



JOHANNES GUTENBERG
UNIVERSITÄT MAINZ

Seminar: Hard Condensed Matter Theory

Room: Lorentz room, 05-127 (Staudingerweg 7)

Time: Thursday, 04.10.2018, 14:00

George Bourianoff

Intel Corporation (retired)
Email: gibouria@gmail.com

Overview of Artificial Intelligence accelerator technologies and markets: Implications for future research funding

The broad market for Artificial Intelligence (AI), hardware, software, applications and AI enhanced devices is currently valued at approximately \$5B per year and is impacting a large fraction of the global economy. However, that market is projected to grow by an astounding 145% compound annual growth rateⁱ for the next 10 years at which time the AI market would be approximately \$7T USD or approximately 7% of the projected Gross World Product in 2025. The amount of money being spent globally on AI related research is not known but is substantial and certain to grow rapidly at rates reflective of the overall market growth rate.

This talk will outline the global AI market drivers, market segmentation and market projections. It will discuss the current AI hardware architectures and their limiting factors as well as near term research needed to improve existing CMOS based AI platforms. It will also discuss longer term hardware enhancements using conventional technologies combined with novel architectures e.g. compute in memory.

We will then briefly discuss novel computing paradigms implemented with novel technologies. Specifically, we will discuss the potential for skyrmion based reservoir computing research and related topics to attract future AI research funding.

ⁱ“AI Market survey and projections”, Statistica, June 2018

All interested are cordially welcome!

K. Everschor-Sitte, Email: kaeversc@uni-mainz.de