

# Introduction to the Eternals Track: Trustworthy Eternal Systems via Evolving Software, Data and Knowledge

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Latest research work within ICT has outlined that future systems must possess the ability of adapting to changes in user requirements and application domains. Adaptation and evolution depend on several dimensions, e.g., time, location, and security conditions, expressing the diversity of the context in which systems operate.

The Coordination Action (CA): Trustworthy Eternal Systems via Evolving Software, Data and Knowledge (Eternals) aims at coordinating research in the above-mentioned areas by means of a researcher Task Force and community building activities, where the organization of workshops and conferences is one of the important tools used for such purpose.

Eternals aims at creating the conditions for mutual awareness and cross-fertilization among the four ICT-Forever Yours - FET projects (FP7-ICT-Call 3): LivingKnowledge, HATS, Connect and SecureChange. These projects are currently conducting research in key ICT areas: (i) automatic learning of systems capable of analyzing knowledge and diversity with respect to their complex semantic interactions and evolution over time, (ii) exploitation of formal methods for the design and networking of adaptive and evolving software systems; and (iii) design of security policies and fully connected environment. The above-mentioned projects will help Eternals to actively involve many researchers from both academic and industrial world in its action.

The Eternals track at ISOLA 2010 represents a first milestone on establishing task forces and in recruiting stakeholders of its research topics. For this issue, the track presents aims and results of three FET projects, HATS and SecureChange and LivingKnowledge, outlined in three different talks. Moreover, the 3D-Life project, which aims at fostering the creation of sustainable and long-term relationships between existing research groups in Media Internet, will be introduced in the fourth talk.

The work above represents the initial material on which the CA is working by means of three different task forces. These will be illustrated along with their current results and future plans in the following talks: (i) *Modeling and Analyzing Diversity*, (ii) *Modeling and Managing System Evolution* and (iii) *Self-adaptation and Evolution by Learning*. Moreover, since one of the most valuable contribution

of EternalS will be the indications for future promising and needed research, the last talk will be devoted to an *Overview of Roadmapping by EternalS*.

Finally, although there is no talk about the Connect project in this track, it will be presented in many contributions of the other ISOLA tracks, e.g. in the afternoon meeting (following EternalS sessions), a series of six talks will detail the current research and results of Connect.

The exciting program of the EternalS track will be concluded with a general discussion on the presented ideas and topics, which aims at creating future research collaborations.

EternalS track chair  
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