

CALL FOR PARTICIPATION

The Second International Conference on Pervasive Computing

PERVASIVE 2004

www.pervasive2004.org

April 18-23, 2004, Linz / Vienna, Austria

A vast manifold of tiny, embedded and autonomous computing and communication systems have started to create and populate a pervasive and ubiquitous computing landscape, characterized by the autonomy of their programmed behavior, the dynamics and context-awareness of services and applications they offer, the ad-hoc interoperability of services and the different modes of user interaction upon those services. This is mostly due to technological progress like the maturing of wireless networking, exciting new information processing possibilities induced by novel microprocessor technologies, low power storage systems, smart material, and motor-, controller-, sensor- and actuator technologies. A future computing scenario is envisioned in which almost every object in our everyday environment will be equipped with embedded processors, wireless communication facilities and embedded software to perceive, perform and control a multitude of tasks and functions. Since many of these objects are already able to communicate and interact with global networks and with each other, the vision of context-aware "smart appliances" and "smart spaces" has already become a reality. Service provision is based on the ability of being aware of the presence of other objects or users, and systems can be designed in order to be sensitive, adaptive and responsive to their needs, habits and even emotions. With pervasive computing technology embodied into real world objects like furniture, clothing, crafts, rooms, etc., those artefacts also become the interface to "invisible" services and allow to mediate between the physical and digital (or virtual) world via natural interaction – away from desktop displays and keyboards. Novel interface concepts for situated interaction give rise for bringing the interaction with computers "back to the real world" .

All these observations pose serious challenges to the conceptual architectures of computing, and the related engineering disciplines in computer science. PERVASIVE 2004, the Second International Conference on Pervasive Computing, provides a premier venue to bring together researchers and practitioners working in all foundational and applied research areas of pervasive and ubiquitous computing. It will include presentations, workshops, tutorials and multimedia demonstrations on subjects like:

- ❖ Pervasive and Ubiquitous Computing Architectures
- ❖ Sensors and Actuators / Computational Perception
- ❖ "Smart" Appliances / Ambient Intelligence
- ❖ New Technologies / New Materials / Small Artefacts
- ❖ Displays / Vision / Mixed Reality Systems
- ❖ Spontaneous / Wireless / Mobile Communication
- ❖ Networked Embedded Systems
- ❖ Context Awareness / Autonomous Computing
- ❖ Coordination Models and Systems
- ❖ Middleware and Software Frameworks
- ❖ Interaction Models / Interaction Design
- ❖ User Interfaces (e.g. Situative/Tangible/Attentive)
- ❖ Emerging Industrial / Business Scenarios
- ❖ Social / Privacy / Security Issues

PERVASIVE 2004 will present cutting edge research results in the following formats and categories:

Regular Papers and Tech-Notes

Regular papers will present original, highly innovative, prospective and forward-looking research in one or more of the categories given above. Just like regular papers, tech-notes will present directing research, but in very focused and compact format. Tech-notes are not understood as short papers condensed into less page space, but present pointed results at a high level of technicality.

Hot Spot Papers

Hot spot papers aim at presenting very topical issues and late breaking application oriented results in all areas of pervasive and ubiquitous computing. Depending on the type and style of the hot spot paper, demo exhibition space, poster space and short presentations to the PERVASIVE 2004 plenary audience will be given. They be included in the PERVASIVE 2004 DVD.

Doctoral Colloquium

The PERVASIVE 2004 doctoral colloquium, to be held right before the main conference during April 18-19 in Linz, Austria, invites PhD students and candidates to present, discuss and defend their work-in-progress or preliminary results in an international, agile and renowned audience of junior and senior researchers and developers in the pervasive computing field. Thesis position papers will be defended in the colloquium, relating a problem statement, methodological approach, potential for innovation and expected contribution to the international pervasive computing literature.

Videos

Short videos will present novel pervasive computing systems, devices or just designs, or demonstrate innovative styles of interaction or usability of those systems – in a lively format. They will be presented during the PERVASIVE 2004 Video Night – a special event at the festival hall of the University of Vienna. All video clips will be presented in the PERVASIVE 2004 Video DVD.

Tutorials and Workshops

PERVASIVE 2004 tutorials will provide the dissemination of advanced concepts, technologies and skills to the participants. Tutorials will focus on seminal and pioneering topics of pervasive computing or cover an outstanding new branch of pervasive computing research. Workshop sessions will provide inspiring and influencing discussion on pervasive computing topics. Each workshop aims at the sharing and consolidation of new research ideas and fosters future co-operations. The following workshops are scheduled: W1: Gaming Applications in Pervasive Computing Environments, W2: Toolkit Support for Interaction in the Physical World, W3: Memory and Sharing of Experiences, W4: Computer Support for Human Tasks and Activities, W5: Benchmarks and a database for context recognition, W6: SPPC: Security and Privacy in Pervasive Computing, W7: Sustainable Pervasive Computing

IMPORTANT DATES

Registration	thru Feb 23, 2004 (early)	thru April 5, 2004 (late)	April 18-23, 2004 (on site)
Doctoral Colloquium	April 18 – 19, 2004	University of Linz	
Workshops / Tutorials	April 20, 2004	University of Vienna	
Video Night	April 21, 2004	University of Vienna	Main Festival Hall
Main Conference	April 21-23, 2004	The Hofburg Palace	Downtown Vienna

For updated information about PERVASIVE 2004 please visit www.pervasive2004.org or send email to info@pervasive2004.org
Contact: Univ- Prof. Dr. Alois Ferscha, Institut für Pervasive Computing, Universität Linz, Altenberger Straße 69, 4040 Linz

(For your planning: Note that CHI2004 will be held in Vienna, Austria, April 24-29, 2004 – right after PERVASIVE 2004)



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(Univ. of Sydney, AU)

CONFERENCE PROGRAM

	Wednesday, April 21	Thursday, April 22	Friday, April 23
9:00-9:30	Opening <i>A. Ferscha, PC Chair and F. Mattern, General Chair</i>	Keynote Address	Session 7: Architecture and Systems Towards Wearable Autonomous Microsystems <i>Nagendra Bhargava Bharatula, Stijn Ossevoort, Mathias Stäger, Gerhard Tröster</i>
9:30-10:00	Keynote Address	Session 3: Near Body Interfaces Spectacle-Based Design of Wearable See-Through Display for Accommodation-Free Viewing <i>M. von Waldkirch, P. Lukowicz, G. Troester</i> A Compact battery-less information terminal for Real World Interaction <i>T. Nishimura</i>	Ubiquitous Chip: a Rule-based I/O Control Device for Ubiquitous Computing <i>T. Terada, M. Tsukamoto, K. Hayakawa, T. Yoshihisa, Y. Kishino</i> eSeal - A System for Enhanced Electronic Assertion of Authenticity and Integrity of Sealed Items <i>C. Decker, M. Beigl, A. Krohn, U. Kubach, P. Robinson</i>
10:00-10:30			
10:30-11:00	Coffee Break	Coffee Break	Coffee Break
11:00-11:30	Session 1: Activity Recognition	Session 4: Software	Session 8: Algorithms
11:30-12:00	Activity Recognition From User-Annotated Acceleration Data <i>S. Intille, L. Bao</i>	INCA: A Software Infrastructure to Facilitate the Construction & Evolution of Capture & Access Apps <i>K. Truong, G. Abowd</i>	A Distributed Precision Based Localization Algorithm for Ad-Hoc Networks <i>S. Dulman, L. Evers, P. Havinga</i>
12:00-12:30	Recognizing Workshop Activity Using Body Worn Microphones and Accelerometers <i>J. Ward, P. Lukowicz, A. Atrash, T. Starner</i> "Are You With Me" - Using Accelerometers to Determine if Two Devices are Carried by the Same Person <i>J. Lester, B. Hannaford, G. Borriello</i>	Software Upgrade in Ubiquitous Computing <i>J. Barton</i>	Adaptive On-device Location Recognition <i>K. Laasonen, M. Raento, H. Toivonen</i> Accommodating Transient Connectivity in Ad Hoc and Mobile Settings <i>R. Handorean, C. Gill</i>
12:30-14:00	Lunch	Lunch	Lunch
14:00-14:30	Hot Spot and Video Sketches	Session 5: Sensors	Session 9: New Interfaces
14:30-15:00		Activity Recognition in the Home Using Simple and Ubiquitous Sensors <i>E. M. Tapia, S. S. Intille, K. Larson</i>	Microbiology Tray and Pipette Tracking as a Proactive Tangible User Interface <i>Harlan Hille, Jiwon Kim, Gaetano Borriello</i>
15:00-15:30		Automatic Calibration of Body Worn Acceleration Sensors <i>P. Lukowicz, Junker, G. Troester</i> Reject Optional LVO Based Two-level Classifier to Improve Reliability in Footstep Identification <i>J. Suutala, S. Pirttikangas, J. Riekk, J. Rönig</i> Issues with RFID usage in ubiquitous computing applications <i>C. Floerkemeier, Lampe</i>	Augmenting Collections of Everyday Objects: Clothes Hangers as an Information Display <i>T. Matthews, H.W. Gellersen, A. Dey, K. Van Laerhoven</i> MirrorSpace: using proximity as an interface to video-mediated communication <i>N. Roussel, H. Evans, H. Hansen</i> SearchLight - A Lightweight Search Function for Pervasive Environments <i>A. Butz, M. Schneider, M. Spassova</i>
15:30-16:00	Coffee Break	Coffee Break	Closing
16:00-16:30	Session 2: Context Computing	Session 6: Security	
16:30-17:00	Context Cube: Flexible and Effective Manipulation of Sensed Context Data <i>L. Harvel, G. Abowd, L. Liu, Y.-X. Lim, C. Scheibe, C. Chatham</i>	A Fault-tolerant Key-Distribution Scheme for Securing Wireless Ad-hoc Networks <i>A. Wacker, T. Heiber, H. Cermann, P.J. Marron</i>	
17:00-17:30	A Context-Aware Communication Platform for Smart Objects <i>F. Siegemund</i> Siren: Context-aware Computing for Firefighting <i>X. Jiang, N. Chen, J. Hong, K. Wang, L. Takayama</i>	ProxNet: Secure Dynamic Wireless Connection by Proximity Sensing <i>J. Rekimoto, T. Miyaki, M. Kohno</i> Tackling Security and Privacy Issues in Radio Frequency Identification Devices <i>D. Henrici, P. Müller</i>	
18:30-22:00	Reception (Vienna City Hall) & Video Night (Kleiner Festsaal, University of Vienna)	Conference Dinner	

REGISTRATION

Registration for the conference, the workshops, and the doctoral colloquium is open from January 23rd 2004 until April 5th 2004. After April 5th 2004 only on-site registrations are possible.

Information for all Events

PERVASIVE 2004 Registration Office:

(Registrations and bookings for accommodation in Vienna are handled by)
NetHotels Vienna
Neulinggasse 31, 1030 Vienna, AUSTRIA
Phone +43 1 710 1919,
Fax +43 1 710 19 20
Email: office@vienna.nethotels.com
http: //www.pervasive2004.org/

Payment should be free of bank handling charges and should be submitted together with the completed registration form. The following forms of payment are accepted:

- Credit cards: Visa, EuroCard, MasterCard, American Express and Diners Club
- Bank Transfer: to Bank Austria Creditanstalt AG, Vienna-Austria. Swift code: BKAUATWW. Account: 697250900; Routing Code: 12000 NetHotels Vienna-PERVASIVE 2004.
- For on-site payments, only cash or credit cards can be accepted.

Student registrations

Full time students are entitled to participate in the conference events at a reduced rate. A copy of the student identity card and a letter of confirmation from the supervisor are required as proof of eligibility. Students who are entitled to participate in the doctoral colloquium receive an additional 20 EUR discount when registering to the main conference (see rates listed on the right).

Lunches and Coffee Breaks

All registration fees include lunch and refreshments in the coffee break during the days of the respective events.

Conference Dinner

A ticket to the conference dinner is included for both, regular as well as student registrations for the main conference. Additional tickets for accompanying persons can be ordered and paid in advance (see the registration form) or - based upon availability - purchased on site. Workshop or Colloquium only registrations do not include tickets to the conference dinner.

Video Night

A ticket to the reception at the video night is included for both, regular as well as student registrations for the main conference. Additional tickets for accompanying persons can be ordered and paid in advance (see registration form) or - based upon availability - purchased on site. Workshop or Colloquium only registrations do not include tickets to the reception at the video night.

PERVASIVE 2004 Doctoral Colloquium, April 18-19, Linz, University of Linz

Registration Fees (in Euro) (invited students only)	colloquium only	colloq. & conference
Early (until Feb 23)	135	360
Late (Feb 24 - April 5)	160	435
On Site (April 18,19)	200	530

The registration fees include

- **attendance to all sessions** on April 18 and 19,
- a copy of the volume "**Advances in Pervasive Computing**" containing the doctoral colloquium papers and a DVD with Video and Hot Spot papers,
- **lunches and refreshments** in the coffee breaks on April 18 and 19, and
- a ticket for a **reception** on April 18.

Note that only PhD students who have been selected to present their work at the doctoral colloquium are entitled to participate in the colloquium. The deadline for submission is Jan 19, notification of acceptance is February 16th 2004. For students who are also interested in participating in the main conference a special package is available at a reduced rate.

PERVASIVE 2004 Workshops, April 20, Vienna, University of Vienna

Registration Fees (in Euro)	Regular	Students
Early (until Feb 23)	145	95
Late (Feb 24 - April 5)	195	145
On Site (April 20)	225	175

The registration fees include

- **attendance** to selected workshop on April 20
- **lunches and refreshments** in the coffee breaks on April 20

Please, note that workshop participants are required to register for the main conference (either as regular or student participant if applicable) or for the doctoral colloquium plus conference package (if eligible, i.e. if a paper has been accepted at the doctoral colloquium for presentation). A workshop only registration is not possible.

PERVASIVE 2004 Main Conference, April 21-23, Vienna, Hofburg

Registration Fees (in Euro)	Regular	Students
Early (until Feb 23)	490	245
Late (Feb 24 - April 5)	590	295
On Site (April 21 - 23)	710	355

The registration fees include

- **attendance** to all sessions on April 21, 22, and 23,
- a copy of the conference **proceedings**, a copy of the volume "Advances in Pervasive Computing", a DVD with Video and Hot Spot papers,
- **lunches and refreshments** in the coffee breaks on April 21, 22, and 23,
- a ticket for the **conference dinner** on April 22 and
- a ticket for the **reception** and the video night on April 21.