The UNESCO UniTwin Digital Campus for Complex Systems: a global experiment in high-quality no-cost education

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Coordinating the European Complex Systems community
2004 – 2014 OU has been a major player:

2004 Founder member of the Complex Systems Society

Welcome to the CSS Website

This is the place to get involved in the complex systems community and benefit from shared resources (agenda, job openings, community explorer, web hosting etc.). This wiki is open to everybody working in the field of complex systems. [read more ...]

CSS Senior and Junior Scientific Awards

Call for Nominations:

The Complex Systems Society is proud to announce the first edition of the CSS Scientific Awards. These awards will be conferred once a year in two categories: the senior scientific award will recognize outstanding contributions of CSS members at whatever stage of their career; whereas the junior scientific award is aimed at recognizing excellent scientific record of CSS young researchers (within 7 years of PhD completion). Please find below the corresponding notice of competition and regulation for the two awards.
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2004 Founder member of European Conference on CS
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Major role coordinating the Complex Systems Community
2005 – 2008 € 1 m ONCE-CS Coordination Action
2009 – 2012 € 900 K ASSYST Coordination Action
2011 – 2014 € 600 K Étoile Coordination Action
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work packages for a UNESCO chair in complex systems
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2014 Founder Member of the CS-DC UNESCO UniTwin
CS-DC = Complex-Systems Digital campus
The UNESCO Complex Systems Digital Campus

UNITWIN – linking Europe with two regions
Africa & Latin America
The UNESCO Complex Systems Digital Campus

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Africa & Latin America - & now world wide

100+ top Universities, and growing
The UNESCO Complex Systems Digital Campus

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The UNESCO Complex Systems Digital Campus

In August 2013 the UNESCO validated the Complex Systems Digital Campus as a UniTwin programme, a worldwide network of research and/or higher education institutions.

Why a Complex Systems Digital Campus

The Complex Systems Digital Campus federates the Research and Educational Institutions worldwide addressing the challenges of complex systems science. It coordinates an evolving international network of scientists to identify the scientific challenges though living complex systems roadmaps, facilitating the sharing of research and educative resources to address these challenges. The Digital Campus has virtual departments federating the e-community addressing each challenge. The Digital Campus is open to all citizens of the world to participate in solving the local and global challenges that lie ahead. [read more]

Download brochures

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The UNESCO Complex Systems Digital Campus

The Educational Challenge

Complex Systems Science is highly interdisciplinary

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Almost all of us
Know almost nothing
About almost everything

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How to provide mass education at no cost for the international Complex Systems Research Community?

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- scalable high quality postgraduate education

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The Educational Challenge: scalable no-cost education

(1) Study materials?

(2) Assessment & certification?

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The Educational Challenge: scalable no-cost education

(1) Study materials?
   Étoile
   Enhanced Technology for Open Intelligent Learning Environments
   Crowd-sourced ecology of URLs

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Automated marking

Peer Assessment

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The Educational Challenge: scalable no-cost education

How to make peer marking robust for certification?
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How to make peer marking robust for certification?

Discriminate good markers from bad markers

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The Educational Challenge: scalable no-cost education

How to make peer marking robust for certification?
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Heuristic: good markers must be highly connected
Bad markers must be relatively disconnected

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<th>Answers</th>
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We can design the marking to optimise connectivity

Also students self-mark

And marking is symmetric – if I mark you, you mark me.
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Current experiment – 48 students, 7 lessons,

5 questions per lesson
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Conclusions

- UNESCO CS-DC is major worldwide research network
- Need high-quality no-cost certificated mass education
- Automated marking is OK, but not sufficient
- ‘Intelligent’ peer marking is very promising
- Use ‘hypernetwork’ methods to detect good markers
- We are running an experiment ending at the end of May

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