Non-orthodox applications of serverless computing

1. How far can we go beyond standard “reactive” or “event driven” scenarios:
   – High throughput scientific workflows, bioinformatics (sequence analysis)
   – More tightly coupled computations (PyWren?)
   – Spark on AWS Lambda, deep learning (GPU analogy)

2. Resource management challenges
   – User vs. provider perspective
   – How many “knobs” we can turn and how much can we gain
   – Granularity of billing vs. startup overheads, long running functions
   – Volunteer/p2p computing

3. What tooling is needed to make it all useful
   – Compilers, runtime supports
   – Deployment, transparency, “faasification”
   – Debugging, performance and cost profiling

Maciej Malawski
AGH University of Science and Technology, Kraków, Poland
http://dice.cyfronet.pl