

Delegates Summit: Best Practice and Definitions of Knowledge and Computing

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The Fifth Symposium on

Advanced Computation and Information in Natural and Applied Sciences

The International Conference on Numerical Analysis and Applied Mathematics (ICNAAM 2015)

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Delegates

- *Claus-Peter Rückemann* (Moderator),
Westfälische Wilhelms-Universität Münster (WWU) /
Leibniz Universität Hannover /
North-German Supercomputing Alliance (HLRN), Germany
- *Despina T. Meridou*, School of Electrical and Computer Engineering,
National Technical University of Athens, Athens, Greece
- *Przemysław Skurowski*, Institute of Informatics,
Silesian University of Technology, Gliwice, Poland
- *Michał Staniszewski*, Institute of Informatics,
Silesian University of Technology, Gliwice, Poland

The International Conference on Numerical Analysis and Applied Mathematics (ICNAAM 2015),
The Fifth Symposium on Advanced Computation and Information in Natural and Applied Sciences,
CfP: <https://research.cs.wisc.edu/dbworld/messages/2014-11/1415727028.html>

Program: http://www.icnaam.org/sites/default/files/Preliminary_Program_of_ICNAAM_2015.pdf

Best Practice and Definitions

Statements on Knowledge (Delegates and other contributors)

- **“Knowledge and content are the primary long-term targets and values. Therefore, we need support from powerful and secure information technology on the long run.”** *International EULISP post-graduate participants, ISSC, European Legal Informatics Study Programme, Leibniz Universität Hannover, Germany.*
- **“The useful information that can be used in reasoning to infer further knowledge. Furthermore, not all the knowledge can be explicitly formalized as the term covers also the human intuition. (recursive/general concept)”** *Przemysław Skurowski, Michał Staniszewski, Silesian University of Technology, Gliwice, Poland.*
- **“Knowledge is created from a subjective combination of different attainments as there are intuition, experience, information, education, decision, power of persuasion . . . which are selected, compared and balanced against each other, which are transformed and interpreted.** Authentic knowledge therefore does not exist, it always has to be enlived again. Knowledge must not be confused with information or data which can be stored.” *Claus-Peter Rückemann, Friedrich Hülsmann, Birgit Gersbeck-Schierholz, Knowledge in Motion / Unabhängiges Deutsches Institut für Multi-disziplinäre Forschung (DIMF), Germany*

Best Practice and Definitions

In 80 Words Around The World.

Statements on Computing (Delegates and other contributors)

- **“Methodologies and devices applicable for universal automatic manipulation and processing of data.”** *International EULISP post-graduate participants, ISSC, European Legal Informatics Study Programme, Leibniz Universität Hannover, Germany.*
- **“The whole area of methods and technological means used for information processing. The key aspect that makes the difference between computing and the information processing in humans or biology systems is the fact that computing has usually well defined purpose and goal.”** *Przemysław Skurowski, Michał Staniszewski, Silesian University of Technology, Gliwice, Poland.*
- **“A tool for numerical practice. In High Performance Computing, supercomputers -i.e., computer systems at the upper performance limit of currently feasible processing capacity- are employed to solve challenging scientific problems.”** *Claus-Peter Rückemann, Friedrich Hülsmann, Birgit Gersbeck-Schierholz, Knowledge in Motion / Unabhängiges Deutsches Institut für Multi-disziplinäre Forschung (DIMF), Germany*

Conclusions, Discussion, Networking

Knowledge and Computing

- Knowledge related information is transferable – by good reason information scientists / and publishers constantly keep backlists up-to-date (reservoir of non-qualified non-persistent information atoms).
- Computing is algorithms, processing, workflows, technologies, and compute resources – by good reason scientists and service providers keep programming modular and documented separately from individual resources.
- The content / knowledge do have the highest values.
- Computing usually has well defined purposes and goals.
- A sustainable holistic solution requires long-term structures, documentation, and methodologies for modular, universal, multi-disciplinary components.
- Future implementation will focus on the documentation of the facets of knowledge (factual, conceptual, procedural, metacognitive), formalisation, and on the universal applicability of technologies and highly performant, intelligent, and autonomous computing tools.

Networking and Outlook

Thank you for your attention!

**Wish you an inspiring conference
and a pleasant stay on Rhodos!**

**Looking forward to seeing you again next year for the
Symposium on Advanced Computation and Information!**

Post-Summit Results

In 80 Words Around The World.

Knowledge and Computing (Delegates and other contributors)

- **“Knowledge is created from a subjective combination of different attainments as there are intuition, experience, information, education, decision, power of persuasion and so on, which are selected, compared and balanced against each other, which are transformed, interpreted, and used in reasoning, also to infer further knowledge. Therefore, not all the knowledge can be explicitly formalised. Knowledge and content are multi- and inter-disciplinary long-term targets and values. In practice, powerful and secure information technology can support knowledge-based works and values.”**
- **“Computing means methodologies, technological means, and devices applicable for universal automatic manipulation and processing of data and information. Computing is a practical tool and has well defined purposes and goals.”**

Claus-Peter Rückemann, Friedrich Hülsmann, Birgit Gersbeck-Schierholz, Knowledge in Motion / Unabhängiges Deutsches Institut für Multi-disziplinäre Forschung (DIMF), Germany; Przemysław Skurowski, Michał Staniszewski, Silesian University of Technology, Gliwice, Poland; International EULISP post-graduate participants, ISSC, European Legal Informatics Study Programme, Leibniz Universität Hannover, Germany