

PATT 34 ► **2017** Conference Program

Technology & Engineering Education

Fostering the Creativity of Youth Around the Globe



July 10-14, 2017
Philadelphia, PA – USA



Millersville University
Applied Engineering, Safety & Technology

Monday, July 10

5:00 p.m. **Registration**

6:00 p.m. **Cocktail Hour**

Tuesday, July 11

9:00 a.m. **Welcome and Opening Statements**

- ◆ **Len Litowitz**, PATT 34 Conference Chairperson
Professor, Applied Engineering, Safety & Technology
Millersville University of Pennsylvania (USA)
- ◆ **Mike Jackson**, Dean
College of Science & Technology
Millersville University of Pennsylvania (USA)
- ◆ **Steven Barbato**, Executive Director
International Technology & Engineering Educators Association

Block 1 Sessions

Chairperson – *Joseph McCade*

- 9:20 ◆ PATT and the Amish: Values in Technology Education
Marc J. deVries
The Netherlands
- 9:40 ◆ A Critical Examination of Engineering Design Processes and Procedures
Greg Strimel
USA
- 10:00 ◆ Technology Design Process in Quebec Secondary Schools –
Implementation and Assessment
Brahim El Fadil
Canada

10:20 **Coffee & Tea Break**

Block 2 Sessions

Chairperson – *Scott Warner*

- 10:40 ◆ Integrative STEM for Teachers of Young Students (iSTEM₄ToYS):
Engaging Future Elementary School Teachers
Sharon Brusic
USA
- 11:00 ◆ Fostering Creativity in Youth through an Examination of the Socio-
Cultural Approaches to Learning in Technology Education Classes in
Australia from a Feminist Perspective
Vicki Knopke
Australia



Tuesday, July 11 (continued)

- 11:20 ♦ Education Student Perceptions and Primary Teacher Preparedness to Teach Design and Technology in a Western Australian Context
Jeremy Pagram
Western Australia
- 11:40 ♦ Tools and Materials in Primary Education: Examining Differences Among Male and Female Teachers' Safety Self-Efficacy
Tyler Love
USA

12:00 p.m. **Lunch Break**

Block 3 Sessions

Chairperson – *John Williams*

- 1:20 ♦ ACJ: A Tool for International Assessment Collaboration
Scott Bartholomew, Eva Hartell & Greg Strimel
USA & Sweden
- 1:40 ♦ Learn Better by Doing Study Results
Johnny Moye
USA
- 2:00 ♦ The Effects of Ideation Assessments on College Student Confidence and Motivation in Creativity
Tanner Huffman
USA
- 2:20 ♦ Robotics, STEM and Project-Based Learning: Using the P3 Task Taxonomy to Make the Myth Real
Moshe Barak
Israel

2:40 **Coffee & Tea Break**

Block 4 Sessions

Chairperson – *Len Litowitz*

- 3:00 ♦ Unleashing Cognitive Processes via Materialization of Creative Thinking Using Fablab Technological Infrastructures
Vomaranda Joy Botleng
France
- 3:20 ♦ STEAM Education Professional Development Practicum and Research
Georgette Yakman
USA



Tuesday, July 11 (continued)

- 3:40 ♦ Does LEGO Robotics and the Universal System Model Provide a Useful Tool for Understanding Brain Processing?
Hilde van Gijssel
USA / The Netherlands
- 4:00 **Break for the Day**

Wednesday, July 12

Block 5 Sessions

Chairperson – *Marc de Vries*

- 9:00 a.m. ♦ Mitcham Score - A Method to Assess and Quantify Students' Descriptions of Technology
Johan Svenningsson
Sweden
- 9:20 ♦ Enhancing Teachers' Understanding of Young Students' Learning in Technology
Wendy Fox-Turnbull
New Zealand
- 9:40 ♦ Illustrating Educational Development Through Ipsative Performance in Design Based Education
Niall Seery, Donal Canty, & Jeffrey Buckley
Ireland
- 10:00 **Break**

Block 6 Sessions

Chairperson – *Joseph McCade*

- 10:10 ♦ Does Authentic Learning Work? Evaluating an Authentic Innovation Project in Upper-Secondary Technology Education in Sweden
Joachim Svärd
Sweden
- 10:30 ♦ Learning by Doing and Creating Things with Hands: Supporting Students in Craft and Technology Education
Sonja Niiranen
Finland
- 10:50 **Prepare for Cultural Experience**



Wednesday, July 12 (continued)

Cultural Experience (Afternoon & Evening)

11:15 a.m. Cultural Experience, Lunch, & Tours

Departure

- ◆ Lunch at Picnic Area at Longwood Gardens (12:00 p.m.)
- ◆ Depart Longwood Gardens (2:15 p.m.)
- ◆ Tour of Millersville University's Department of Applied Engineering, Safety & Technology (depart at 3:45 p.m.)
- ◆ Arrive at The Amish Experience (4:15 p.m.)
- ◆ Visit Riehl's Quilts and Crafts (5:30 p.m.)
- ◆ Dinner at Plain & Fancy Farm (7:00 p.m.)
- ◆ Return to hotel (approximately 9:30 p.m.)

Thursday, July 13

Block 7 Sessions

Chairperson – *Wendy Fox-Turnbull*

- 9:00 a.m. ◆ The Vocational Goals of STEM Education: Is That Enough?
P. John Williams
Australia
- 9:20 ◆ Talking with Avatars: The Potential and Impact of Design Dialogue with an On-Screen Avatar on the Development of Learner's Design and Technology Project Work
Kay Stables
United Kingdom
- 9:40 ◆ Exploring the Use of Digital Tablets in Preschool Technology and Science Education
Anna Otterborn
Sweden
- 10:00 ◆ An Exploratory Analysis into the Relationships between Spatial Factors, Domain-Free General Capacities and General Fluid Intelligence
Jeffrey Buckley, Niall Seery & Donal Canty
Ireland
- 10:20 **Coffee & Tea Break**



Thursday, July 13 (continued)

Block 8 Sessions

Chairperson – *Sharon Brusic*

- 10:40 ♦ Engaging Students in Hands-On Adaptive Technology Design Projects
Michele Dischino & James DeLaura
USA
- 11:00 ♦ A Proposed Research Agenda for Investigating the Nature of
Designerly Thinking in Action
Joseph Phelan, Jeffrey Buckley, Donal Canty, & Niall Seery
Ireland
- 11:20 ♦ School Subject Advocacy Work as Policy Enactment: Making the Case
for Design and Technology Education in England
Terry Wilkinson
Canada
- 11:40 ♦ International Technology & Engineering Educators Association
(ITEEA)
Steven Barbato & Edward Reeve
USA

12:00 p.m. **Lunch Break**

Block 9 Sessions

Chairperson – *Vicki Knopke*

- 1:20 ♦ Attitudes of Kindergarten Student Teachers towards Technology: The
Impact of a Technology Thinking Course
Osnat Dagan
Israel
- 1:40 ♦ The Collaborative Activities of Learning Design: “Inserting”
Partnerships in Engineering and Technology Teaching with
Novice Teachers
Éric Tortochot
France
- 2:00 ♦ Impact of Long-Term Design Problems in a Team Based Context on
Student iSTEM Associational Fluency
Michael de Miranda
USA
- 2:20 ♦ Technology and Engineering Education: Fulfilling Its Promise
Michael Hacker
USA

2:40 **Coffee & Tea Break**



Thursday, July 13 (continued)

Block 10 Sessions

Chairperson – *Greg Strimel*

- 3:00 ♦ Technical Systems in Technological Education: How French Pupils Aged 13 -14 Understand Them
Fabrice Gunther
France
- 3:20 ♦ Child Imagination, A Talent Worth Keeping: How Children Learned to Stream Their Playfulness Into Their Adult Roles
Alexandra Antonopoulou
United Kingdom
- 3:40 ♦ Preview of PATT 2018 in Athlone, Ireland
Niall Seery
- 4:00 **Break for the Day**
- 6:00 **Formal Dinner at City Tavern Restaurant**

Friday, July 14

Block 11 Sessions

Chairperson – *Kay Stables*

- 9:00 a.m. ♦ Professional Continuity: Investigating the Alignment of Technology Teachers' Internal Capability Constructs
Andrew Doyle, Niall Seery, & Donal Canty
Ireland
- 9:20 ♦ Rhetoric and Interpretation: The Values Students and Special Interest Groups Attribute to Design & Technology
Alison Hardy
United Kingdom
- 9:40 ♦ Design Heuristic Use to Overcome Similarity or Fixation of Design Ideas
Keelin Leahy
Ireland
- 10:00 ♦ "It is Mainly About Problem Solving...": Knowledge of Instructional Strategies Expressed by Swedish Technology Teachers
Birgit Fahram
Sweden
- 10:20 **Break**



Friday, July 14 (continued)

Block 12 Sessions

Chairperson – *Alison Hardy*

- 10:30 ♦ Integrating Peer Assessment in Technology Education through Adaptive Comparative Judgment
Donal Canty, Niall Seery, Eva Hartell & Andrew Doyle
Ireland
- 10:50 ♦ Teaching Algebra through Functional Programming: An Analysis of the Bootstrap Curriculum
Geoff Wright
USA
- 11:10 ♦ Closing Remarks
Len Litowitz
PATT 34 Conference Chairperson
- 11:30 a.m. **PATT 34 Conference Concludes**



Thank You
for Participating in PATT 34!

