

Seminar Talk

## **Parallel Computers and Programming**

by Janusz Kowalik

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Between the 1960s and the 1990s computer designers proposed and implemented many parallel systems. Some of them turned out impractical for general applications. Others failed to compete with superior price/performance systems based on commodity microprocessors. By the end of the 1990s it became clear that multi-processors and multi-computers utilizing commodity processors and connection networks won the race.

Today new generations of computer users and programmers are becoming increasingly familiar with design of parallel algorithms and software running on parallel computers. Parallel computing as a discipline of science and technology is now mature and routinely used in industry, business and science.

The purpose of the colloquium is to present the state of the art of parallel computation and indicate selected research problems. The colloquium covers three main topics:

- The fastest 500 computers on the planet

- Three main parallel computer architectures and related

- Parallel programming methods (MPI and Open MP).

The language of the seminar is English but questions and discussion will be in a mixture of two languages English and Polish. The seminar talk will be informal. Questions, comments and discussions will be very welcome.

### **About the speaker**

Janusz Kowalik is a former Professor of Mathematics and Computer Science at Washington State University. He also spent about 25 years as a technology manager of computing research organizations at the Boeing Aerospace Corporation in Seattle, USA. His research and technical subjects of interest include high performance computing, parallel programming and algorithms. He is serving now as a Visiting Professor at the Informatics Institute, Gdansk University, Gdansk, Poland.