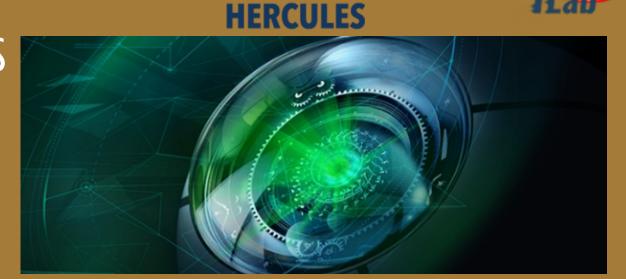
SEMINAR: "PREDICTABLE CLOUD COMPUTING: CAPACITY SHORTAGES MADE AFFORDABLE"

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Abstract: Executing software in a cloud environment has numerous advantages, the main one probably being the opportunity to buy and use a set of dedicated resources, as close as possible to the software execution needs. With cloud computing, a sudden raise in the application popularity does not imply failures and crashes but is compensated by the acquisition of additional execution capacity from a remote provider. However, provisioning computing capacity for a time sensitive cloud application is challenging, because content popularity is difficult to predict. This talk presents brownout, a paradigm to deal with capacity shortages, that does not require accurate predictions of content popularity and is able to achieve multiple purposes. A brownout-compliant cloud application is able to dynamically adjust the computational load it imposes on the cloud infrastructure. Brownout is a formally verified control-theoretical approach, which ensures that requests will meet their deadlines and be computed within a specific given time. The talk presents improvements in the predictability of the application behavior despite (a) user variations, (b) resource shortages, and (c) faults

Martina Maggio is an associate professor at the Department of Automatic Control, Lund University. She has completed her PhD at Politecnico di Milano, under the supervision of Alberto Leva. She has been a postdoctoral associate in the Control Department at the Lund University and a visiting PhD student at Massachusetts Institute of Technology at the Computer Science and Artificial Intelligence Laboratory. Her research interests are at the boundary between computer engineering and control theory and she has been mostly working on the use of control-theoretical techniques to enhance the behavior of computing systems and ensure formal guarantees for their design.