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
   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.)

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**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!