



Erlangen Regional  
Computing Center



# Node-Level Performance Engineering

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Two-day Tutorial

CSC, Uni Frankfurt

September 2-3, 2019

<http://tiny.cc/NLPE-CSC>



# Tutorial schedule

<b>Day 1</b>		
9:30	Welcome – Intro	JE
9:45	Computer architecture for software developers	JE
11:30	Performance engineering fundamentals	JE
12:00	Lunch	
13:00	Tools: Topology and affinity	TG
13:30	Exercise 1: Microarchitecture exploration	JE + TG
16:00	Roofline Model: Basic	JE
17:00	End of day 1	
<b>Day 2</b>		
9:00	Tools: Performance counters	TG
9:45	Optimal use of parallel resources: SIMD, ccNUMA	JE
11:15	Exercise 2: Dense Matrix Vector	JE + TG
12:00	Lunch	
13:00	Performance Engineering Basic skills	JE
14:00	Roofline case study: Jacobi smoother	JE
15:30	Exercise 3: MiniMD Analysis	JE + TG
17:00	End of day 2	