

SELIM S. BALCISOY
Sabanci University
34956 Istanbul, Turkey
Phone: +90-216-483-9569
Email: balcisoy@sabanciuniv.edu

Born in 1971
Turkish citizen,
Married, two children

EDUCATION

Graduate School:

PhD in Computer Science from Swiss Federal Institute of Technology,
Lausanne (EPFL), advisor D. Thalmann, co-advisor P. Fua (2001)

Undergraduate:

Engineering Diploma from Swiss Federal Institute of Technology Zurich
(ETH), (1996)

PROFESSIONAL HISTORY

Sabanci University, Turkey: Assistant Professor, February 2004 to present

Nokia Research Centre, USA: Senior Research Engineer, July 2001 to February 2004

EPFL, Switzerland: Research Assistant, July 1996 to July 2001

Webster University, Switzerland: Adjunct Faculty, Fall 2000

CURRENT RESEARCH INTERESTS

Virtual and Augmented Reality applications

Real-time Deformations

Information Visualization

Mobile Graphics

Cultural Heritage

TEACHING EXPERIENCE

Sabanci University:

Computer Graphics, undergraduate class, 3 hours a week
Since 2004 every Fall Semester

Computing and Arts, undergraduate class, 3 hours a week
Since 2004 every Spring Semester (together with Elif Ayiter)

Simulation and Animation of Motion, graduate class, 3 hours a week
Spring Semester, 2004, 2005 (together with Serhat Yesilyurt)

Computer Graphics and Visualization, graduate class, 3 hours a week
Fall 2004, 2005, 2006, 2008

Virtual Reality, graduate class, 3 hours a week
Spring 2006, 2008

Webster University:

Java Programming, undergraduate class, 3 hours a week, Fall 2000

ADVISING GRADUATE STUDENTS

PhD candidates:

E. Serin, S. Sumengen, C. Kayalar, T. Eren, U. Turker

Master candidates:

E. Koc, D. Yilmaz

GRADUATE STUDENTS

1. Basak Alper obtained her M.S. degree in 2006. 'Dynamic Visualization of Geographic Networks using Surface Deformations'
2. Selcuk Sumengen obtained his M.S. degree in 2006. 'Real-time Deformable Objects in Collaborative Virtual Environments'
3. Ceren Kayalar obtained her M.S. degree in 2006. 'Natural Interaction Framework for Pedestrian Navigation Systems on Mobile Devices'
4. Can Ozmen obtained his M.S. degree in 2007. 'A Software System to Work with 3D Models in Cultural Heritage Research'
5. Uraz Turker obtained his M.S. degree in 2008 'Visualization of Large Temporal Social Network Datasets'
6. Billur Engin obtained her M.S. degree in 2008 'Introduction of Level of Detail to 3D Thematic Maps'

7. Cagatay Turkay obtained his M.S. degree in 2009 ‘An Information Theoretical Approach to Crowd Simulation’
8. Serdar Cakıcı obtained his M.S. degree in 2009 ‘ A Virtual Reality based approach to Protein-Protein Docking Problem’
9. Berkay Kaya obtained his M.S. degree in 2009 ‘Multi-Resolution Visualization of Geographic Network Traffic’
10. Merve Cayli obtained her M.S. degree in 2009 ‘Interactive Visualization of Heterogenous Social Networks Using Glyphs’

ADMINISTRATIVE DUTIES

Member of Sabanci University Web Committee

Member of Sabanci University BITEK-O Committee

SERVICE ACTIVITIES

Editorial Board Memberships

1. The Visual Computer, Springer Verlag since 2008
2. Metaverse Creativity, Intellect, since 2009
3. International Journal of Creative Interfaces and Computer Graphics, IGI-Global, since 2009

Conference Chair

4. Computer Graphics International, 2008

Conference Organizing Committee member

1. International Symposium on Computer and Information Sciences 2006, Istanbul, Turkey

Program Committee member

1. IEEE International Conference on Pervasive Services 2007, 2008
2. International Conference on Cyberworlds since 2006
3. International Symposium on Computer and Information Sciences, 2007
4. Digital Tasarım Günleri, 2005, 2008
5. USMOS, 2007, 2009
6. International Multi Media Modelling (MMM) Conference, since 2007
7. ACM Virtual Reality Continuum and Its Applications in Industry Conference 2008
8. SIP Conference 2008
9. Computer Graphics International 2008, 2009

Expertises

1. Expert for Turkish National Science Foundation (TUBITAK)

Reviewer for:

- EUROGRAPHICS
- IEEE VR
- IEEE Transactions on Information Technology in Biomedicine
- Journal of Computer Animation and Virtual Worlds
- Computer Graphics International
- Design Studies

Invited talks:

1. “Creating Virtual Environments in a Multidisciplinary Classroom”, E-Transformation in Learning; Sabanci University; April 2005; Digital Tasarim Gunleri; Yildiz Teknik University; June 2005; Computer Vision Lab, EPFL, Switzerland September 2005;

Granted Patents:

1. World Patent 7,064,760. Method and apparatus for extending structured content to support streaming, Capin, Tolga K.; Balcisoy, Selim S. (filed 2003, granted June 2006)

Filed Patent Applications:

1. Progressive downloading of timed multimedia content, with M. Karczewicz and T. Capin, 2004

AWARDS

IBM Faculty Award, 2007

Turkish National Science Foundation Career Award, 2006

RESEARCH PROJECTS

National Projects

2009-2011 Principal Investigator in Turkish National Science Foundation Research Project ‘An Information Theoretical Approach to Social Network Visualization’ (70.000 EUR for 2009-2011)

2007-2009 Principal Investigator in Turkish National Science Foundation and Italian Ministry of Foreign Affairs researcher exchange project ‘Virtual and Augmented Reality in Simulation and Training (VARISIT)’ (9.000 EUR for 2007-2009)

2006-2011 Principal Investigator in Turkish National Science Foundation Career Award Project “Development of an Outdoors Augmented Reality System for Cultural Heritage Applications” (132.500 EUR for 2006-2011)

Completed Projects

2006-2008 Co-Principal Investigator for Sabanci University Internal Research Grant “Novel Representation and interaction techniques of complex datasets” (118.000 EUR for 2006-2008)

2006-2008 Investigator in Turkish National Science Foundation Research Project “GIS supported 3D Analysis for Management Science” (31.600 EUR for 2006-2008)

2005-2007 Investigator in Turkish National Science Foundation Research Project “Computer Aided Reconstruction in Archaeology” (15.000 EUR for 2005-2007)

National Projects and Sabanci University Projects are awarded in Turkish Lira. The amounts have been converted to Euro using the exchange rate of 1 EUR = 2 TL.

PUBLICATIONS

Book Chapters

1. Kayalar C., Balcisoy S., "Natural Interaction Framework for Navigation Systems on Mobile Devices" (book chapter), Advances In Human Computer Interaction, Austria, 2008. To be published in "I-Tech Education and Publishing
2. Ozmen C., Balcisoy S., "A Software System to Work with 3D Models in Cultural Heritage Research" Beyond Illustration. Digital 2D and 3D Technologies as Tools of Discovery in Archaeology eds. Anastasia Dakouri-Hild and Bernard Frischer, Archaeopress (Oxford, UK), to be published in 2008

Volumes Edited & Special Issues

1. Tolga K. Çapın, Selim Balcisoy, Daniel Thalmann, Nadia Magnenat-Thalmann, Tat-Seng Chua: Editorial, The Visual Computer, Volume 24, Numbers 7-9, July 2008, Springer
2. Albert Levi, Erkay Savas, Hüsni Yenigün, Selim Balcisoy, Yücel Saygin (Eds.): Computer and Information Sciences - ISCIS 2006, 21th International Symposium, Istanbul, Turkey, November 1-3, 2006, Proceedings. Lecture Notes in Computer Science 4263 Springer 2006, ISBN 3-540-47242-8

Refereed Journal Publications

1. Balcisoy, Selim, Murat Can Çobanoğlu, Ahmet Alp Kindiroğlu, "Comparison of mobile device navigation information display alternatives from the cognitive load perspective ", Lecture Notes in Computer Science, June 2009
2. Balcisoy, Selim, Çağatay Turkyay, Emre Koç, "An information theoretic approach to camera control for crowded scenes", The Visual Computer, April 2009
3. Sezerman, Uğur, Selim Balcisoy, Serdar Çakıcı, Selçuk Sümengen, "DockPro: A VR-based tool for protein-protein docking problem ", International Journal of Virtual Reality, (inpress)
4. Kayalar C., Balcisoy S., "Changing Interfaces using Natural Arm Posture - A New Interaction Paradigm for Pedestrian Navigation Systems on Mobile Devices", Lecture Notes in Computer Science 4555, Springer 2007,
5. Ozmen C., Balcisoy S., "A Framework for Working with Digitized Cultural Heritage Artefacts", Lecture Notes in Computer Science 4263, June 2006
6. Balcisoy S., Ayiter E., "Trans-disciplinary avenues in education: Computing and Art", Zhigeng Pan, Ruth Aylett, Holger Diener, Xiaogang Jin, Stefan Göbel, Li Li (Eds.): Technologies for E-Learning and Digital Entertainment, First International Conference, Edutainment 2006, Hangzhou, China, April 16-19, 2006, Proceedings. Lecture Notes in Computer Science 3942 Springer 2006, ISBN 3-540-33423-8
7. Sannier G., Balcisoy S., Magnenat-Thalmann, Thalmann D., "VHD: A System for Directing Real-Time Virtual Actors", The Visual Computer, Volume 15, Number 7/8, p.320-329, Springer, 1999.

Refereed Conference Publications

1. Cagatay Turkay, Emre Koc, Selim Balcisoy, "Adaptive Behavioral Modeling for Crowd Simulations", The 22nd Annual Conference on Computer Animation and Social Agents, June 2009.
2. Elif Ayiter, Selim Balcisoy, Murat Germen, Bulut Sakcak and Fethi Ozdol. "The Reflexive Campus: A Study of Dynamic Architecture in a Virtual World", 2009 International Conference on Cyberworlds, CA, IEEE: IEEE Computer Society, September 2009 57-62
3. Cayci, A.; Sumengen, S.; Turkay, C.; Balcisoy, S.; Saygin, Y. "Temporal Dynamics of User Interests in Web Search Queries", Advanced Information Networking and Applications Workshops, 2009, 26-29 May 2009 Page(s):762 - 767
4. Balcisoy, Selim, Can Özmen, "Bi-manual interactive tools for cultural heritage researchers", 2008 International Conference on Cyberworlds, CA, IEEE: IEEE Computer Society, September 2008, 439-446
5. Ayiter, Elif, Murat Germen, Selim Balcisoy, Billur Hatice Engin, Mehveç Çetinkaya, "Maestro: design challenges for a group calendar", Information Visualisation, 2008. IV '08. 12th International Conference, London: IEEE, July 2008, 491-496
6. Engin B., Cetinkaya M., Ayiter E., Germen M., Balcisoy S., "Maestro: Design Challenges for a Group Calendar", 12th International Conference Information Visualisation 2008, London, UK .
7. Balcisoy, Selim, Ceren Kayalar, "Augmented reality based user interfaces to assist fieldwork on excavation sites", CAA 2008, Budapest, Hungary: Archaeolingua Foundation, April 2008
8. Elif E. Ayiter, Selim Balcisoy, Murat Germen, Ismail Kasarci, Uraz C. Turker, Merve Cayli: "Space Frames": Using space, color and animation in the visualization of complex graph systems. Advances in Artificial Reality and Tele-Existence, 17th International Conference on Artificial Reality and Telexistence, ICAT 2007, Esbjerg, Denmark, November 28-30, 2007, Proceedings. IEEE Computer Society 2007. P. 286-287
9. Bozkaya B., Balcisoy S., Engin B., 'GIS as a Decision support System for Visualizing and Solving Logistics Problems', 22nd European Conference on Operational Research 2007, Prague, Czech Republic
10. Alper B., Sumengen S., Balcisoy S., 'Dynamic Visualization of Geographic Networks Using Surface Deformations with Constraints' Computer Graphics International 2007, Petropolis, Brazil
11. Engin B. H., Koc E., Sumengen S., Balcisoy S., 'Yüksek Çözünürlüklü Arazi Verilerinin Grafik İşlemcisi Kullanılarak Görselleştirilmesi' USMOS 2007, Ankara, Turkey (Turkish)
12. Alper B., Sumengen S., Balcisoy S., 'Dynamic Visualization of Geographic Networks Using Surface Deformations with Constraints' Geoinformatics 2007 Conference, Poster Session, San Diego, USA
13. Ayiter E., Balcisoy S., Germen., Artut S., "Propagating Collaboration: An Instructional Methodology for Artists and Engineers", Ben Shneiderman, Gerhard Fischer, Elisa Giaccardi, Michael Eisenberg (Eds.): Proceedings of the 6th Conference on Creativity & Cognition, Washington, DC, USA, June 13-15, 2007. ACM 2007, ISBN 978-1-59593-712-4

14. Sumengen S., Eren M.T., Yesilyurt S., Balcisoy S., "Real-time Deformable Objects for Collaborative Virtual Environments", Grapp 2007, Barcelona
15. Kayalar C., Balcisoy S., "Seamless Interface Transition Mechanism for Pedestrian Navigation Systems", Mobile and Ubiquitous Information Access 2006 Workshop, Espoo, Finland, September 2006
16. Germen M., Artut S, Ayiter E., Balcisoy S., Sharir Y., "The Representation and Navigation of Complex Data", Education and Research in Computer Aided Architectural Design in Europe, September 2006, Volos, Greece.
17. Ozmen C., Balcisoy S., "3D Spatial Measurement Tools for Digitized Artifacts", Computer Applications and Quantitative Methods in Archaeology 2006, North Dakota, USA
18. Sagiroglu M., Ercil A., Balcisoy S., "Automated Reconstruction of Archaeological Finds", Computer Applications and Quantitative Methods in Archaeology 2006, North Dakota, USA
19. Artut S., Ayiter E., Balcisoy S., M. Germen, Y. Sharir, "Resolving order in chaos: navigation in complex data sets", Toward A Science of Consciousness 2006, Arizona, USA
20. Balcisoy S., Ayiter E., "Virtual Environments for Learners with Special Needs", Poster Proceedings WSCG'2006 Plzen, Czech Republic
21. Sagiroglu M., Ercil A., Ozmen C., Balcisoy S, "Texture Based Approach to Puzzle Assembly", Virtual Retrospect 2005, France
22. Balcisoy S., Ayiter E., "Creating Virtual Environments in a Multidisciplinary Classroom", ACM SIGGRAPH Educators Panel 2005 Los Angeles
23. Sumengen S., Balcisoy S., "Real-Time Simulation of Autonomous Vehicles on Planet-Sized Continuous LOD Terrains", Poster Proceedings WSCG'2005 Plzen, Czech Republic
24. Sumengen S., Balcisoy S., "Hava ve Kara Arac Gruplarinin Detayli Arazi Verisi Uzerinde Gercek Zamanli Simulasyonu", Havacilikta Ileri Teknolojiler ve Uygulamalar Sempozyumu;Hava Harp Okulu; December 2004; Istanbul, Turkey (Turkish)
25. Balcisoy S., Kallmann M., Torre R., Fua P., Thalmann D., "Interaction Techniques with Virtual Humans in Mixed Environments", Proc. ISMR 2001, Tokyo, Japan
26. Balcisoy S., Kallmann M., Fua P., Thalmann D., "A framework for rapid evaluation of prototypes with Augmented Reality", Proc. ACM VRST 2000, Seoul, Korea
27. Balcisoy S., Torre R., Ponder M., Fua P., Thalmann D., "Augmented Reality for Real and Virtual Humans", Proc. IEEE CGI 2000. Geneva, Switzerland
28. Torre R., Fua P., Balcisoy S., Ponder M., Thalmann D., "Interaction Between Real and Virtual Humans: Playing Checkers", EGVE 2000, Amsterdam, the Netherlands.
29. Balcisoy S., Sannier G., Magnenat-Thalmann N., Thalmann D., "An Interactive Interface for Directing Virtual Humans", Proc. ISCIS 98, IOS Press, Antalya, Turkey.
30. Balcisoy S., Thalmann D., "Hybrid Approaches to Interactions Between Real and Virtual Humans in Mixed Environments", Proc. Virtual Environments'98, Stuttgart, Germany.
31. Balcisoy S., Thalmann D., "Hybrid Participant Embodiments in Networked Collaborative Virtual Environments", Proc. IEEE Multi Media Modeling'98, Lausanne, Switzerland.

32. Balcisoy S., Thalmann D., "Interaction between Real and Virtual Humans in Augmented Reality", Proc. IEEE Computer Animation'97, Geneva, Switzerland.
33. Emering L, Boulic R., Balcisoy S., Thalmann D., "Multi-Level Modeling and Recognition of Human Actions Involving Full Body Motion", First ACM Conf. On Autonomous Agents'97, Los Angeles, USA.
34. Emering L, Boulic R., Balcisoy S., Thalmann D., "Real-time Interactions with Virtual Agents Driven by Human Action Identification", First ACM Conf. On Autonomous Agents'97, Los Angeles, USA.

Other Publications

1. Capin T, Ingrassia M, Balcisoy S., "SVG in 3GPP Multimedia Messaging and Streaming Services", SVG Open 2003, Vancouver, Canada
2. Balcisoy S., "Analysis and Development of Interaction Techniques between Real and Synthetic Worlds." Ph.D. Thesis EPFL, 2001