

# HCI in the Era of Ambient Media – and Beyond

## 2009 INTERACT Tutorial

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**Abstract.** According to McLuhan, “the medium is the message” – but what means interaction and what is the medium in the age of ubiquitous and pervasive computation – when the medium is ‘in’ daily objects? Ambient media are media that are embedded throughout our natural environment – location based services, context awareness, emotional responsive interfaces, touch and gesture based interfaces, haptics and biometrics, sensor perception, mobile devices, and smart data mining are the technological enabler for smart media environments. The latest trends from emotional computation, affective computation, and tangible media lay the foundations for this new and exciting form of media existing far beyond screen concepts and mouse based interaction metaphors. The tutorial trains participants in the basic technologies as tools for the design of new interactive ‘ambient’ environments. It presents case studies and latest research results in the field of ambient media, ranging from ambient assisting living, user experience design, user contributed content, and mobile services. After the tutorial the participants should understand the principles of ambient media with its underlying concepts and methods, especially emphasizing human-computer-interaction. As roundup, the tutorial presents a more visionary viewpoint to the future of media technology: the use of biological metaphors for interactive environments (biomedia).

**Keywords:** ubiquitous computation, ambient media, pervasive computation

### 1 Objectives and Schedule

The goal of the tutorial is to train participants in the basics of ambient media especially focusing on the human-computer-interaction viewpoint. The tutorial is designed for a general audience with interest in a newly emerging media environment and its possibilities.

Monday Afternoon, 24<sup>th</sup> August 2009

13:30-15:00 Part 1: Introduction, Concepts Overview, Technology

15:00-15:30 Coffee break

15:30-17:00 Part 2: Case Studies, Design Guidelines, Outlook in the Future

Please visit <http://www.cs.tut.fi/~lartur> for further material and information.

## 2 Focus Points of the Tutorial

The tutorial covers the following topics in further depth:

- case-studies of existing ambient media services
- basic concepts and technologies of ambient media
- location based services, mobile interaction, and smart environments
- user experience and interaction design guidelines
- ambient content production and creation
- natural and intuitive interaction methods
- context awareness and intelligent behavior modeling
- proactive and emotional responsive system designs
- ambient services and business models
- ambient social networks

## 3 Trainer Short-Bio



Adj.-Prof. Dr.-Techn. Artur Lugmayr describes himself as a creative thinker and his scientific work is situated between art and science. His vision can be expressed as to create media experiences and evaluate business opportunities on future emerging media technology platforms. He starts his full professorship at the Faculty of Business and Technology

Management at the Department of Business Information Management and Logistics within the topic Entertainment and Media Production Management (EMMI) in fall 2009. Currently he is the head and founder of the New AMbient MUltimedia (NAMU) research group at the Tampere University of Technology (Finland) which is part of the Finnish Academy Centre of Excellence of Signal Processing from 2006 to 2011 (<http://namu.cs.tut.fi>). He is holding a Dr.-Techn. degree from the Tampere University of Technology (TUT, Finland), and is currently engaged in Dr.-Arts studies at the School of Motion Pictures, TV and Production Design (UIAH, Helsinki). He chaired the ISO/IEC ad-hoc group "MPEG-21 in broadcasting"; won the NOKIA Award of 2003 with the text book "Digital interactive TV and Metadata" published by Springer-Verlag in 2004; representative of the Swan Lake Moving Image & Music Award (<http://www.swan-lake-award.org/>); board member of MindTrek (<http://www.mindtrek.org>), EU project proposal reviewer; invited key-note speaker for conferences; organizer and reviewer of several conferences; and has contributed one book chapter and written over 25 scientific publications. His passion in private life is to be a notorious digital film-maker. He is founder of the production company LugYmedia Inc. (<http://www.lugy-media.tv>). More about him on Google.