organization of data for recognition of possible patterns, a formation of hypothesis trying to explain data patterns (hypothesis), designs of new

experiments for verification or for ruling out hypotheses. The main purpose of learning the scientific method is that students acquire the attitude to drawing conclusions based exclusively on evidences and not on hearsays or opinions, even in everyday life.

More approaches stimulate learning of scientific method, for example: POE - Predict, Observe, Explain (White, Gunstone, 1992), IBL - Inquiry Based Learning (McDermott, 2014), ISLE Investigating Science Learning Environment (Etkina et al, 2013), all of them stemming from experimenting with the purpose to verify predictions (hypotheses). In this contribution, we shall briefly discuss these approaches, their advantages and disadvantages. Next, the participants will apply these approaches to investigate the colours with the purpose to discover the rules for their creation on the computer screen and by the colour printer. The activity will additionally consider the guidance for less able students and the creation of open-end problems relevant for students with higher abilities.

Workshop (W₁₂):

Evaluation of Potential Creativity (EPoC)

Taisir Subhi Yamin

University Paris Descartes, France

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Workshop (W₁₄):

Gifted First Graders in Digital Age –Individual Projects in ICT and Robotics

Ana Sovi -Križi ; Jasna Cvetkovi -Lay; Tomislav Jaguš

Center for Gifted Child Development „Bistri “ (www.nadarenost.net), Zagreb, Croatia

University of Zagreb, Faculty of electrical engineering and computing, ana.sovic@fer.hr

In the first part of this workshop some important advantages of the interaction between a gifted child and a computer will be provided from the psychological point of view together with an overview of workshop activities with young gifted students in ICT and robotics in our extracurricular enriched Programme. Mentors particularly encourage the creativity and higher level of abstract thinking through individual programming projects. Gifted children acquire complex concepts and create Programme at a considerably higher level than the expected one. The easiest way to introduce some advanced concepts to gifted children is through games that they are familiar with. If we give them an opportunity to build a robot that can move and talk, they will accept the challenge. Children use LEGO educational sets, especially Mindstorms EV3, to make the Programme for the robot in intuitive drag-and-drop software and download the Programme to the “Intelligent Brick”. Our main goal is to explain and teach the basic concepts of programming, like variables, loops, conditional statements, but also some advanced concepts like events or operating principles of a full-adder. To guide the gifted children’s focus, they fill worksheets with the assignment. In this demonstration, we present handbook with lessons and worksheets for LEGO Mindstorms EV3 workshops and we demonstrate simplicity of the programming in the drag-and-drop software for LEGO robots, and complexity of more demanding worksheets for programming with ARDUINO plates.

Although those subjects can be quite abstract even to grown-ups, gifted children adopted the high level of mental concepts very easily and quickly through games and well prepared practical examples.

Workshop (W₁₅):

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