

ICPE-EPEC 2013

The International Conference on Physics Education

August 5-9, 2013

Prague, Czech Republic

www.icpe2013.org

Conference Programme

electronic version

updated, current on August 03, 2013



The ICPE-EPEC 2013 conference is organized by:

- The International Commission on Physics Education (ICPE) – Commission C14 of the International Union of Pure and Applied Physics (IUPAP)
 - The European Physical Society Physics Educational Division (EPS PED)
 - The Faculty of Mathematics and Physics, Charles University in Prague
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This booklet contains the version of the scientific programme of the ICPE-EPEC 2013 conference current on 3rd August 2013.

Programme changes occurring after that date will be announced at the appropriate places in the conference venue.

Note:

Only keynote lectures, oral presentations and workshops are presented in this Conference Programme. Posters are listed in the *Book of Abstracts*.

Abstracts of all contributions can be found in the *ICPE-EPEC 2013 Book of Abstracts* available in electronic form (on the USB flash drive which is part of the conference materials, and on the conference webpages).

Further information is presented in other conference materials and on notice boards in the conference venue.

ICPE-EPEC 2013 Conference Programme (electronic version)

– updated, current on 3. 8. 2013, list of changes included

Edited by Leoš Dvořák

Faculty of Mathematics and Physics, Charles University in Prague, Czech Republic

Dear ICPE-ICPE 2013 participants,

We are glad that you decided to attend the conference. We hope you will spend an inspiring week in Prague, full of fruitful discussions with colleagues.

The purpose of this booklet is to provide you with information concerning when and where keynote lectures, oral presentations, workshops and poster sessions will take place. Tables on the following pages show the program in chronological order. The codes of contributions refer to the *Book of Abstracts*, where you can find full texts of all abstracts. (Note that only contributions of authors who registered with the conference before July 19 are included in this *Conference Programme* and in the *Book of Abstracts*.)

The conference rooms are denoted in the program by letters A to F. In the hotel Don Giovanni where the conference takes place these rooms have specific names, as shown in the following table.

Room	Name of the room in the hotel	Floor
Main	Don Giovanni I + II + III	2nd
A	Don Giovanni II (central)	2nd
B	Don Giovanni I (left)	2nd
C	Don Giovanni III (right)	2nd
D	Donna Elvira + Donna Anna	1st
E	Don Ottavio + Masetto	1st
F	Zerlina	1st

Would you like to see the plans of the conference rooms? You can find them on the USB flash drive included in your conference materials. The drive also contains some other useful documents in electronic form, including a template for submissions to the Conference Proceedings, and a digital version of this *Conference Programme*.

The purpose of this booklet is to provide information, not long essays. Therefore, I think it is not necessary to say more. Enjoy your stay at the conference!

Leoš Dvořák

Head of the Local Organizing Committee

Further information

Registration:

- Sunday, August 04 at 17:00-20:00 (together with Welcome coffee)
- Monday, August 05 from 8:30

The Registration Desk is situated at the ground floor of the hotel, near the hotel reception desk.

Notes:

A short ICPE ceremony will follow Keynote 4 (Tuesday, 11:00) in the main lecture hall.

Oral presentations will last 20 minutes including discussion (15'+5'). There are four oral presentations in each session.

In the event that the presenter of an oral session is absent, the 20 minute slot should be left empty, so that the start time of subsequent presentations will not be altered.

Posters:

Official poster sessions, i.e. periods when authors should be present at their posters, are relatively short. (Of course, discussions with authors can be partly extended into the lunchtime.)

However, the posters can be displayed for a much longer time so that participants can look at them before or after the official poster sessions, and informal discussions can take place at any time.

We invite the authors of posters to put their posters on display from the “starting time” stated below. We also ask the authors to kindly remove their posters by the “finishing time” indicated to allow those who follow the time to mount their own posters.

Periods when posters may be displayed:

Posters for Poster Session 1: Monday - Tuesday 13:00

Posters for Poster Session 2: Tuesday 13:30 - Wednesday evening

Posters for Poster Session 3: Thursday morning - Friday

ICPE-EPEC 2013 - Schedule at a glance

Monday 5. 8.			Tuesday 6. 8.	Wednesday 7. 8.	Thursday 8. 8.	Friday 9. 8.	
9:00-9:30	Opening						
9:30-10:30	Keynote 1 Eugenia Etkina	8:30-9:30	Keynote 3 Leopold Mathelitsch	Keynote 5 Pratibha Jolly	Keynote 7 Kyoko Ishii	8:30-9:50	Session 10
10:30-11:00	<i>Coffee break</i>	9:30-10:00	<i>Coffee break</i>	<i>Coffee break</i>	<i>Coffee break</i>	9:50-10:10	<i>Coffee break</i>
11:00-12:00	Keynote 2 Rupert Leitner	10:00-11:00	Keynote 4 Irena Dvořáková	Keynote 6 Josip Sliško	Keynote 8 Douglas Caldwell	10:10-11:30	Session 11
12:00-12:30	EPS ceremony	11:00-12:00	Poster session 1	Poster session 2	Poster session 3	11:40-12:00	Closing ceremony
12:30-14:00	<i>Lunch</i>	12:00-13:30	<i>Lunch</i>	<i>Lunch</i>	<i>Lunch</i>	12:00-13:30	<i>Lunch</i>
14:00-15:20	Session 1	13:30-14:50	Session 4	Sightseeing tours	Session 7		
15:20-15:30	<i>short break</i>	14:50-15:00	<i>short break</i>		<i>short break</i>		
15:30-16:50	Session 2	15:00-16:20	Session 5		Session 8		
16:50-17:10	<i>Coffee break</i>	16:20-16:40	<i>Coffee break</i>		<i>Coffee break</i>		
17:10-18:30	Session 3	16:40-18:00	Session 6		Session 9		
20:00-21:30	Workshop night 1	20:00-21:30	Workshop night 2	Free evening	Conference dinner (19:00-23:00)		

Monday, 05 August 2013

Main lecture hall

9:00-9:30	Opening ceremony	
9:30-10:30	Keynote lecture 1	Eugenia Etkina (<i>Rutgers University, USA</i>): Using physics to help students develop scientific habits of mind
10:30-11:00	<i>cofee break</i>	
11:00-12:00	Keynote lecture 2	Rupert Leitner (<i>Charles University in Prague, Czech Republic</i>): Recent discoveries in Particle Physics and physics teaching
12:00-12:30	EPS ceremony	

Sessions

Day	Time	Room	What	Authors	Title	Code
Mon	14:00 -15:20	A	Session 1A	Vladimir Ivchenko	Application of situated learning in the formation process of concepts of scientific physical limit transition models in the university students	004.O1A
				Gerald Feldman, Larry Medsker and Raluca Teodorescu	Student Engagement in a Collaborative Group-Learning Environment	039.O1A
				Charles Bonello	Improving students' understanding of abstract concepts using cognitive conflict	098.O1A
				Paulo Lima Junior, Fernanda Ostermann and Flavia Rezende	Designing curricular reform from students' experiences as a way to reduce dropout rates in Physics undergraduate courses	200.O1A

Day	Time	Room	What	Authors	Title	Code
Mon	14:00 -15:20	B	Session 1B	Joan Borg Marks	The Predict - Observe - Explain technique as a tool for students' understanding of electric circuits	015.O1B
				Miriam Lemmer, Ilsa Basson, Jeanne Kriek and Aletta Zietsman-Thomas	Investigation of teachers' concept confusion related to electric and magnetic fields and the potential of a sequence of activities to address it	081.O1B
				Marco Giliberti, Sara Barbieri and Michela Cavinato	Magnetic vector potential in secondary school: a teachers' path	121.O1B
				Marisa Michelini and Stefano Vercellati	Prospective primary teachers address electromagnetic phenomena	127.O1B
Mon	14:00 -15:20	C	Session 1C	Zdeňka Koupilová, Dana Mandíková and Marie Snětinová	Web database of solved problems encourages students' active learning in physics	038.O1C
				Robert Lambourne	E-Learning in Physical Science through Sport: Learning Objects and their Dissemination	049.O1C
				Trinh Ba Tran, Ed van Den Berg, Ton Ellermeijer and Jos Beishuizen	Development of a Pre-service Course on Integration of ICT into Inquiry Based Science Education	110.O1C
				Mathias Tomandl, Christiane Maria Losert-Valiente Kroon, Martin Hopf and Markus Arndt	Simulated Interactive Research Experiments (SIRE) - A novel ICT tool for active learning in the domain of quantum research.	268.O1C
Mon	14:00 -15:20	D	Session 1D	Jeremy Pfeffer	Physics on a Shoestring: A Soap Film Motor	202.O1D
				Andrea Gróf	The drinking bird engine	211.O1D
				Ivan Ruddock	A novel experiment in birefringence using single-mode optical fibre	218.O1D
				Tamas Meszena	Chaos in High School	225.O1D
Mon	14:00 -15:20	F	Workshop	David Sokoloff	Active Learning in Optics	005.W1F

Day	Time	Room	What	Authors	Title	Code
Mon	15:30 -16:50	A	Session 2A	Renata Holubova	Innovations in physics' teacher education - how to educate GEN Y teachers?	045.O2A
				Philippe Ageorges, Géraldine Poutot, Adriana Bacila and Bernard Blandin	Some lessons from a 3-year experiment of PBL in Physics in a French School of Engineering	047.O2A
				Ajay Wadhwa	Using Class-room Communication System in Physics Laboratory	051.O2A
				Onofrio Rosario Battaglia, Claudio Fazio and Rosa Maria Sperandeo Mineo	An approach to the concept of Maxwell-Boltzmann distribution: a pedagogical path based on Guided Inquiry	080.O2A
Mon	15:30 -16:50	B	Session 2B	Nasrin Taheri Asghari and Mojtaba Jahanifar	Content analysis and coding the Student's weekly reports in order to research their self-reflection epistemology and improvement their solving problem skills	203.O2B
				María Elena Truyol, Zulma Estela Gangoso and Vicente Sanjose	Problem-solving in university-level Physics: What kinds of abilities are developed?	219.O2B
				David Sands	Evidence for the applicability of Dual Processing Theory in Physics problem solving	236.O2B
				Maja Poklinek, Gorazd Planinšič and Eugenia Etkina	Analyzing patterns in experts' approaches to solving experimental problems	251.O2B

Day	Time	Room	What	Authors	Title	Code
Mon	15:30 -16:50	C	Session 2C	Giacomo Zuccarini, Marisa Michelini and Alberto Stefanel	University students' ideas on physical meaning and role of wave function and state vector in quantum physics	097.O2C
				Francisco Serafim, Augusto Moisã, Cristina Pinho and Florbela Rêgo	What motivates high school teachers to join the Masterclasses Day - Hands on Particle Physics?	271.O2C
				Mengesha Ayene, Jeanne Kriek, Baylie Damitie and Åke Ingerman	Variations in physics students' ways of depictions as the context of explaining changes from quantization to light quanta	291.O2C
				Kerstin Gedigk, Gesche Pospiech and Michael Kobel	Development of interest in particle physics as an effect of school events in an authentic setting	335.O2C
Mon	15:30 -16:50	D	Session 2D	Nada Razpet and Tomaz Kranjc	A Treatment of Oscillations and Waves	022.O2D
				Telma Esperança, Maria José de Almeida and Paulo Gordo	Mechanical waves and sound in the 8th Grade – Promoting inquiry	124.O2D
				Marco Stellato, Marco Giliberti, Enrico Rigon and Marina Tamborini	A guided inquiry based teaching and learning sequence on oscillations based on experiments and data logging techniques	267.O2D
				Leanne Doughty, Paul van Kampen and Eilish Mcloughlin	Teaching kinematics concepts and graphing through the context of Simple Harmonic Motion	365.O2D
Mon	15:30 -16:50	E	Workshop	Elizabeth Swinbank	Embedding formative assessment and promoting active learning	181.W2E

Day	Time	Room	What	Authors	Title	Code
Mon	17:10 -18:30	A	Session 3A	Mihael Gojkošek, Gorazd Planinšič and Josip Sliško	Coding scheme for assessment of students' explanatory and predictive models	246.O3A
				Margaret Wegener, Michael Drinkwater, Timothy McIntyre, Deanne Gannaway, Karen Sheppard, Dominic McGrath, Matthew Davis, Warwick Bowen and Joel Corney	Manipulating Space and Time for Active-Learning Lectures	286.O3A
				James Mackay and Mary Fawcett	Using Pencasts to find out how students think about physical ideas	290.O3A
				David Schuster and Chaiphath Plybour	Designing Assessment for Learning into Physics Instruction and Comparing the Effects of Formative and Summative Systems on Student Learning	360.O3A
Mon	17:10 -18:30	B	Session 3B	Pilar Segarra, Maria De Los Angeles Ortiz and Virgen Huerta	It is possible to modify the practice of experienced teachers	238.O3B
				Sandra Regina Gatti and Roberto Nardi	Considerations on the possibilities of cooperation between the university and schools: reflections on approaching the history and philosophy science to physics teachers education	247.O3B
				Andréa Cristina Souza de Jesus and Roberto Nardi	The evolution of future physics teachers' conceptions about the teaching of physics for youth and adults	249.O3B
				Beatriz Salemme Corrêa Cortella and Roberto Nardi	In-Service Education of University Professors	250.O3B
Mon	17:10 -18:30	C	Session 3C	Alejandro González Y Hernández and Cesar Mora Ley	Use of Numerical Methods on spreadsheet to Solve the Motion Equation of Newton's Second Law	102.O3C
				Jorge Barojas and Miguel Cuauhtli Martinez	A Keplerian Laboratory of Didactics	120.O3C

Day	Time	Room	What	Authors	Title	Code
Mon	17:10 -18:30	C	Session 3C (continued)	Mikhail Tyntarev	Developing the Course of "Practical Theoretical Physics" for High School Students	144.O3C
				Ada T. Mendez Moreno	Physics and Physical education. Can they be approached together?	146.O3C
Mon	17:10 -18:30	D	Session 3D	Thanida Sujarittam, Narumon Emarat, Kwan Arayathanitkul and Jintawat Tanamatayarat	Reconstruction of the Guided Worksheet based on Student Understanding: A Case Study in Electric Field	196.O3D
				Mojtaba Jahanifar and Nasrin Taheri Asghari	Students Classification according to their different aspect of attitudes about physics using the views about science Survey test(VASS) and measurement relation between their attitudes and learning achievements	204.O3D
				Morag Casey, Simon Bates, Ross Galloway and Judy Hardy	Student Generated Content for Learning	215.O3D
				Hideo Nitta, Tomoshige Kudo, Ruita Nishimura and Masanobu Moriguchi	Data analysis of Peer Instruction	257.O3D
Mon	17:10 -18:30	F	Workshop	Csilla Fulop and Eva Maria Olah	Teaching particle physics in a research laboratory	077.W3F
Mon	20:00 -21:30	D	Workshop	Jan Hollan	RGB radiometry with ordinary cameras as a research opportunity for everybody	298.WN1D
		E	Workshop	Radim Kusak	Physics Lab with Modern Technology	212.WN1E
		F	Workshop	Eilish Mcloughlin, Sarah Brady, Odilla Finlayson, Claudio Fazio, Ton Ellermeijer, Ewa Kedzierska, Marian Kires and Leos Dvorak	The Development and Implementation of industry informed inquiry based Physics Teacher Education (ESTABLISH)	362.WN1F

Tuesday, 06 August 2013

Main lecture hall

8:30-9:30	Keynote lecture 3	Leopold Mathelitsch (<i>University of Graz, Austria</i>): Physics and Sport
9:30-10:00	<i>cofee break</i>	
10:00-11:00	Keynote lecture 4	Irena Dvořáková (<i>Charles University in Prague, Czech Republic</i>): Active learning in the Heureka Project – teachers in the role of students
around 11:00	short ICPE ceremony	
11:00-12:00	Poster session 1	

Sessions

Day	Time	Room	What	Authors	Title	Code
Tue	13:30 -14:50	A	Session 4A	Hani Dulli	Cueing Effects in Physics Concept Inventories	131.O4A
				Gordon Aubrecht	Three steps to successful change	134.O4A
				Marsali Wallace and Ross Galloway	Examining student problem solving behaviour with and without access to resources, and implications for open-book exams	162.O4A
				Thiago Souza, Albano Nunes, Thomaz Silva, Francisco Vasconcelos and Eloneid Nobre	Analysing the Students' Performance in a Virtual Learning Environment: A case study in a Physics Teacher Training Course	163.O4A
Tue	13:30 -14:50	B	Session 4B	Fumiko Okiharu, Akizo Kobayashi and Tomoyuki Imai	Qualitative Video Analysis for Magnetic Breaking with Magnetic Sheet	072.O4B

Day	Time	Room	What	Authors	Title	Code
Tue	13:30 -14:50	B	Session 4B (continued)	Ilsa Basson, Jeanne Kriek, Miriam Lemmer and Aletta Zietsman-Thomas	Experiences of secondary schools teachers with electromagnetism presented in different ways	096.O4B
				Václav Piskač	The coil in a magnetic field	194.O4B
				Leanne Doughty, Eilish McLoughlin and Paul van Kampen	How students think about and use integration in an electromagnetism context	295.O4B
Tue	13:30 -14:50	C	Session 4C	Mara Fernanda Parisoto and Marco Antonio Moreira	Integrating Didactical Strategies to Facilitate Meaningful Learning in Introductory College Physics	084.O4C
				José Roberto Bernardo	The socio-scientific issues-based approach and the in-service physics teacher situation	103.O4C
				Yaron Lehavi and Bat-Sheva Eylon	Teachers' concept image of energy: a challenge for curriculum development	183.O4C
				Gregory Thomas, Al Meldrum and John Beamish	Transforming the Learning Environments of Undergraduate Physics Laboratories to Enhance Physics Inquiry Processes	198.O4C
Tue	13:30 -14:50	D	Session 4D	Osamu Hirayama	A trial using Q-drum as a teaching material in dynamic classes	020.O4D
				Paulo Lima Junior, Fernanda Ostermann and Flavia Rezende	Are inertial forces real? Understanding professor Stanley's Machist interpretation of newtonian inertia.	199.O4D
				Kevin Goldstein, Deena Naidoo and Douglas Clerk	An evaluation of students' understanding of Newtonian Mechanics	331.O4D
				Cedric Linder, Urban Eriksson, John Airey and Andreas Redfors	The overlooked challenge of learning to extrapolate three-dimensionality	332.O4D

Continued on the next page...

Day	Time	Room	What	Authors	Title	Code
Tue	13:30 -14:50	E	Session 4E	Jorge Flores and David Anzules	Teaching Students Metacognition	001.O4E
				Márcio Medina, Marcia Begalli and Anderson Ribeiro	Students of the 21st century learning science: The use of History of Science and High Energy Physics to teach physics.	179.O4E
				Juliano Camillo and Cristiano Mattos	A critical analysis on “Active Learning” in the light of Cultural-Historical Activity Theory (CHAT): Implications to Physics Education and to experimental activities as a particular case	346.O4E
				André Rodrigues and Cristiano Mattos	Hands-on experiments in the Practicum: repositioning student teachers' autonomy	357.O4E
Tue	13:30 -14:50	F	Workshop	Tomasz Greczylo and Amrita Prasad	Workshop on Photonics Explorer	229.W4F

Day	Time	Room	What	Authors	Title	Code
Tue	15:00 -16:20	A	Session 5A	Alexsandro Pereira	Bridging conceptual change and sociocultural analysis: toward a model of conceptual distribution	043.O5A
				Augustine Okoronka and Kodjo Donkor Taale	Application of Cues, Prompts, Questions and Gestures (CPQG) in Physics Teaching and Learning	083.O5A
				Tetyana Antimirova	Technology-Assisted Active Learning in Large-Enrollment Introductory Physics Classes	113.O5A
				Glauco Pantoja and Marco Antonio Moreiro	A study on the effects of a potentially meaningful learning unit in the learning of the concept of field in the predicative and operatory forms of knowledge	221.O5A
Tue	15:00 -16:20	B	Session 5B	Gesche Pospiech and Erik Oese	The use of mathematical elements in physics - views of grade 8 students	037.O5B
				Yaron Lehavi, Bat-Sheva Eylon, Esther Bagno and Elisheva Cohen	Can math for physics teachers impact their conceptual knowledge of physics?	182.O5B
				Tatsuhiko Uchida	An Attempt to Combine Math and Physics in STEM at Meijo University	197.O5B
				Carl Angell	The role of mathematics in physics	226.O5B

Day	Time	Room	What	Authors	Title	Code
Tue	15:00 -16:20	C	Session 5C	Claudio Fazio, Onofrio Rosario Battaglia and Rosa Maria Sperandeo-Mineo	Quantitative and qualitative analysis of the kind of mental models deployed by undergraduate students in creating explanations for thermally activated phenomena	056.O5C
				Tomaz Kranjc and Nada Razpet	Exergy in school?	129.O5C
				Rainer Mueller	What, if anything, is entropy trying to tell us?	178.O5C
				Shirish Pathare, Hemachandra Pradhan, Madhura Nachane and Saurabhee Huli	Understanding Thermal equilibrium through activities	201.O5C
Tue	15:00 -16:20	E	Session 5E	Miguel Garcia, Bertha Michel and Edgar Ramos	Chain reaction: the use of interactive kits to create a physics popularization network	030.O5E
				Kübra Eryurt and Eray Şentürk	Analysis of Historical Content in Modern Physics Chapters in High School Physics Textbooks	061.O5E
				Scott Daniel, Llewellyn Mann and Alexander Mazzolini	Contextual categorisation of academics' understandings of teaching	287.O5E
				Martina Kekule, Vojtech Zak, Zuzana Jeskova, Katarina Kimakova, Maria Ganajova and Marian Kires	Inquiry Based Science Education and Getting Immediate Students' Feedback about Their Motivation	349.O5E

Day	Time	Room	What	Authors	Title	Code
Tue	16:40 -18:00	A	Session 6A	Warawun Chantharanuwong, Kongsak Thathong, Chokchai Yuenyong, Khajornsak Buaraphan and Gregory P. Thomas	The Current Situation of Students' metacognition of the High School Science Classrooms in Thailand	094.O6A
				Hildegard Urban-Woldron	Sequential Reasoning in Electricity: Developing and Using a Three-Tier Multiple Choice Test	230.O6A
				Ann Cavallo, Ramon Lopez and Greg Hale	Examining Factors that Influence High School Physics Students' Choice of Science as a Career	347.O6A
				Eilish Mcloughlin, Sarah Brady, Odilla Finlayson, Claudio Fazio, Ton Ellermeijer, Ewa Kedzierska, Marian Kires, Leos Dvorak and Christina Ottander	The development of Physics Teacher Education Programmes in Inquiry Based Science Education (ESTABLISH)	364.O6A
Tue	16:40 -18:00	B	Session 6B	Lina Vinitsky-Pinsky and Igal Galili	History Sheds Light on the Difference of Nature between Physics and Mathematics Guiding Physics Educators to Better Understanding Mind Preferences of Students	239.O6B
				Ricardo Karam	Understanding physics equations and PCK: The case of centripetal acceleration	296.O6B
				Ricardo Karam and Terhi Mäntylä	Mathematical reasoning and knowledge organization: Comparing students'	300.O6B
				Konstantin Rogozin and Irina Rogozina	Principles of Constructing Network Instruments for Active Learning	076.O10A →6B
Tue	16:40 -18:00	C	Session 6C	Maria José P. M. Almeida and Roberto Nardi	The Interference of Representations as Production Condition in the Physics Teaching	107.O6C
				Subramaniam Ramanathan and Siew-Lin Lee	Grade 12 students' conceptions of gravity and gravitation	111.O6C

Day	Time	Room	What	Authors	Title	Code
Tue	16:40 -18:00	C	Session 6C (continued)	Lea Valentina Lavrik and Vladimir Meir Shunyakov	Is there a similarity between a cup of coffee and an electric capacitor?	161.O6C
				Andreia Salvador, Maria Almeida and Margarida Ramalho	Using analogies and problem solving for studying electric circuits: results from several schools' teaching in practice	274.O6C
Tue	16:40 -18:00	D	Workshop	Kyoko Ishii, Fumiko Okiharu, Masako Tanemura, Mika Yokoe, Haruka Onishi, Masa- Aki Taniguchi, Tasuhiro Uchida, Junichiro Yasuda, Hisashi Kogetsu, Shinjiro Ogawa, Takanari Sasaki, Kazuhiro Tokuda, Shinnosuke Suzuki, Shuhei Miyamoto, Takahiro Shogenji, Shuji Mikami and Hiroshi Kawakatsu	Simple and Beautiful Experiments VI by LADY CATS and Science Teachers' Group	099.W6D
Tue	16:40 -18:00	E	Session 6E	Marika Kapanadze, Ekaterine Slovinsky and Claus Bolte	The Impact of Inquiry Based Physics Modules on Students' Motivation within the PROFILES Project in Georgia	244.O6E
				James Thomas and Aletta Thomas	Learning about simple electric properties in early childhood	256.O6E
				Lina Viviana Melo Niño, Florentina Cañada Cañada and Vicente Mellado Jiménez	Pedagogical content knowledge through video- based lesson analysis of a Colombian high school physics teacher on electric fields	280.O6E
				Seungman Kim and Junehee Yoo	Secondary Students' Understandings of Electric Circuits Based on the Microscopic Surface Charge Model	310.O6E
Tue	16:40 -18:00	F	Workshop	Laurence Viennot, Andreas Mueller, Gorazd Planinsic and Elena Sassi	Concept driven activities with simple experiments: a MUSE* workshop about selective absorption of light	165.W6F

Day	Time	Room	What	Authors	Title	Code
Tue	20:00 -21:30	D	Workshop	Zdeněk Bochníček and Pavel Konečný	Thermal sensitive foils in physics experiments	228.WN2D
		E	Workshop	Mojca Cepic, Jerneja Pavlin, Maja Pecar, Katarina Susman and Sasa Ziherl	Toward understanding of liquid crystal display: School experiments with liquid crystals	152.WN2E
		F	Workshop	Leoš Dvořák	Semiconductors at work	311.WN2F

Wednesday, 07 August 2013

Main lecture hall

8:30-9:30	Keynote lecture 5	Pratibha Jolly (<i>University of Delhi, India</i>): A Collaborative Initiative for Strengthening Undergraduate Physics Education and Promoting Active Learning in the Developing World
9:30-10:00	<i>coffee break</i>	
10:00-11:00	Keynote lecture 6	Josip Slisko (<i>Benemérita Universidad Autónoma de Puebla, Mexico</i>): Active physics learning: Making possible students' cognitive growth, positive emotions and amazing creativity
11:00-12:00	Poster session 2	

Wednesday afternoon: *Sightseeing tours*

Wednesday evening: *free (no workshop night sessions!)*

Enjoy Prague!

Thursday, 08 August 2013

Main lecture hall

8:30-9:30	Keynote lecture 7	Kyoko Ishii (<i>Tamagawa University, Japan</i>): Active learning in teacher training
9:30-10:00	<i>coffee break</i>	
10:00-11:00	Keynote lecture 8	Douglas Caldwell (<i>NASA-SETI, USA</i>): The Kepler Mission: Finding and Understanding Exoplanets using Undergraduate Physics
11:00-12:00	Poster session 3	

Sessions

Day	Time	Room	What	Authors	Title	Code
Thu	13:30 -14:50	A	Session 7A	Kwok-Cheung Cheung	Active learning in physics classrooms for enquiry-based instruction: Lessons learned from the PISA2006 study	032.O7A
				Xiumei Feng	The Practice Teaching and Effectiveness of Peer Instruction in Chinese Introductory Physics	053.O7A
				Suttida Rakkapao and Teparksorn Pengpan	Evaluation of Tutorial and Non-Tutorial of Lecture-Based Classes of Forces and Motions by Using the Model Analysis Technique	075.O7A
				Scott Daniel and Alexander Mazzolini	The messy transition from wrong to right: improvements but persistent inconsistencies on conceptually-equivalent questions after Interactive Lecture Demonstrations	285.O11D →7A
Thu	13:30 -14:50	B	Session 7B	Simon Holmström, Ann-Marie Pendrill, Nina Reistad and Johan Zetterberg	Teachers views on the role of experiments in upper secondary physics education	100.O7B

Day	Time	Room	What	Authors	Title	Code
Thu	13:30 -14:50	B	Session 7B (continued)	Job de Meyere, Dagmara Sokolowska, Marja van Graf, Barbara Rovsek and Wim Peeters	Intended, implemented and attained MST curricula researched by SECURE project across the Europe	140.O7B
				Elizabeth Swinbank	Extended project work for school physics students	186.O7B
				Resty Collado and Lydia Roleda	The questions for assessment (QfA) scheme in a physics class: an alternative assessment method for improved metacognitive awareness, concept retention and transfer?	191.O7B
Thu	13:30 -14:50	C	Session 7C	Mark Greenman	Physics Teacher Professional Development - Closing the Knowledge Gap	023.O7C
				Jun-Ichiro Yasuda and Masa-Aki Taniguchi	Validating the Force Concept Inventory with Sub-Questions	166.O7C
				Alexander Strahl and Rainer Müller	Just how deterring are formulas? Results of an empirical study	180.O7C
Thu	13:30 -14:50	D	Session 7D	Carlos Mario Montes Jiménez	Construction of Low Cost Laboratory Equipment	003.O7D
				Eloneid Nobre, José Sarmento and Silvany Santiago	Construction and analysis of a solar oven as a practical non-formal activity in the physics education	074.O7D
				Muhammad Sabieh Anwar	Developing Physics Laboratories in the Developing World	172.O7D
				Mária Pető	Experiments with CanSat	255.O7D
Thu	13:30 -14:50	E	Workshop	Ana Rita Lopes Mota	Floating and sinking during Lab Stations	155.W7E

Day	Time	Room	What	Authors	Title	Code
Thu	15:00 -16:20	A	Session 8A	Ann-Marie Pendrill, Cecilia Kozma and Andreas Theve	Teacher's roles during amusement park visits - insights from observations, interviews and questionnaires	101.O8A
				Marisa Michelini and Alberto Stefanel	PCK research based module formation of prospective primary teachers on energy	141.O8A
				Zdeněk Drozd and Jitka Houfkova	Competitions of the Young Debrouillards Clubs – an Interesting Way of Active Learning	185.O8A
				Jitka Houfkova, Dana Mandikova and Zdenek Drozd	Experiments in Science at Preschool/Kindergarten and Primary School	213.O8A
Thu	15:00 -16:20	B	Session 8B	Rajesh Khaparde	It Is Never Too Late to Introduce Procedural Understanding: A Case of Physics Laboratory Course for Undergraduate Students	260.O8B
				Margaret Wegener, Dominic McGrath, Cavin Talbot and Timothy McIntyre	“5-Minute Physics”: Dynamic, interactive eLearning modules for student lecture preparation	284.O8B
				Marmon Pagunsan, Roxane Villanueva, Christine Joy Aban and Normie Jean Sajor	Series Circuit: The Real and Virtual	308.O8B
Thu	15:00 -16:20	C	Session 8C	Carlos Alberto Martinez Briones, Alexander Ortega and Gabriel Castro	Improvement in physics laboratories using the forum and Cooperative Learning	010.O8C
				Alejandro Ballesteros-Román, Daniel Sanchez and Ricardo García-Salcedo	Educational Data Mining Applied to Physics Education Research	013.O8C
				Dean Zollman and N. Sanjay Rebello	Context and Representations matters: Insights from transfer research on teaching physics	119.O8C
				Junehee Yoo, Eric Mazur, Kelly Miller, Carolann Koleci, Laura Tucker and Brian Lukoff	Teamwork and communication structures in team-based assessments	253.O8C

Day	Time	Room	What	Authors	Title	Code
Thu	15:00 -16:20	D	Session 8D	Ota Kéhar and Miroslav Randa	How to use data from catalogs of astronomical objects in education	068.O8D
				Martin Hawner, Sascha Schmeling and Thomas Trefzger	Experiments with Cosmic Ray Muons in out-of-school settings and their impact on interest.	118.O8D
				Shamin Padalkar and Jayashree Ramadas	Visuospatial models of the sun-earth-moon system	214.O8D
				Aristeidis Kosionidis	Identifying critical points in modernising the Astronomy curriculum of Greek Primary Education: a preliminary survey	337.O8D
Thu	15:00 -16:20	F	Workshop	Ed van Den Berg	Experimenting with concept cartoons	343.W8F

Day	Time	Room	What	Authors	Title	Code
Thu	16:40 -18:00	A	Session 9A	Supachoke Puttisanwimon, Suttida Rakkapao and Teparksorn Pengpan	Assessment of the Just-in-Time-Teaching Approach on the Newtonian Mechanics Concept by Using the Model Analysis Technique	222.O9A
				Erees Queen Macabebe and Eleanor Alma Jugueta	Effect of collaborative learning in Interactive Lecture Demonstrations (ILD) on student conceptual understanding of motion graphs	254.O9A
				Anna Garry, Jean-Pierre Wolf, Vesna Markovic, Diego Villamaina, Alexander Rodenberg, Andrii Rogov, Svetlana Afonina, Denis Kiselev, Paul Donaldson, Marius Wehrle, Miroslav Sulc and Aurelien Patoz	An Education Competition for Ph.D.s and postdocs working in Molecular Ultrafast Science and Technology	292.O9A
				Gregory R. Hale, Ramon E. Lopez, Ann M. L. Cavallo and Erin E. Gonzales	Increasing Physics Teacher Production by Replicating the UTeach Teacher Preparation Model and Awarding Noyce Scholarships	345.O9A
Thu	16:40 -18:00	B	Session 9B	Dorothy Sebestyen	Physics during Sightseeing in London and Paris	033.O9B
				Anssi Lindell, Marjo Autio- Hiltunen, Anna-Leena Kahkonen and Antti Lokka	Checkpoint Leonardo - combining informal science and art education to primary and science teacher education	088.O9B
				Marmon Pagunsan	Physics in the Museum	307.O9B
				Alexander Kazachkov and Abraham Salinas Castellanos	In-Service Teachers' Training Creative Physics Workshops at the National Polytechnic Institute in Mexico	342.O9B

Day	Time	Room	What	Authors	Title	Code
Thu	16:40 -18:00	C	Session 9C	Akizo Kobayashi and Fumiko Okiharu	ICT-Based Active Learning Approaches on Mechanics in Blowgun-Darts Systems of Tapioka- Straws and in 2-Body-Collision-Systems of Pendulums	052.O9C
				Muhammad Sabieh Anwar	Investigating connections between thermal energy, electric currents and magnetism in the laboratory setting	171.O9C
				Jan Novotný, Jana Jurmanová and Jindřiška Svobodová	Informal Teaching and Learning of Special Theory of Relativity	306.O9C
				Jonathan Keartland	Active Learning in higher-level courses: Thermal and Statistical Physics	325.O9C
Thu	16:40 -18:00	D	Session 9D	Claudia Haagen- Schuetzenhoefer	Theory-Practice Gap: The relevance of students' conceptions for teaching geometrical optics in practice	065.O9D
				Claudia Haagen- Schuetzenhoefer	Students' conceptions on the nature of white light	067.O9D
				Maria Bondani, Alessia Allevi, Luca Nardo and Fabrizio Favale	The "LuNa" Project: experimental modules to teach optics in Primary and Secondary Schools	090.O9D
				Bor Gregorcic, Eugenia Etkina and Gorazd Planinsic	Effective use of interactive whiteboards - a design based research approach	190.O9D
Thu	16:40 -18:00	E	Workshop	Mark Greenman	Interactive Laboratory Experience (ILE) – A Hands- On and Minds-On Approach to Effective Physics Teaching	014.W9E

Thursday evening: *Conference dinner*

Friday, 09 August 2013

Sessions

Day	Time	Room	What	Authors	Title	Code
Fri	8:30 -9:50	A	Session 10A	Hiroshi Takahashi, Akira Akabane, Jun Shozawa and Toyomi Tamaki	Learn from the history: Lessons from old Japanese physics experimental textbooks published during 1880s	223.O10A
				Mehmet Fatih Tasar and Nagihan İmer Çetin	Does Self regulation in Hypermedia Trigger Conceptual Change in Nature of Science?	318.O10A
				Tomáš Milář, Jan Hollan and Jindřiška Svobodová	Climate change education for physics teachers	322.O10A
Fri	8:30 -9:50	D	Session 10D	Sara Barbieri, Marco Giliberti and Claudio Fazio	The explicative power of the vector potential in superconductivity: a path for high school students	123.O10D
				Marisa Michelini, Alberto Stefanel and Antonio Vanacore	Exploration of students' ideas on superconductivity	143.O10D
				Maja Pecar and Mojca Cepic	From sellotape and polarizers to conoscopy in the classroom	158.O11E →10D
				Jerneja Pavlin, Marko Rožič, Vitomir Babič, Nataša Vaupotič and Mojca Čepič	Evaluation of Liquid Crystals Display Course for Secondary School Students	159.O10D

Day	Time	Room	What	Authors	Title	Code
Fri	8:30 -9:50	E	Session 10E	Peter Horváth	Car's braking distance	122.O10E
				Priscilla Laws	Using Online Interactive Physics---based Video Analysis Exercises to Enhance Learning	167.O10E
				Manuel Eusebio	Problem-Based Learning and Video Analysis as Strategies in Learning Concepts of Force and Motion	150.O10E
				Eduardo Gama and Marta Barroso	Students´ Video Production as a Formative Assessment	272.O10E
Fri	8:30 -9:50	F	Session 10F	Graham Rankin	Students' understanding of angular speed	002.O10F
				Wheijen Chang	Fluency to Link Newton's 1st and 2nd Laws: High school students' performance in Taiwan	026.O10F
				Fabrizio Favale and Maria Bondani	Underwater laboratory: Teaching physics with diving practice	091.O10F
				Stephan Paraffin Mchunu and Sitwala Namwinji Imenda	The Conceptual Difficulties Held by High School Students in Mechanics	233.O10F

Day	Time	Room	What	Authors	Title	Code
Fri	10:10 -11:30	A	Session 11A	Susanna Occhipinti	Searching for models and guideline for effective TL: using investigation, and peer -education in "From flint to renewable energies"	048.O11A
				Christine Lindstrøm	Making pre-work popular in physics	089.O11A
				Sheh Lit Chang, Leiju Qiu and Nidhi Sharma	Transforming Engineering Physics Tutorials with Cooperative Learning and Learning Assistants: A First-Hand Experience	092.O11A
				Vera Montalbano and Roberto Benedetti	Active learning in pre-service science teacher education	128.O11A
Fri	10:10 -11:30	D	Session 11D	Syed Ali, Syed Naseem Hussain Shah and Aziz Hasnain	Impact of Project Based Learning Of Physics in Technical Institutions, Karachi	157.O11D
				Lukas Richterek, Zdeněk Pucholt, František Látal and Jan Říha	Computer modelling in some Czech Physics Olympiad problems and Easy Java Simulations	188.O11D

Day	Time	Room	What	Authors	Title	Code
Fri	10:10 -11:30	E	Session 11E	Daniel Sanchez-Guzman, Cesar Mora, Ricardo García- Salcedo and Irma Miguel	Intelligent Tutoring System Applied to Teach Optics in a B-Learning Scenario to High-School Students	006.O11E
				Sorasak Danworaphong and Wandee Thaisiam	An Ultrasonic Black Box	028.O11E
				Ervin Racz and Imre Fejes	Compact Mobile Five-in-One Demonstration Experimental Stand for Teaching Fluid Mechanics	149.O11E
Fri	10:10 -11:30	F	Session 11F	Raluca Teodorescu, Gerald Feldman, Larry Medsker and Mark Reeves	Department-Level Reform: Implementing Active- Learning Techniques in Introductory Physics and Astronomy Courses	040.O11F
				María E. Pereyra, Zulma Gangoso and Isabel Brincones Calvo	Inference generation during problem solving in physics	278.O11F
				Ramon Lopez, Greg Hale and Ann Cavallo	The Preparation of Physics Teachers and the Next Generation Science Standards	283.O11F
				Douglas Clerk and Deena Naidoo	Active Learning and Problem Solving	321.O11F

Main lecture hall

Fri	11:40-12:00	Closing ceremony				
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Last minute ICPE-EPEC 2013 programme changes

current on 3. 8. 2013

Changes to the printed version of the Conference Programme (and to the version on the conference USB flash drive) are listed below. These changes are already reflected at previous pages of this updated version of the conference programme.

Possible further last minute changes will be announced at the conference notice board.

From		Oral presentations			Rescheduled to		
Day	Session	Code	Authors	Title	Day	Time	Session
Fri	10A	076.O10A →6B	Konstantin Rogozin and Irina Rogozina	Principles of Constructing Network Instruments for Active Learning	Tue	16:40 -18:00	6B
Fri	11D	285.O11D → P2	Konstantin Rogozin, Denis Yanyshv, Sergey Kuznetsov, Diana Kondrashova and Ulyana Pshenova	The Inter-University Teaching and Research Resource Center «Modern Physics»	Wed	Poster session	P2
Fri	11D	285.O11D →7A	Scott Daniel and Alexander Mazzolini	The messy transition from wrong to right: improvements but persistent inconsistencies on conceptually-equivalent questions after Interactive Lecture Demonstrations	Thu	13:30 -14:50	7A
Fri	11E	158.O11E →10D	Maja Pecar and Mojca Cepic	From sellotape and polarizers to conoscopy in the classroom	Fri	8:30 -9:50	10D

From		Posters			To	
Day	Poster session	Code	Authors	Title	Day	Poster session
		(not in the Book of Abstracts)	Fatma Caner and Feral Ogan Bekiroglu	Components of pre-service physics teachers' technological pedagogical content knowledge (TPCK)	Tue	P1
Tue	P1	231.P1 →P2	Eduardo Kojy Takahashi, Dayane Carvalho Cardoso, Rubens Gedraite, Hermes Gustavo Neri, Renner Martins Moura and Adilmar Coelho Dantas	A WebLab for teaching physics	Wed	P2
Thu	P3	367.P3 →P2	Kazunari Taniguchi	A Practice of Interactive Lecture Demonstrations for pre-service science teacher training in Japan	Wed	P2
Thu	P3	275.P3 canceled	Maykell Figueira and Eduardo Takahashi	A new teaching methodology inspired on Role-Playing Games and the Activity Theory	--	--
Thu	P3	355.P3 canceled	Milán Molnár and Katalin Papp	Early childhood science education	--	--