



X WCCE 2013: **learning while we are connected**



X IwE 2013: **uczyć się będąc połączonym**

TC3 (Technical Committee for Education) held the 10th World Conference on Computers in Education (**WCCE 2013**) in Toruń, Poland, 1-5 July 2013. The 9th WCCE (2009) was held in Brazil and the next WCCE will be organized in Ireland in 2017. The conference was hosted by the Nicolaus Copernicus University of Toruń (UMK Toruń) and co-organized by the Polish Information Processing Society (PTI). Toruń is one of the most beautiful cities in Poland, the home city of the great Polish astronomer Nicolaus Copernicus, who "stopped the Sun and moved the Earth". The conference was sponsored by Pearson (platinum sponsor), Intel and Microsoft (gold sponsors), and by the Ministry of National Education and the Ministry of Science and Higher Education. The conference was preceded (June 27-30, 2013) by the workshop of the **Bebras International Competition** (<http://bebras.org>) attended by representatives from 30 countries and followed by the national conference **Informatics in Education – IwE** (July 5-7, 2013) which began on July 5, 2013 as the National Day of WCCE 2013.

The conference enlightened and explored different perspectives of the theme **learning while we are connected**, covering all levels of formal education as well as informal learning arenas, societal aspects and challenges that are faced by developing countries. It focused on available educational resources, exceptional good educational practice, visions for future development and historic perspectives. The keynotes were addressed by the following speakers (in the order of appearance):

George Siemens (Athabasca University, Canada): *Learning in Social and Technological Networks.*

John Davies (Intel, USA): *The Technology of Mobile Learning*

Mitchel Resnick (MIT, USA): *Mother's Day, Warrior Cats, and Digital Fluency: Stories from the Scratch Community*

Meloney Cargill and **Dawn Sanchez** (Clintondale High Schools, USA): *The Flipped High School*

Vaithegi Vasanthakumar (Pearson, UK): *The Incomplete Guide to Delivering Education Outcomes*

Włodzisław Duch (UMK Toruń, Poland): *Brains and Education: Towards Neurocognitive Phenomics*

The conference contributions reflect current research and activities in the following areas:

1. Changing pedagogy: formative assessment, teacher role, student role, e-pedagogy.
2. Emerging tools for education: wiki, blog, social networking, Web 3.0, mobile technologies.
3. Learning 3.0 vs. digital pedagogy: collaborative, adaptive, personalised, learner centred.
4. Developing computational thinking: learning programming, visualisation of algorithms, modelling, simulation, informatics / computing curricula, understanding computing.
5. Attracting students to learn science: interactive learning, collaborative investigations, team work, virtual laboratories.
6. Re-engineering teacher education: new teacher roles, professional development, pre-service education, peer learning, practices research.
7. Collaborative learning communities: online, social networking.

8. Researching ICT in education: new research approaches, innovative strategies, new models, complex systems, inquiry learning.
9. Learning through games and simulation: online gaming, contests, competitions, serious games, science simulations.
10. e-Inclusion and e-Participation: special educational needs, gender issues.
11. Virtual schooling: learning objects, distance learning, curriculum integration, mentoring, evaluation issues, teacher collaboration, PLE, lifelong learning.
12. Re-structuring education systems: policy, e-safety, restructuring classrooms, flipped classroom (school) and flipped learning, learning spaces, change theories.

The conference proceedings, published before the conference by the Toruń University Press, consist of 4 volumes. All accepted full papers appeared in two volumes: Volume 1: Research papers (contains 31 papers covering 11 of the 12 conference areas); Volume 2: Practice papers (contains also 31 papers covering 10 of the 12 conference areas). Volume 3 contains 320 abstracts of the conference presentations: keynotes, full and short papers, doctoral consortium posters, posters, panels, workshops, working groups, symposia, special sessions, speed sharing, software-tools demonstrations. Volume 4 (in Polish) contains 40 keynotes, full papers and abstracts of the presentations delivered during the National Days of WCCE 2013. All papers, abstracts, and keynotes presentations are available on the conference website <http://wcce2013.umk.pl>.

The conference brought together more than 400 professionals from 45 countries from all continents working in the field of ICT and informatics (computer science) in education. The National Day and the National Conference IwE was attended by more than 450 participants from Poland, mostly school teachers.

As a follow up of the Stellenbosch Declaration (2004), the Bento Goncalves Declaration for Action (2009), the conference produced **the Toruń Vision** (<http://www.ifip-tc3.net/>) which directs us towards the future WCCE 2017 Conference in Dublin, Ireland

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