### Conference programme schedule

**Date: Monday, 17/Sep/2012**

- **5:30pm - 8:00pm**
  - Registration: Front desk
  - Invalidenstraße 42, 10115 Berlin

- **7:00pm - 10:00pm**
  - Reception: Address of welcome
  - Invalidenstraße 43, 10115 Berlin
  - Humboldt-Universität zu Berlin

**Date: Tuesday, 18/Sep/2012**

- **9:00am - 10:45am**
  - Opening: Welcoming and keynote speech
  - Henry Ford Building (HS A)
  - Session Chair: Dirk Krüger
  - President of Free University Berlin: Prof. Dr. Peter-André Alt; Director of the Institute of Biology: Prof. Dr. Constance Scharff
  - Keynote speaker: Prof. Dr. Shaaron Ainsworth (University of Nottingham)

- **11:15am - 12:45pm**
  - 1.1 A Oral: Scientific thinking
    - Session Chair: Marida Ergazaki
  - 1.1 B Oral: Biology education in informal settings
    - Session Chair: Michael Reiss
  - Henry Ford Building (HS A)

- **2:15pm - 4:15pm**
  - 1.2 A Poster: Session I
    - Session Chair: Holger Weitzel
  - Henry Ford Building (HS B)

- **4:45pm - 6:30pm**
  - 1.3 A Oral: Student conceptions
    - Session Chair: Harald Gropengiesser
  - Henry Ford Building (HS A)

**Date: Wednesday, 19/Sep/2012**

- **9:00am - 11:00am**
  - 2.1 A Symposium: Supporting students' interactions with Socio-Scientific Issues
    - Session Chair: Beverley France
  - Henry Ford Building (HS A)

- **9:00am - 11:00am**
  - 2.1 B Oral: Student conceptions
    - Session Chair: Kerst Thomas Boersma
  - Henry Ford Building (HS B)

- **11:30am - 12:30pm**
  - 2.2 A Oral: Health education
    - Session Chair: Kirsten Schlüter
  - Henry Ford Building (HS A)

- **2:00pm - 4:00pm**
  - 2.3 A: Business Meeting
    - Session Chair: Margareta Ekborg
  - Henry Ford Building (HS A)

- **6:30pm - 9:00pm**
  - Tour evening

**Date: Thursday, 20/Sep/2012**

- **9:00am - 10:30am**
  - 3.1 A Oral: Environmental education
    - Session Chair: Tali Tal
  - Henry Ford Building (HS A)

- **9:00am - 10:30am**
  - 3.1 B Oral: Argumentation
    - Session Chair: Grégoire Molinatti
  - Henry Ford Building (HS B)

- **11:00am - 12:30pm**
  - 3.2 A Oral: Health education
    - Session Chair: Graça S. Carvalho
  - Henry Ford Building (HS A)

- **11:00am - 12:30pm**
  - 3.2 B Oral: Biology education and Publication in international journals
    - Session Chair: Michael Reiss
  - Henry Ford Building (HS B)

- **2:00pm - 4:00pm**
  - 3.3 A Poster: Session II
    - Session Chair: Philipp Schmiemann
  - Henry Ford Building (HS A)

- **4:30pm - 6:30pm**
  - 3.4 A Symposium: Teaching evolution: cognitive and affective factors
    - Session Chair: Marcus Hammann
  - Henry Ford Building (HS A)

- **4:30pm - 6:30pm**
  - 3.4 B Oral: Pedagogical content knowledge
    - Session Chair: Anat Yarden
  - Henry Ford Building (HS B)

- **7:30pm - 10:00pm**
  - Gala Dinner
  - Königin-Luise-Straße 6-8
  - 14195 Berlin

**Date: Friday, 21/Sep/2012**

- **9:00am - 10:30am**
  - 4.1 A Oral: Teaching strategies
    - Session Chair: Maria José Gil_Quílez
  - Henry Ford Building (HS A)

- **9:00am - 10:30am**
  - 4.1 B Oral: Teaching genetics
    - Session Chair: Dirk Jan Boerwinkel
  - Henry Ford Building (HS B)

- **11:00am - 12:30pm**
  - 4.2 A Oral: Interest and motivation
    - Session Chair: Marie Christina Knippels
  - Henry Ford Building (HS A)

- **11:00am - 12:30pm**
  - 4.2 B Oral: Teaching strategies
    - Session Chair: Patricia Schneeberger (enquired)
  - Henry Ford Building (HS B)
1.1 A Oral: Scientific thinking
Time: Tuesday, 18/Sep/2012: 11:15am - 12:45pm
1.1 A Oral: 1
Competential Feedback Effects on Scientific Reasoning, Calibration, and Self-Efficacy
Mareike Wollenschläger1, Jens Möller2, Ute Harms3
IPN – Leibniz Institute for Science and Mathematics Education, Germany; 2Department of Psychology at the University of Kiel, Germany
1.1 A Oral: 2
Problem Solving in Biology: Assessing Competence Development
Julia Arnold1, Kerstin Kremer, Jürgen Mayer2
Department of Biological Education, University of Kassel
1.1 A Oral: 3
Age-related differences in inquiry-based learning in biology class
Angelika Kremer, Kirsten Schütter1
Universität zu Köln, Germany

1.1 B Oral: Biology education in informal settings
Time: Tuesday, 18/Sep/2012: 11:15am - 12:45pm
1.1 B Oral: 1
Do zoo visitors need zoology knowledge to understand biodiversity conservation?
Tracy Dove1, Jenny Byrne2
1Isle of Wight Zoo, United Kingdom; 2University of Southampton
1.1 B Oral: 2
Learning at the museum: motivational aspects of guided tours
Jennifer Härting1, Andrea Möller2, Norbert Pütz3
University of Vechta - Biology and Didactic, Germany; 2University of Trier - Biology and Didactic, Germany
1.1 B Oral: 3
Beginning biology – interest and inquiry in the early years
Annette Scheersoil1, Sue Dale Tunnicliffe2
1Goethe University Frankfurt, Germany; 2Institute of Education (IOE) London, England

1.2 A Poster: Session I
Time: Tuesday, 18/Sep/2012: 2:15pm - 4:15pm
1.2 A Poster: 1
Animal biodiversity in ecosystems - the consciousness of pupils and students
Eija Inkeri Yli-Panula
University of Turku, Finland
1.2 A Poster: 2
Promoting the development of students’ coherence of biological concepts
Micha Ummels1, Marcel Kamp1, Hans de Kroon2, Kerst Boersma3
1Radboud University, Netherlands, The; 2University of Utrecht, Netherlands, The
1.2 A Poster: 3
A pattern that connects (some) students’ explanations for species evolution
Jörg Zabel1, Harald Gropengießer2
1Universität Leipzig, Institute for Biology, Germany; 2Institute for Science Education, Leibniz Universität Hannover, Germany
1.2 A Poster: 4
A cognitive model for students’ purpose-based conceptions about biological adaptation
Holger Weitzel
University of Education Weingarten, Germany
1.2 A Poster: 5
Students’ Perceptions of Biology --- Glimpses from Indian Context
Meena Kharratmal, Supra Chunawala
Homi Bhabha Centre for Science Education (TIFR), Mumbai, India
1.2 A Poster: 6
PRIMARY SCHOOL PUPILS’ CONCEPTIONS ABOUT THE RESPIRATORY TRACT AND SMOKING UNHEALTHY EFFECTS
Rosa Branca Tracana1, Sara Vieiro2, Graça S. Carvalho2
1Polytechnic Institute of Guarda, Guarda, Portugal; 2CIEC, Institute of Education, University of Minho, Braga, Portugal, The
1.2 A Poster: 7
Enhancing scientific inquiry learning and the quality of motivation - Evaluation of a competence-orientated science-course in year 11
Cornelia Stiller, Stefan Hahn, Andreas Stockey, Matthias Wilde
Universität Bielefeld, Germany
1.2 A Poster: 8
PREDICTORS OF ACADEMIC SUCCESS: ACHIEVEMENT MOTIVATION OF BIOLOGY AND ACADEMIC SELF-EFFICACY
Mirac Yılmaz1, Hikmet Kartucoğlu2
1Hacettepe University, Faculty of Education, Department of Science and Mathematics Fields in Secondary Education, Turkey; 2Gazi University, Faculty of Education, Department of Science and Mathematics Fields in Secondary Education, Turkey
1.2 A Poster: 9
Does Judgment Quality affect the Attitude-Behaviour-Gap in Organ Donation?
Melanie Basten, Matthias Wilde
Universität Bielefeld, Germany
1.2 A Poster: 10
Development of learners’ attitudes and concepts at transitions
Alexandra Moormann
 Humboldt University of Berlin, Germany, Department of Biology, Didactics of Biology
1.2 A Poster: 11
Undergraduate biology students’ ability to read and evaluate research articles
Miriam Ossevoort, Edwin van Lacum, Martin Goedhart
University of Groningen, Netherlands, The
1.2 A Poster: 12
The natural history perspective on bio-communities – a narrative approach
Martin Jurgowiak, Jörg Zabel
Universität Leipzig, Germany

1.2 B Poster: Session I
Time: Tuesday, 18/Sep/2012: 2:15pm - 4:15pm
1.2 B Poster: 1
Fostering Scientific Modeling with Biological Worked-out Examples
Anja Czeskleba, Philipp Schmiemann
Freie Universität Berlin, Germany
1.2 B Poster: 2

Experience-based teaching and learning of socioscientific issues
Shu-Nu Chang Rundgren, Carl-Johan Rundgren
Karlstad University, Sweden; 2Stockholm University, Sweden
1.2 B Poster: 3

Embodyed metaphors and analogies as imaginative thinking tools
Kai Niebert, Treagust David
Leibniz Universität Hannover; 2Curtin University of Technology, Australia
1.2 B Poster: 4

Metacognitive knowledge as a predictor for communication competence in science
Kathrin Klöpfel, Julia Schwanewedel, Jürgen Mayer
Universität Kassel, Germany
1.2 B Poster: 5

How teenagers justified their swine flu vaccination decision
Mats Lundström, Margareta Ekborg
Malmö University, Faculty of Education and Society, Sweden
1.2 B Poster: 6

The emergence of criteria for evaluating models in science classrooms
Andres Acher, Lisa Kenyon
1Martin-Luther-Universität Halle-Wittenberg, Germany; 2Wright State University, USA
1.2 B Poster: 7

Students’ perspectives on leaves - Challenges in the tree identification processes
Svenja Affeldt, Dennis Stahl, Jorge Groß
Leibniz University of Hannover, Germany
1.2 B Poster: 8

Addressing the ideas of replication and observer bias to 5th grade students conducting a mealworm experiment
Roman Asshoff, Hilwerling Ruth, Philipp Westphal
Zentrum für Didaktik der Biologie, WWU Münster, Germany
1.2 B Poster: 9

Teeth are not like Teeth: Students’ Conceptions when Identifying Clams
Dennis Stahl, Svenja Affeldt, Jorge Groß
Leibniz University Hannover, Germany
1.2 B Poster: 10

Students’ conceptions about sexuality and ways to clear their doubts
Zélia Ferreira Anastácio, Ana Luisa Alves
University of Minho, Portugal
1.2 B Poster: 11

Context-contingent influences on the competency of evaluation and judgment
Melanie Werner, Julia Schwanewedel, Jürgen Mayer
Universität Kassel, Germany
1.2 B Poster: 12

1.2 C Poster: Session I
Time: Tuesday, 18/Sep/2012: 2:15pm - 4:15pm

Learning Study in upper secondary school: What is the relationship between genome and individual characteristics?
Mona Holmqvist Olander, Clas Olander, Kerstin Gross, Elsa Fagerjord
1University of Gothenburg, Sweden; 2Bäckång Upper Secondary School, Borås, Sweden
1.2 C Poster: 1

Observation competency training in guided play activities
Lucia Kohlhauf, Ulrike Rutke, Birgit Neuhauß
Ludwig-Maximilians-University Munich, Germany
1.2 C Poster: 2

The application of concept maps in teaching invertebrate zoology
Jelena D. Stanisavljević, Ljubiša Ž. Stanisavljević
University of Belgrade - Faculty of Biology, Serbia
1.2 C Poster: 3

The didactical implications of biology teachers’ understanding of research as praxis
William John Fraser, Annemarie Hattingh, Erna Du Toit, Mia Abrie, Johannes Stabbert, Jan Nieuwenhuis, Lindelani Mnguni, Estelle Gaigher, Elize Randall
1University of Pretoria, South Africa; 2University of Cape Town; 3University of the Free State
1.2 C Poster: 4

Analyzing students’ arguments in reasoning about processes of adaptation
Nicolaï Basel, Helmut Prechtl, Ute Harms
IPN-Leibniz-Institute for Science and Mathematics Education, Germany; 2University of Potsdam - Institute of Biology Education
1.2 C Poster: 5

Natures of Science: A Case Study of Biodiversity Conservation
Esther M. van Dijk
University of Hildesheim, Germany
1.2 C Poster: 6

LEARNING BIOLOGY BY LIVING IT - regulation of tenseness
Helène Bergentoft, Mona Holmqvist
University of Gothenburg, Sweden
1.2 C Poster: 7

INCLUSIVE SCIENCE: TEACHERS’ ATTITUDES AND PRACTICES
António Costa, Maria Eduarda Ferreira, Carlos Sousa Reis, José Miguel Salgado
1Instituto Politécnico do Guarda, Portugal; 2Unidade de Investigação para o Desenvolvimento do Interior; 3UDI – Research Unit for Inland Development
1.2 C Poster: 8

Using Concept Maps to foster students’ socioscientific reasoning and decision making
Anne Nitsch, Sabina Eggert, Susanne Bögeholz
Georg-August-University Göttingen, Germany
1.2 C Poster: 9

ECO-SCHOOL EFFECTIVENESS: A MATTER OF VALUES?
Jelle Boeve-de Pauw, Peter Van Petegem
University of Antwerp, Belgium
1.2 C Poster: 10
1.2 C Poster: 11
Content choices within a concept-context approach in primary science education
Annelotte Lammers1, Ronald Keijzer1, Marja van Graft1
1Freudenthal Institute for Science and Mathematics Education, Utrecht University, The Netherlands; 2Netherlands Institute for Curriculum Development (SLO), Enschede, The Netherlands

1.2 C Poster: 12
Comparative Study in Biology Lessons between Germany and China
Ning LIU, Birgit Neuhaus
Ludwig-Maximilians-Universität München, Germany

1.3 A Oral: Student conceptions
Time: Tuesday, 18/Sep/2012: 4:45pm - 6:30pm
1.3 A Oral: 1
Activating a productive epistemological modus – Effects of reflecting intuitive ideas
Kerstin Oschatz
University of Hamburg, Germany

1.3 A Oral: 2
Effects of experiments for pupil’s understanding of plant nutrition
Tanja Steigert, Marcus Schrenk
Pädagogische Hochschule Ludwigshafen, Germany

1.3 A Oral: 3
How do students describe and explain biological phenomena?
Tanja Rieheimer
Leibniz Universität Hannover, Germany

1.3 A Oral: 4
Explaining transfer: why students have difficulties recontextualising cellular respiration
Menno Wierdsma1,3, Marie-Christine Knippe1, Bert van Oers1, Kerst Boersma1
1Freudenthal Institute for Science and Mathematics Education, Utrecht University, The Netherlands; 3Department of Theory and Research in Education, VU University Amsterdam, Netherlands, The; 3Department of Teacher Education, University of Groningen, Netherlands, The

1.3 B Oral: Teaching socio-scientific issues
Time: Tuesday, 18/Sep/2012: 4:45pm - 6:30pm
1.3 B Oral: 1
Intuitive knowledge acquisition when learning with computer simulations in ecology
Marc Eckhardt1, Deftef Urhahn2, Olaf Conrad3
1Leibniz Institute for Science and Mathematics Education (IPN), Germany; 2Martin-Luther-University, Germany; 3University of Hamburg, Germany

1.3 B Oral: 2
Reasoning patterns in processing multi-criteria socio-scientific decision-making situations
Nicos Papadouris, Ero Ioannou
University of Cyprus, Cyprus

1.3 B Oral: 3
Students understanding of the logics of the media about socio-scientific issue
Grégoire Molinatti1, Laurence Simonneaux3
1Université des sciences de Montpellier - IUFM, France; 3Ecole Nationale de Formation Agronomique, Toulouse, France

1.3 B Oral: 4
Arguments, Values & Beliefs of Pre-Service Teachers discussing Socio-cientific Issues
Marina Castells, Katerina Konstantinidou
Universitat de Barcelona, Spain

Presentations
Date: Wednesday, 19/Sep/2012

2.1 A Symposium: Supporting students’ interactions with Socio-Scientific Issues
Time: Wednesday, 19/Sep/2012: 9:00am - 11:00am
2.1 A Symposium: 1
Supporting students’ interactions with Socio-Scientific Issues
Beverley France1, Sally Birdsal1, Ralph Levinson2, Olivier Morin1, Laurence Simonneaux1, Jean Simonneaux3
1The University of Auckland, New Zealand; 2University of London; 3Ecole Nationale de Fromation Agronomique de Toulouse, France; Lyon 1 (Université Claude Bernard)

2.1 A Symposium: 2
Digital technology to support student’s Socio-Scientific Reasoning about Environmental Issues
Olivier MORIN2, Laurence SIMONNEAUX1, Jean SIMONNEAUX1
1Université Toulouse 2 le Mirail, France; 2Université Claude Bernard Lyon 1

2.1 A Symposium: 3
Promoting constructive discourse in philosophical issues through an online forum
Ralph Levinson
Institute of Education University of London, United Kingdom

2.1 A Symposium: 4
Changing attitudes to animal research: Introducing the scientists’ perspective
Beverley France, Sally Birdsal
The University of Auckland, New Zealand

2.1 A Symposium: 5
A pedagogy to support understanding of sustainability in 5-year-old children
Sally Birdsal
The University of Auckland, New Zealand

2.1 B Oral: Student conceptions
Time: Wednesday, 19/Sep/2012: 9:00am - 11:00am
2.1 B Oral: 1
Molecular Mechanistic Reasoning: an educational strategy to bridge the gap between the molecular and cellular level.
Marc H.W. van Mu1,2, Paulien A. Postma1, Dirk Jan Boerwinkel1,2, Arend Jan Waarlo3,4
1Utrecht University, Netherlands, The; 2Cancer Genomics Centre; 3CSG Centre for Society and the Life Sciences

2.1 B Oral: 2
The interpretation of students’ Lamarckian explanations
Kerst Thomas Boersma1, Caspar Geraeds2
1Freudenthal Institute for Science and Mathematics Education, Netherlands, The; 2De Praktijk, Amsterdam, Netherlands, The

2.1 B Oral: 3
The Role of Conceptions and Metaphors in Students’ Understanding of Seeing
Sarah Dannemann1, Dirk Krüger2
**2.1 B Oral: The effect of teaching on children’s ideas about plants’ protection**

**Stella Petrou, Konstantinos Korfiatis**

University of Cyprus, Cyprus

**2.2 A Oral: Health education**

**Time:** Wednesday, 19/Sep/2012: 11:30am - 12:30pm

**2.2 A Oral: 1**

**A hands-on activity to promote healthy sun exposure behaviours**

**Maria João Fonseca**¹, Patrício Costa², Leonor Lencastre³, Fernando Tavares¹,³

¹Faculdade de Ciências, Departamento de Biologia, Universidade do Porto, Portugal; ²IBMC - Instituto de Biologia Molecular e Celular, Universidade do Porto, Portugal; ³CIBIO - Centro de Investigação em Biodiversidade e Recursos Genéticos, Universidade do Porto, Portugal; ⁴Faculdade de Psicologia e de Ciências da Educação, Universidade do Porto, Portugal

**2.2 A Oral: 2**

**Comparative Analysis of Food and Nutrients in Textbooks of 16 Countries**

**Graça S. Carvalho**¹, Claudia Ferreira¹, Artur Gonçalves², Rosa Branca Tracana¹,²

¹CIEC, University of Minho, Portugal; ²Polytechnic Institute of Guarda, Portugal

**3.1 A Oral: Environmental education**

**Time:** Thursday, 20/Sep/2012: 9:00am - 10:30am

**3.1 A Oral: 1**

**New Biology Curriculum: National Results of an Educational Intervention**

**Andreas Ch. Hadjichambis**¹, Demetrios G. Mappouras¹, Konstantinos C. Manoli², Bruce Johnson³

¹Cyprus Ministry of Education and Culture, Cyprus; ²University of Cyprus; ³University of Arizona

**3.1 A Oral: 2**

**The place of higher education in promoting socio-environmental responsibility among future citizens and professionals**

**Keren Kaplan, Tali Tal**

Technion, Israel

**3.1 A Oral: 3**

**Group behavior and individual roles of undergraduate students during an Environmental Education course**

**Anthie Christodoulou, Maria Christodoulou, Demetra Paraskeva-Hadjichambi, Konstantinos Korfiatis**

University of Cyprus, Cyprus

**3.1 B Oral: Argumentation**

**Time:** Thursday, 20/Sep/2012: 9:00am - 10:30am

**3.1 B Oral: 1**

**Effective classroom strategies to promote argumentation skills about genetics socioscientific issues**

**Vaille Maree Dawson**

Curtin University, Australia

**3.1 B Oral: 2**

**Teaching scientific argumentation to pre-university students using primary literature**

**Marcel Koeneman, Martin Goedhart, Miriam Osevoort**

University of Groningen, Netherlands, The

**3.1 B Oral: 3**

**Students study background and supporting reasons in arguing socio-scientific issues**

**Nina Christenson, Shu-Nu Chang Rundgren**

Karlstad University, Sweden

**3.2 A Oral: Health education**

**Time:** Thursday, 20/Sep/2012: 11:00am - 12:30pm

**3.2 A Oral: 1**

**Conceptualizations of Health and Welfare among Elementary School Students in the Negev’s Bedouin Arab Community**

**Orit Ben Zvi Assaraf, Wisam Sedawi, Julie G. Cwikel**

Ben-Gurion University of the Negev, Israel, Israel

**3.2 A Oral: 2**

**Health as a crossroad of Socio-scientific Issues and Critical reading**

**Ana Maria Domènech Calvet, Conxita Márquez Bargalló, Montserrat Roca Tort**

Universitat Autònoma de Barcelona, Spain

**3.2 A Oral: 3**

**Discovering environment and sustainability with mobile devices – concepts and potentials**

**Sebastian Bloek, Marcel Bullinger, Armin Lude, Steffen Schaal**

Ludwigsburg University of Education, Germany

**3.2 B Oral: Biology education and Publication in international journals**

**Time:** Thursday, 20/Sep/2012: 11:00am - 12:30pm

**3.2 B Oral: 1**

**Chance and Determinism in Evolution: Teachers’ Conceptions in 21 Countries**

**Pierre Clément**

University Lyon 1, France

**3.2 B Oral: 2**

**Publication in International Journals**

**Michael Reiss, Tali Tal, David Slingsby et al.**
3.3 A Poster: Session II

Time: Thursday, 20/Sept/2012: 2.00pm - 4.00pm

3.3 A Poster: 1
Visualization of insects in the early years
Amauri Betini Bartoszek1, Sue Dale Tunnicliffe2
1University of Paraná, Brazil; 2University of London, UK

3.3 A Poster: 2
Support for and barriers to animal welfare education
michel vidal1, laurence simonneaux2
1Sup Agro Montpellier, France; 2ENFA Toulouse, France

3.3 A Poster: 3
Rivers: something more than just streams of water that arise in the mountains and flow into the sea.
Maria José Gil Quílez, Begoña Martínez Peña
University of Zaragoza, Spain

3.3 A Poster: 4
ASSESSING THE DEVELOPMENT OF STUDENTS’ ECOLOGICAL CONCEPTUAL UNDERSTANDING
Maiken Korsager
University of Oslo, Norway

3.3 A Poster: 5
Development and optimization of a testing instrument for recording the Nature of Science (NOS) views of students
Johannes Koska, Dirk Krüger
FU Berlin, Germany

3.3 A Poster: 6
Cell, organ, organism – only a structural hierarchy?
Michaela Lütze, Jörg Zabel
Universität Leipzig, Germany

3.3 A Poster: 7
Learners’ conceptions about plant physiology - An intervention study with students
Bettina Walter, Marcus Schrenk
University of Education Ludwigsburg/ Pädagogische Hochschule Ludwigsburg, Germany

3.3 A Poster: 8
Conditions of students’ motivation to learn plant physiology in a virtual environment
Beata Barbara Janczar-Lanczkowska, Katarzyna Ewa Polyrala
Pedagogical University of Cracow, Institute of Biology, Poland

3.3 B Poster: Session II

Time: Thursday, 20/Sept/2012: 2.00pm - 4.00pm

3.3 B Poster: 1
Teacher Trainees’ Trials and Tribulations with IBSE
Philipp Krämer, Stefan Nessler, Kirsten Schlüter
University of Cologne, Germany

3.3 B Poster: 2
Test-Taking Strategies as Predictors for Biology Students’ Test Performance
Mirjam Waldmann, Jörg Großschedl
IPN Leibniz-Institut für die Pädagogik der Naturwissenschaften und Mathematik, Germany

3.3 B Poster: 3
Students’ interest in plants: Development of a teaching unit
Sara Neumann
Universität Leipzig, Germany

3.3 B Poster: 4
Learning to guide open inquiry - Integration into the teaching practice
Erika Keller
Austrian Educational Competence Centre - AECC-Bio, Austria

3.3 B Poster: 5
Biotecnology in the Greek secondary biology books
MARIANNA KALAITSIDAKI
UNIVERSITY OF CRETE, Greece

3.3 B Poster: 6
From genes to traits without molecules; genetics in pre-vocational education.
Horst Wolter
Freudenthal Institute for science and mathematics education, Utrecht University, Netherlands, The Netherlands

3.3 B Poster: 7
Analysis of the concept of biodiversity present in textbooks
Camila Sanches Miani1, Fernanda da Rocha Brando2, Ana Maria de Andrade Caldeira1
1Universidade Estadual Paulista UNESP, Brazil, 2Universidade de São Paulo USP, Brazil

3.3 B Poster: 8
Utilization and impact of conservation messages in informal learning settings
Julia Kögl, Hauke Hellwig, Stefan Hartmann
Humboldt-Universität zu Berlin, Germany

3.3 B Poster: 9
Students’ motivation to engage in student-scientist-partnerships
Christine Heidinger, Martina Höll, Franz Radits, Martin Scheuch
University of Vienna, Austria

3.3 B Poster: 10
Exploring children’s views of what’s inside their bodies
Johanna Andersson, Lena Tibell, Ragnhild Löfgren
Linköping University, Sweden
3.3 B Poster: 11
Learning trajectories about the Nature of Science in Student-Scientist partnerships
Manfred Bardy-Durchhalter, Franz Radits
Universität Wien, Austria
3.3 B Poster: 12
Assessing Pre-service Teachers’ Professional Knowledge in Biology: The Project KiL
Jörg Großschedl, Ingrid Glowinski
Leibniz Institute for Science and Mathematics Education IPN, Germany
3.3 C Poster: Session II
Time: Thursday, 20/Sep/2012: 2:00pm - 4:00pm
3.3 C Poster: 1
Reframing classroom discourses on genetic testing from an STS perspective
Dirk Jan Boerwinkel1, Arend Jan Waarlo2, Tsjalling Swierstra2
1Freudenthal Institute for Science and Mathematics Education, Netherlands, The; 2Freudenthal Institute for Science and Mathematics Education, Netherlands, The; 3Dpt. of Philosophy, Maastricht University, Netherlands
3.3 C Poster: 2
Development of Critiquing Practices in Inquiry-Oriented Programs in Biology
Tom Bielik, Anat Yarden
Weizmann Institute of Science, Israel
3.3 C Poster: 3
High-school teachers’ appropriation of an innovative curriculum in bioinformatics
Yossi Machluf, Hadas Gelbart, Anat Yarden
Weizmann Institute of Science, Israel
3.3 C Poster: 4
Peers’ discursive activity about predation in a computer-supported learning environment
Marida Ergazaki, Vassiliki Zogza
University of Patras, Greece
3.3 C Poster: 5
Mapping controversies about the use of pesticides and agronomy teaching.
Nadia Cancian
ENFA UMR EFTS, France
3.3 C Poster: 6
THE DIFFICULTIES PROSPECTIVE BIOLOGY TEACHERS FACE DURING THE RUBRIC DEVELOPMENT
Perihan Günes1, Ali Alag2
1Hacettepe University, Turkey; 2Selçuk University, Turkey
3.3 C Poster: 7
The measurement of constructivist instruction based on student perceptions
Sabine Marsch1, Matthias Wilde4, Detlef Uhrhane2
1Freie Universität Berlin, Germany; 2Universität Bielefeld, Germany; 3Universität Harle-Wittenberg, Germany
3.3 C Poster: 8
Determination and fostering of students’ model competence using hands-on tasks
Juliane Hänsch, Annette Upmeier zu Belzen
Humboldt-Universität zu Berlin, Germany
3.3 C Poster: 9
Processes of Scientific Inquiry in Theory and Practice
Kathrin Helena Nowak, Andreas Nehring, Rüdiger Tiemann
Humboldt-Universität zu Berlin, Germany
3.3 C Poster: 10
Sharing experiences of two LearningLABs on bioinformatics for European teachers.
Louisa Wood1, Philipp Gebhardt2
1EMBL-European Bioinformatics Institute, United Kingdom; 2European Learning Laboratory for the Life Sciences, European Molecular Biology Laboratory, Germany
3.3 C Poster: 11
The potential of biology textbooks to integrate molecular genetic knowledge
Chantal de Ruijter, Dirk-Jan Boerwinkel
Freudenthal Institute for Science and Mathematics Education, Utrecht University, Netherlands, The
3.3 C Poster: 12
Conceptual Reconstruction and Role of Metaphors in Understanding Germ Theory
Barnd Unger
Leibniz Universität Hannover, Germany
3.3 C Poster: 13
Comparative analysis of the activity of two teachers in terms of students’ acculturation to science
Yann Lhoste1, Patricia Schneeberger2, Brigitte Peterfalvi2
1Université de Bordeaux, France (LACÉS, ÉA 4140); 2Université de Bordeaux, France (LACÉS, ÉA 4140); 3Université de Nantes, France (CREN, ÉA 2661)
3.4 A Symposium: Teaching evolution: cognitive and affective factors
Time: Thursday, 20/Sep/2012: 4:30pm - 6:30pm
3.4 A Symposium: 1
Teaching evolution: cognitive and affective factors
Marcus Hammann1, Christiane Konnemann1, Clas Olander2, Penelope Papadopoulou2
1Zentrum für Didaktik der Biologie, WWU Münster, Germany; 2Institutionen för didaktik och pedagogisk profession, Göteborg, Sweden; 3University of Western Macedonia, Greece
3.4 A Symposium: 2
Why am I learning biological evolution?
Clas Ludwig Olander
University of Gothenburg, Sweden
3.4 A Symposium: 3
Conceptual ecology of the Evolutionary Theory in the Greek cultural frame: Students’ conceptual ecologies before and after teaching.
Penelope Papadopoulou1, Efstratios Katakos2, Kyriacos Athanasio2
1UNIVERSITY OF WESTERN MACEDONIA, Greece; 2UNIVERSITY OF ATHENS, Greece
3.4 A Symposium: 4
Attitudes towards evolutionary theory: A multidimensional approach
Christiane Konnemann, Roman Aashoff, Marcus Hammann
Centre for Didactics of Biology, University of Münster, Germany
3.4 A Symposium: 5
Acceptance of evolutionary theory: Do problem concepts and different aspects of evolution make a difference?
Marcus Hammann, Christiane Konnemann, Roman Aashoff
Zentrum für Didaktik der Biologie, WWU Münster, Germany
3.4 B Oral: Pedagogical content knowledge

**Time:** Thursday, 20/Sep/2012: 4:30pm - 6:30pm

3.4 B Oral: 1
**Evaluation and validation of test instruments to measure biology teachers’ PCK&CK**
Melanie Juettner, Birgit Jana Neuhaus
University of Munich (LMU), Germany

3.4 B Oral: 2
**Characterizing tacit PCK of in-service biology teachers**
Ronit Rozenszajn, Anat Yarden
Weizmann institute of science, Israel

3.4 B Oral: 3
**Teachers’ PCK development during a professional development course in ecology**
Martin Scheuch, Christine Heidinger, Erika Keller, Franz Radits
University of Vienna, Austria

3.4 B Oral: 4
**Biology teachers learning to design context-based lessons**
Nienke Wieringa, Fred Janssen, Els De Hullu, Jan Van Driel
Leiden University, Netherlands, The

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**Presentations**

**Date:** Friday, 21/Sep/2012

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4.1 A Oral: Teaching strategies

**Time:** Friday, 21/Sep/2012: 9:00am - 10:30am

4.1 A Oral: 1
**Teachers’ objectives and knowledge focus in outdoor teaching, grade 4-6**
Birgitta Wilhelmsson¹, Christina Ottander², Gun Liden³
Uméå university, Sweden; ²Swedish University of Agricultural Sciences

4.1 A Oral: 2
**From matter cycle to ecosystem: a learning progression proposal**
Eva Novella¹, Anna Marbà-Tallada¹
Universitat Autònoma de Barcelona. Grup de Recerca Consolidat LIEC. Catalunya.; ¹Escola Aula, Barcelona, Catalunya

4.1 A Oral: 3
**The connection between secondary school students’ internal factors, school experiences and sustainability actions**
Anna Uitto, Seppo Saloranta
University of Helsinki, Finland

4.1 B Oral: Teaching genetics

**Time:** Friday, 21/Sep/2012: 9:00am - 10:30am

4.1 B Oral: 1
**Instructional efficiency of tutoring hands-on phases in an outreach lab**
Franz-Josef Scherfenberg, Franz X. Bogner
University of Bayreuth, Germany

4.1 B Oral: 2
**Teachers talk in the classroom: connecting genes with traits**
Karina Helena Thörne, Niklas Gericke, Mariana Hagberg
Karlstad University, Sweden

4.1 B Oral: 3
**Training teachers to use bioinformatics resources in developing student assignments**
Hienke Sminia
Netherlands Bioinformatics Centre, Netherlands, The

4.2 A Oral: Interest and motivation

**Time:** Friday, 21/Sep/2012: 11:00am - 12:30pm

4.2 A Oral: 1
**First-Year Students’ Priorities and Choices Related to Science and Technology Education**
Doris Elster, Verena Mauk
University Bremen, Germany

4.2 A Oral: 2
**Interest development in biology through learning progression**
Morten Rask Petersen
University of Southern Denmark, Denmark

4.2 A Oral: 3
**Bilingual Biology teaching: students’ attitude depending on motivation and achievement**
Petra Duske, Julia Drixler, Michael Ewig
Pädagogische Hochschule Weingarten, Germany

4.2 B Oral: Teaching strategies

**Time:** Friday, 21/Sep/2012: 11:00am - 12:30pm

4.2 B Oral: 1
**From lectures to small-group learning in an undergraduate Biology Course**
Tali Tal, Masha Tsauhshu
Technion, Israel

4.2 B Oral: 2
**Science standards and individualised teaching – A contradiction?**
Iris Venus-Wagner
University of Salzburg, Austria

4.2 B Oral: 3
**Good student questions in inquiry learning?**
François E. Lombard, Daniel K. Schneider
Université de Genève, Switzerland