the sixth annual
ICOST 2008
International Conference on Smart homes and health Telematics

Gerontechnology: Enhancing Quality of Life for Rural Elders

June 28 - July 2, 2008
ICOST 2008 Program

Sunday June 29, 2008

7:00 - 9:00 PM Welcome Reception
Christian Petersen Art Museum, Morrill Hall, Iowa State University campus
Host: Iowa Department of Public Health, Office of Disability and Health
Conference registration available 7:00-8:00 pm at the reception

Monday June 30, 2008

7:00 - 8:00 AM: Registration, 1st floor lobby

8:00 - 8:15 AM: Welcome, Benton Auditorium
Welcome and Opening Remarks: 2008 ICOST General Chair, Carl K. Chang, Professor and Chair, Computer Science, Iowa State University, USA
Program Overview by ICOST 2008 Program Chairs: Sumi Helal, Co-Founder and Director of the Gator Tech Smart House, University of Florida, USA; Johnny Wong, Professor, Computer Science, Iowa State University, USA

8:15 - 9:15 AM: Keynote 1, Benton Auditorium
The New Paradigm for Aging and Disability: Challenges for Innovation and Research and Development
Katherine D. Seelman, Associate Dean of Disability Programs, School of Health and Rehabilitation Sciences, University of Pittsburgh, USA

9:15 - 9:30 AM: Break and poster display, 1st floor lobby

9:30 - 11:00 AM: Two concurrent sessions, choose one
Paper Session 1: Assistive Technology to Improve Quality of Life for Older Adults and their Caregivers
Room 179
- An Intelligent RFID System for Improving Elderly Daily Life for Independence in Indoor Environments, Kung-Ta Huang, Po-Yen Lin, Chih-Ning Huang, Chia-Tai Chan
- HYCARE: A Hybrid Context-aware Reminding Framework for Elders with Mild Dementia, Kejun Du, Daqing Zhang, Xingshe Zhou, Mounir Mokhtari, Mossaab Hariz, Weijun Qin
- Evaluation of Mobile and Home Based Cognitive Prosthetics, Chris Nugent, Ferial Moelaert, Richard Davies, Mark Donnelly, Stefan Savenstedt, Franka Meiland, Rose-Marie Dros, Marike Hettinga, David Craig, Maurice Mulvenna, Johan Bengtsson

Paper Session 2: Context Awareness/Autonomous Computing
Room 175
- An Integrated Approach to Context Specification and Recognition in Smart Homes, Fulvio Mastrogiovanni, Antonello Scalmato, Antonio Sgorbissa, Renato Zaccaria
- Robust Face Tracking with Suppressed False Positives in Smart Home Environment, Jun-Hyeong Do, Zeungnam Bien
Adaptive Solutions for Access Control within Pervasive Healthcare Systems, Dana Al Kukhun, Florence Sedes

11:00 - 11:15 AM: Break and poster display, 1st floor lobby

11:15 - 12:30 PM: Panel 1: Funding Opportunities, Benton Auditorium

Co-Chairs: Sumi Helal, University of Florida, USA; Mounir Mokhtari, GET/INT Institut National des Télécommunications, France; Z. Zenn Bien, Korea Advanced Institute of Science and Technology, Korea

✓ US Federal agencies (National Science Foundation, National Institute of Health, Department of Education, Administration on Aging, etc.)
✓ European and Asian Funding agencies
✓ Not-for-Profit Foundations
✓ State & Regional agencies

12:30 - 1:45 PM: Lunch, 190 Stagedoor

1:45 - 3:15 PM: Two concurrent sessions, choose one

Room 179

- Patient Sensors: A Data Quality Perspective, John O'Donoghue, John Herbert, David Sammon
- Design of a Smart Continence Management System Based on Initial User Requirement Assessment, Jit Biswas, Aung Aung, Victor Foo, Chris Nugent, Maurice Mulvenna, David Craig, Peter Passmore, Daqing Zhang, Jer-En Lee and Philip Yap
- Social Rhythms and Nocturnal Routines in Community Dwelling Older Adults, Julie Behan, David Prendergast, Lorcan Walsh, Brenda Quigley

Paper Session 4: Home Health Monitoring and Intervention
Room 175

- Using Event Calculus for Behaviour Reasoning and Assistance in a Smart Home, Luke Chen, Chris Nugent, Maurice Mulvenna
- Video Monitoring of Vulnerable People in Home Environment, Quoc Cuong Pham, Florent Ranchin, Yoann Dhome, Laetitia Gond, Patrick Sayd
- An Efficient Method for Activity Recognition of the Elderly Using Tilt Signals of Tri-axial Acceleration Sensor, Sa-kwang Song, Jaewon Jang, Soojun Park

3:15 - 3:30 PM: Break and poster display, 1st floor lobby

3:30 - 5:00 PM: Exhibits & Demos, Room 167

6:00 - 9:00 PM: Gala Dinner, Banquet room, Scheman Building
7:00 - 8:00 AM: Registration, 1st floor lobby

8:00 - 9:00 AM: Keynote 2, Benton Auditorium
Ambient Assistive Living for the Active Ageing of Elderly People
Sergio Guillén, CEO, ITACA – TSB, Health & Wellbeing Technologies & University.
Polit. Valencia, Spain

9:00 - 9:15 AM: Break and poster display, 1st floor lobby

9:15 - 10:45 AM: Two concurrent sessions, choose one
Paper Session 5: Human-Machine Interface and Ambient Intelligence
Room 179
• A User Interface Level Context Model for Ambient Assisted Living, Manfred Wojciechowski, Jinhua Xiong
• Abstracting Nutritional Information of Food Service Facilities Using the Pervasive Healthy Diet Adviser, Jiten Chhabra, Jasjit Singh, Daniel Baquero
• Intelligent Assistive Exoskeleton with Vision Based Interface, Malek Bahlouti, Vincent Guitteny, Eric Monacelli, Serge Couvet

Paper Session 6: Modeling of Physical and Conceptual Information in Intelligent Environments
Room 175
• Assessment of the Impact of Sensor Failure in the Recognition of Activities of Daily Living, Xin Hong, Chris Nugent, Sally McClean, Bryan Scotney, Maurice Mulvenna, Steven Devlin
• Keeping Elderly People at Home: A Multi-agent Classification of Monitoring Data, Ali Rammal, Sylvie Trouilhet
• HESA: a Human-centric Evolvable Situation-Awareness Model in Smart Homes, Hojun Jaygarl, Katsunori Oyama, Jinchun Xia, Carl K. Chang

10:45 - 11:00 AM: Break and poster display, 1st floor lobby

11:00 - 12:30 PM: Panel 2: Assistive Technologies for Older Adults, Benton Auditorium
Co-Chairs: Peter Martin, Professor and Director, Gerontology Program, Iowa State University; Jennifer Margrett, Assistant Professor, Gerontology Program, Iowa State University

Guest panelists: William Appelgate, Vice President for Planning and External Relations, Des Moines University; Fred Eastman, Midwest Rural Telemedicine Consortium, Mercy Des Moines; Tracy Keninger, Director of Rural Solutions/Assistive Technology, Easter Seals Iowa; Rob Kretzinger, President and CEO, Wesley Retirement Services; Joel Olah, Executive Director, Aging Resources of Central Iowa

✓ Assistive Technology for Everyday Living
✓ Household and Safety Assistive Technology
✓ Assistive Technology and Health Promotion
12:30 - 1:45 PM: Lunch, 190 Stagedoor

1:45 - 3:15 PM: Panel 3: Education, Curriculum and Profession, Benton Auditorium
Co-Chairs: Johnny Wong, Professor and Co-Director, Smart Home Lab, Iowa State University; Jennifer Margrett, Assistant Professor, Gerontology Program, Iowa State University
Guest panelists: Stephen Gilbert, Virtual Reality Applications Center, Human Computer Interaction Program, Iowa State University; Denis Gracanin, Associate Professor of Computer Science, Virginia Tech; Peter Martin, Professor of Gerontology, Iowa State University
✓ Curriculum (e.g. online MS degree in Gerontology)
✓ Job opportunities
✓ Profession

3:15 - 3:30 PM: Break and poster display, 1st floor lobby

3:30 - 5:00 PM: Demos & Expo, Room 167

5:00 - 7:00 PM: Conference Party, Campanile Room, ISU Memorial Union (Dinner in campustown on your own)

Wednesday July 2, 2008

7:00 - 8:00 AM: Registration, 1st floor lobby

8:00 - 9:00 AM: Keynote 3, Benton Auditorium
Toward Human-friendly Realization of Robotic Service Systems in Assistive Environment
Z. Zenn Bien, Former Dean of Engineering, Korea Advanced Institute of Science and Technology; Chairman of Engineering Division of Korea Academy of Science and Technology

9:00 - 9:15 AM: Break and poster display, 1st floor lobby

9:15 - 10:45 AM: Two concurrent sessions, choose one
Paper Session 7: Real World Deployments and Experiences in Smart Homes, Hospitals, and Living Communities
Room 179
• Sharing of Real-life Experimental Data in Smart Home and Data Analysis Tool Development, Tatsuya Yamazaki, Tetsuo Toyomura
• Using Technology to Enhance Aging in Place, Marilyn Rantz, Marjorie Skubic, Steven Miller, Jean Krampe
• Observing Outdoor Activity using Global Positioning System-Enabled Cell Phones, Yvonne Michael, Erin McGregor, James Allen, Stephen Fickas

Paper Session 8: Social/Privacy/Security Issues
Room 175
• MISS - Medicine Information Support System in the Smart Home Environment, José M. Reyes Álamo, Johnny Wong, Ryan Babbitt, Carl Chang
• Challenges of Designing Privacy-enhanced Context-aware Middleware for Assisted Healthcare, Gautham Pallapa, Sajal Das
• Safety-Ensuring Systematic Design for Service Robots, Seong-Tae Kim, Pyung Hun Chang

10:45 - 11:00 AM: Break and poster display, 1st floor lobby

11:00 - 12:30 PM: Concluding Session: The Future of Smart Homes and Health Telematics

Benton Auditorium

Co-Chairs: Mary Yearns, Professor, Extension Housing Specialist and Director, Universal Design Lab, Iowa State University; Tatsuya Yamayaki, Research Manager, National Institute of Information and Communications Technology, Kyoto, Japan

Putting Technologies to Work in the Home: Making Kirk’s Life Easier (web conference)
Kirk Garrett, Jr. – Web Designer, http://www.kgjr.com/about_me.HTM, Laurens, South Carolina
Kirk Garrett, Sr. – Director of Quality Assurance, Laurens Electric Cooperative, Inc., Laurens, South Carolina

Reaction Panel: Where Do We Go from Here?
Technology Consumers: Julia Anderson, Dean Emeritus, College of Human Sciences, Iowa State University; Pam Kirkhart, Retired Extension Secretary, Iowa State University
Technology Researchers: Z. Zenn Bien, Korea Advanced Institute of Science and Technology, Korea; Sumi Helal, Co-Founder and Director of the Gator Tech Smart House, University of Florida, USA

12:30 - 1:45 PM: Lunch, 190 Stagedoor

Social Events Immediately Follow—Return Home Safely
Keynote Presenters

MONDAY JUNE 30, 8:15 AM
Katherine D. Seelman
Associate Dean of Disability Programs
School of Health and Rehabilitation Sciences
University of Pittsburgh, U.S.A.
The New Paradigm for Aging and Disability: Challenges for Innovation and Research and Development

TUESDAY JULY 1, 8:00 AM
Sergio Guillén
CEO, ITACA-TSB
Health and Wellbeing Technologies
Univ. Polit. Valencia, Spain
Topic: Ambien Assistive Living, (TBD)

WEDNESDAY JULY 2, 8:00 AM
Z. Zenn Bien
Former Dean of Engineering
Korea Advanced Institute of Science and Technology;
Chairman of Engineering Division
Korea Academy of Science and Technology
Toward Human-friendly Realization of Robotic Service Systems in Assistive Environments

Paper Session and Panel Session Topics

- Assistive Technology for Quality of Life
- Context Awareness and Autonomous Computing
- Devices, Systems, and Algorithms for Vision/Hearing/ Cognitive/Communication Impairments
- Home Health Monitoring and Intervention
- Human-Machine Interface and Ambient Intelligence
- Modeling of Physical and Conceptual Information in Intelligent Environments
- Assistive Technologies for Older Adults
- Education, Curriculum, and Profession
- Real World Deployments and Experiences in Smart Homes, Hospitals, and Living Communities
- Social, Privacy, and Security Issues
- The Future of Smart Homes and Health Telematics, with a Web-Conference between panelists and Kirk Garrett, Jr., a user of smart-home technology from Laurens, South Carolina.

Visit the ICOST 2008 Conference webpage for registration information and more details:
http://www.cs.iastate.edu/~icost/

Sponsors: Iowa State University Vice President of Research and Economic Development, College of Liberal Arts and Sciences, College of Human Sciences, ISU Extension to Families, Dept. of Computer Science, Iowa Department of Public Health, Office of Disability and Health, and Institut TELECOM/Telecom and Mgmt, France.