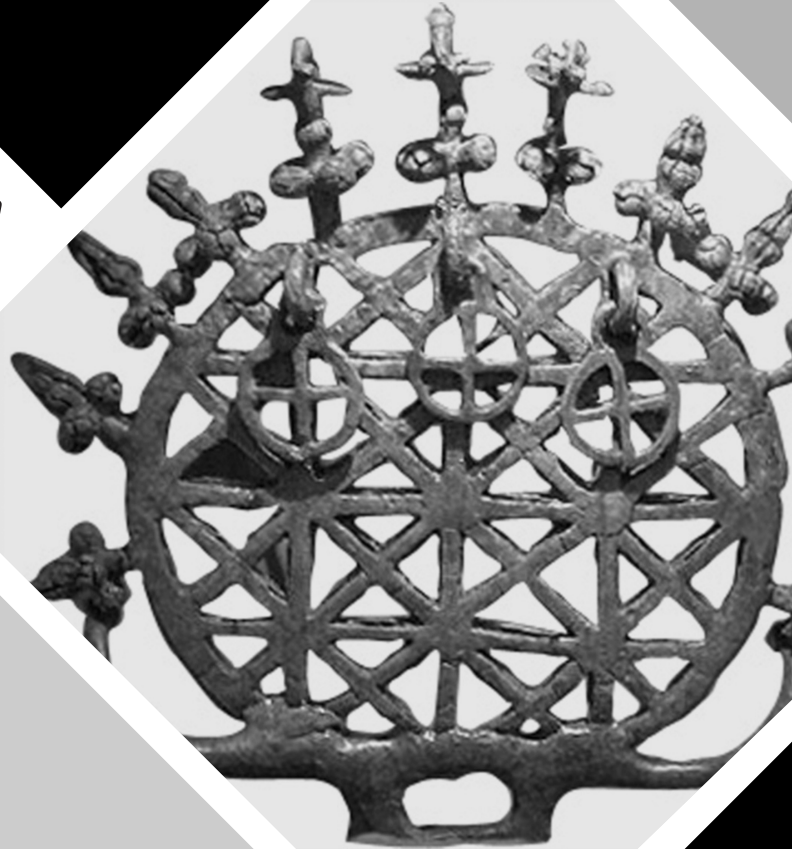


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Association for
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Advancing Computing as a Science & Profession



ITiCSE'10

Proceedings of the 2010 ACM SIGCSE Annual Conference on
**Innovation and Technology
in Computer Science Education**

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Foreword

Welcome to Bilkent ...

... a lively district of Ankara, the capital city of Turkey. Ankara's geographical location positions it as the "anchor" between East and West and between Asia and Europe. Within Bilkent lies the first private institution for higher education in Turkey, Bilkent University, which ranks among Turkey's best universities.

Amidst the many amenities and events that flourish within the university emerges a wonderful event at June's end - the fifteenth Innovation and Technology in Computer Science Education (ITiCSE) conference, an event hosted by Bilkent University and organized by ACM SIGCSE.

ITiCSE 2010 welcomes all researchers and professionals interested in the use of technology in support of learning and teaching in the computing field including the practice of teaching and research. The program consists of invited keynotes, working groups, exhibits, and technical sessions featuring papers, panels, posters, demonstrations, tips, techniques, and student posters. Keynote speakers include Prof. Dr. Nüket Yetiş of TUBITAK-Turkey and Dr. Jane Prey of Microsoft Research.

The conference offers a variety of opportunities to learn from and interact with computing colleagues from around the world. The conference opens with a plenary presentation by an invited speaker and includes three parallel tracks including paper presentations, invited panels, working groups and special project presentations. Sixty excellent papers were accepted for presentation from among the 117 submitted (51% acceptance rate). ITiCSE 2010 has a diverse committee that includes people from 11 different countries, and is committed to encouraging and supporting newcomers to the conference. This year, the conference contributes to the ITiCSE culture with its new Outreach Committee and Assistant Program Chairs.

Expect great Turkish hospitality with two festive receptions Sunday and Monday evenings and a conference banquet Wednesday evening. Tuesday afternoon and evening is open to mingle with colleagues on city tours or to just relax. Working groups convene Saturday and they will work in earnest throughout the conference. Information regarding pre- and post-conference tours is available; you may wish to arrange them through our well-informed local professional conference planning organization Asterya. So, ...

Join us in Bilkent!

For more information, visit the ITiCSE 2010 website or feel free to contact Asterya or one of the committee members. We welcome you to Bilkent.

Reyyan Ayfer, John Impagliazzo

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Cary Laxer

ITiCSE 2010 Program Chair

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Rick Gee (*Okanagan College*)
Paul Gestwicki (*Ball State University*)
Michael Goldweber (*Xavier University*)
Jean Goulet (*Universite de Sherbrooke*)
Mary Granger (*George Washington University*)
Simon Gray (*College of Wooster*)
Mark Guzdial (*Georgia Institute of Technology*)
Brian Hanks (*Fort Lewis College*)
Stuart Hansen (*University of Wisconsin - Parkside*)

Thanos Hatzia Apostolou (*CITY College, University of Sheffield*)
 Sarah Heckman (*North Carolina State University*)
 David Hemmendinger (*Union College*)
 Katherine Herbert (*Montclair State University*)
 Matthew Hertz (*Canisius College*)
 Lewis Hitchner (*retired, formerly Cal Poly State University*)
 William Hochstettler (*Franklin University*)
 Jesper Holck (*Copenhagen Business School*)
 William Hooper (*Belmont University*)
 Cay Horstmann (*San Jose State University*)
 David Hovemeyer (*York College of Pennsylvania*)
 Brian Howard (*DePauw University*)
 James Howatt (*Luther College*)
 Janet Hughes (*University of Dundee*)
 Frances Hunt (*Educational Testing Service*)
 Steven Huss-Lederman (*Beloit College*)
 Michelle Hutton (*The Girls' Middle School/CSTA*)
 Jorge Eduardo Ibarra-Esquer (*Universidad Autonoma de Baja California*)
 Matthew Jadud (*Allegheny College*)
 Mark Jaeger (*Baker College*)
 Richard James (*Rollins College*)
 Ciera Jaspan (*Carnegie Mellon University*)
 Guillermo Jimenez-Diaz (*Universidad Complutense de Madrid*)
 David John (*Wake Forest University*)
 Mark Johnson (*Central College*)
 Colin Johnson (*University of Kent at Canterbury*)
 Julie Johnson (*Vanderbilt University*)
 Anthony Joseph (*Pace University*)
 Daniel Joyce (*Villanova University*)
 Edward Jung (*Southern Polytechnic State University*)
 Ville Karavirta (*Helsinki University of Technology*)
 David G. Kay (*University of California, Irvine*)
 Jennifer Kay (*Rowan University*)
 Nancy Kinnersley (*University of Kansas*)
 Carsten Kleiner (*University of Applied Sciences & Arts Hannover*)
 Michael Kolling (*University of Kent*)
 Nicholas Kraft (*The University of Alabama*)
 Joan Krone (*Denison University*)
 Benjamin Kuperman (*Oberlin College*)
 Stan Kurkovsky (*Central Connecticut State University*)
 Zachary Kurmas (*Grand Valley State University*)
 Lynn Lambert (*Christopher Newport University*)
 Eric Larson (*Seattle University*)
 Mary Last (*self-employed*)
 Deirdre Lawless (*Dublin Institute of Technology*)
 Alina Lazar (*Youngstown State University*)
 Gilliean Lee (*Lander University*)
 Scott Leutenegger (*University of Denver*)
 Raymond Lister (*University of British Columbia*)
 Jigang Liu (*Metropolitan State University*)
 Sergio F. Lopes (*University of Minho*)
 Antonio M. Lopez (*Retired*)
 Joan Lucas (*State University of New York, College at Brockport*)
 Chris Lueer (*Ball State University*)
 Andrew Luxton-Reilly (*The University of Auckland*)
 Bonnie MacKellar (*St. John's University*)
 Michael Main (*University of Colorado at Boulder*)
 Lauri Malmi (*Aalto University*)
 Maynard Mansfield (*Indiana-Purdue Fort Wayne*)
 Bill Marion (*Valparaiso University*)
 Lester McCann (*The University of Arizona*)
 O. William McClung (*Nebraska Wesleyan University*)
 Jeffrey McConnell (*Canisius College*)
 Sean McCulloch (*Ohio Wesleyan University*)
 Chris McDonald (*The University of Western Australia*)
 Pedro Medeiros (*Universidade Nova de Lisboa*)
 Antonio Jose Mendes (*University of Coimbra*)
 Susan Mengel (*Texas Tech University*)
 Jose Carlos Metrolho (*Polytechnic Institute of Castelo Branco*)
 Gail Miles (*Lenoir-Rhyne College*)
 Joe Miro (*Universitat de les Illes Balears*)
 David Moffat (*Glasgow Caledonian University*)
 Sara Miner More (*McDaniel College*)
 Patricia Morreale (*Kean University*)
 Michael Murphy (*Southern Polytechnic State University*)
 Robert Neufeld (*McPherson College - Emeritus*)
 Chris Nevison (*Colgate University*)
 Amos Olagunju (*St. Cloud State University*)
 Lawrence Osborne (*Lamar University*)
 Barbara Owens (*Southwestern University*)
 Ozcan Ozturk (*Bilkent University*)
 Katherine Panciera (*University of Minnesota*)
 Abelardo Pardo (*Carlos III University of Madrid*)
 David Parker (*Salisbury University*)
 James Paterson (*Glasgow Caledonian University*)

Michela Pedroni (*ETH Zurich*)
 Teresa Peterman (*Grand Valley State University*)
 Andrew Petersen (*University of Toronto Mississauga*)
 Paul Piwowarski (*University of Kentucky*)
 Irene Polycarpou (*Colorado School of Mines*)
 Annu Prabhakar (*University of Cincinnati*)
 John-Paul Pretti (*University of Waterloo*)
 Philip Prins (*Seattle Pacific University*)
 Sarah Monisha Pulimood (*The College of New Jersey*)
 Atanas Radenski (*Chapman University*)
 John Rager (*Amherst College*)
 Noa Ragonis (*Beit Berl Colleg, Technion*)
 Samuel Rebelsky (*Grinnell College*)
 Charles Riedesel (*University of Nebraska - Lincoln*)
 Suzanne Rivoire (*Sonoma State University*)
 Christian Roberson (*Plymouth State University*)
 Stefan Robila (*Montclair State University*)
 Guido Roessling (*Technische Universitaet Darmstadt*)
 Constantine Roussos (*Lynchburg College*)
 Mehran Sahami (*Stanford University*)
 Dean Sanders (*Northwest Missouri State University*)
 Kate Sanders (*Rhode Island College*)
 Otto Seppala (*Helsinki University of Technology*)
 Behrooz Seyed-Abbassi (*University of North Florida*)
 Judy Sheard (*Monash University*)
 Fangyang Shen (*Northern New Mexico College*)
 Ching-Kuang Shene (*Michigan Technological University*)
 Yasuto Shirai (*Shizuoka University*)
 Charles Shub (*University of Colorado at Colorado Springs*)
 Peter Smith (*California State University - Channel Islands*)
 Raja Sooriamurthi (*Carnegie Mellon University*)
 Barry Soroka (*Cal Poly Pomona*)
 Carol Spradling (*Northwest Missouri State University*)
 Jeffrey Stone (*Pennsylvania State University*)
 Jose Such (*Technical University of Valencia*)
 Jorma Tarhio (*Helsinki University of Technology*)
 Allison Elliott Tew (*Georgia Institute of Technology*)
 William Thacker (*Winthrop University*)
 Rebecca Thomas (*Bard College*)
 Megan Thomas (*California State University Stanislaus*)
 John Thompson (*Buffalo State College*)
 Errol Thompson (*University of Birmingham*)
 John Trono (*Saint Michael's College*)
 Deborah Trytten (*University of Oklahoma*)
 William Turner (*Wabash College*)
 Guenter Tusch (*Grand Valley State University*)
 Hakan Tuzun (*Hacettepe University*)
 Suleyman Uludag (*The University of Michigan - Flint*)
 Jaime Urquiza-Fuentes (*Rey Juan Carlos University/Lecturer*)
 Ian Utting (*University of Kent at Canterbury*)
 Tammy VanDeGrift (*University of Portland*)
 Asaf Varol (*Firat University*)
 Troy Vasiga (*University of Waterloo*)
 Steven Vegdahl (*University of Portland*)
 J. Angel Velazquez-Iturbide (*Universidad Rey Juan Carlos*)
 Gabriela Vilanova (*National Patagonia Austral University*)
 David Voorhees (*Le Moyne College*)
 Volodymyr Voytenko (*The King's University College*)
 Henry Walker (*Grinnell College*)
 Thomas Way (*Villanova University*)
 Howard Whitston (*University of South Alabama*)
 Linda Wilkens (*Providence College*)
 Arthur Yanushka (*Christian Brothers University*)
 Timothy Yuen (*UTSA*)
 Marsha Zaidman (*University of Mary Washington*)
 Carol Zander (*University of Washington, Bothell*)
 Alan Zaring (*Ohio Wesleyan University*)
 Daniel Zingaro (*University of Toronto*)

ITiCSE 2010 Working Groups

Working Group 1: Tools for Contributing Student Learning

Co-Leaders: John Hamer (*University of Auckland*)
Helen Purchase (*University of Glasgow*)

Participants: Judithe Sheard (*Monash University*)
Andrew Luxton-Reilly (*University of Auckland*)

Working Group 2: Adapting Moodle to Better Support CS Education

Leader: Guido Rößling (*Technische Universität Darmstadt*)

Participants: Petri Ihantola (*Aalto University School of Science and Technology*)
Atanas Radensky (*Chapman University*)
Myles McNally (*Alma College*)
Pierluigi Crescenzi (*University of Florence*)
M. Gloria Sánchez-Torrubia (*Technical University of Madrid*)

Working Group 3: Motivating our Top Students

Co-Leaders: Janet Carter (*University of Kent*)
Su White (*University of Southampton*)

Participants: Malcolm Wieck (*Christchurch Polytechnic Institute of Technology*)
Karen Fraser (*University of Ulster at Jordanstown*)
Colette McCreesh (*Queens University Belfast*)
Stan Kurkovsky (*Central Connecticut State University*)

Working Group 4: Towards Information Assurance Curricula Guidelines

Co-Leaders: Stephen Cooper (*Purdue University*)
Christine Nickell (*US Department of Defense*)
Lance Perez (*University of Nebraska – Lincoln*)
Brenda Oldfield (*Department of Homeland Security*)

Participants: Joel Brynielsson (*Royal Institute of Technology*)
Robert Cutler (*Purdue University*)
Melissa Dark (*Purdue University*)
Barbara Endicott-Popovsky (*University of Washington*)
Asim Gencer Gokce (*Uekae*)
Beth Hawthorne (*Union County College*)
Cynthia Irvine (*Naval Postgraduate School*)
Andrea Lawrence (*Spelman College*)

Working Group 5: What Can We Learn from Program Comprehension Models for the Teaching of Introductory Programming

Co-Leaders: Carsten Schulte (*Freie Universität Berlin*)
Jürgen Börstler (*Umeå University*)

Participants: Teresa Busjahn (*Freie Universität Berlin*)
Tony Clear (*Auckland University of Technology*)
Mark Hall (*University of Wisconsin-Marathon County*)
Melissa Otake-Trainor (*American School of Paris*)
James Paterson (*Glasgow Caledonian University*)
Ahmad Taherkani (*Aalto University*)

Working Group 6: Towards Standards In The Digital Forensics Curriculum

Leader: Peter Brown (*Sam Houston State University*)

Participants: Gail Finlay (*University of District Columbia*)
Petteri Kaskenpalo (*Auckland University of Technology*)

Working Group 7: Strategies for Preparing Computer Science Students for the Multicore World

Co-Leaders: Richard Brown (*St. Olaf College*)
Elizabeth Shoop (*Macalester College*)

Participants: Joel Adams (*Calvin College*)
Curt Clifton (*Rose-Hulman Institute of Technology*)
Mark Gardner (*Virginia Tech*)
Michael Haupt (*Universität Potsdam*)
Peter Hinsbeeck (*Intel Corporation*)

Working Group 8: The Impact of IT on Society; How We Can Address Some of the Issues in Our Courses

Co-Leaders: Mikey Goldweber (*Xavier University*)
Joyce Currie Little (*Townson University*)

Participants: Gerry Cross (*Mount Royal University*)
Charles Riesel (*University of Nebraska*)
Brian von Kinsky (*Curtin University*)
Henry Walker (*Grinnell College*)