Talk Title: Challenges faced by designers of intelligent agents for complex simulations and video games  
Speaker: Vincent Corruble, Computer Science laboratory of University Pierre et Marie Curie (Paris 6)  
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Abstract: In this presentation, we will focus on two main challenges faced by designers of intelligent agents for complex simulations and video games: the credibility challenge and the challenge of scale. We illustrate how we tackle these challenges in a number of projects, with a main focus on the TerraDynamica collaborative project aiming at simulating realistic virtual cities, in which our group is in charge of the AI of virtual inhabitants. We will show in more details our approach to the modeling of how affects impact behaviors to improve credibility, and our approach to dynamic change of representations to allow the scaling up in number of agents. Last we will focus on the designer point of view with some considerations on how richer AI techniques can be kept manageable and on the trade-offs to explore in this area.

Speaker Bio: Vincent Corruble is Associate Professor in the Multi-Agent Systems group at LIP6, the Computer Science laboratory of University Pierre et Marie Curie (Paris 6), in Paris, France. He has a background in AI and Knowledge Discovery, and has been active for over 10 years in the field of Intelligent Agents, and especially of Learning Agents. He got interested in video games, first seen as fantastic experimental platforms for AI techniques, but also as a great source of new problems and ideas for AI research. He has contributed to the area of learning game AI, especially for large strategy games, to the issue of dynamic difficulty adjustment and game balancing via learning, to the notion of credible NPCs through deep models of emotions and how they interact with personality and social relations, .... He is currently heading in his lab a large collaborative project with industry and academic partners aiming at building large scale simulations of virtual cities to be used for games and other applications (security, urban planning,...) which has required tackling several challenges for AI such as the design of flexible agent architectures, the authoring of credible behaviors, the ability to manage up to hundreds of thousands of agents, the coordination of agents involved in collective behaviors, etc.