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## ITiCSE 2012

17th Annual Conference on Innovation and  
Technology in Computer Science Education

<http://www.iticse12.org.il>



**Technion**  
Israel Institute  
of Technology



# ITiCSE 2012

**Computing Sciences Education:  
Legacy, Innovation and Future Trends**

**17th Annual Conference on Innovation and  
Technology in Computer Science Education**

**July 3-5, 2012  
Haifa, Israel**

<http://www.iticse12.org.il>

Israel, with its unique mixture of ancient history, modern present, and promising future, is a startup nation. An extremely popular tourist destination due to its vast diversity in geographical and historical sites and wonderful climate, Israel also provides a human encounter with various heritages, hopes and dreams.

We invite you to attend ITiCSE 2012 and become acquainted with the Israeli experience.

## ITiCSE 2012 Program

Sunday July 1	Monday July 2	Tuesday July 3	Wednesday July 4	Thursday July 5		
Shuttles to Technion	Shuttles to Technion	Excursions: All excursions Will leave from the hotels	Shuttles to Technion	Shuttles to Technion		
Working Groups	Working Groups		Break in hotels	Keynote: Lenore Blum	Keynote: David Harel	
				Coffee Break & Posters	Short Break	
				Sessions	Sessions	
				Short break	Short break	
		Sessions		Sessions		
		Shuttles to Technion	Opening Session	Keynote: Michael Rabin	Lunch	Lunch
					Sessions	Sessions
					Coffee break & posters	Coffee break & posters
					Sessions	Sessions
					Shuttles to hotels & a short break in hotels	Short break
Registration	Sessions	Banquet in Acre Palm Beach	Closing session	Shuttles to hotels		
Reception	Shuttles to hotels					

## ITiCSE 2012 Keynotes

ITiCSE 2012 is among the official Centenary events of the Alan Turing Year.

All three Keynotes of ITiCSE 2012 will be in conjunction with the Turing Centenary:

On Tuesday 3 July, Prof. Michael O. Rabin, from the Hebrew University and Harvard University, and a Turing Award winner, will talk on "Never Too Early to Begin: Computer Science for High-School Students".

On Wednesday 4 July, Prof. Lenore Blum, from Carnegie Mellon University, will talk on "Alan Turing and the Other Theory of Computation".

On Thursday 5 July, Prof. David Harel, from the Weizmann Institute of Science, will talk on "Standing on the Shoulders of a Giant: One Person's Experience of Turing's Impact".

## Venue

The Technion campus in Haifa (90 kilometers north of Tel Aviv) will be the main conference venue.

Haifa, the largest city in northern Israel, built on the slopes of Mount Carmel, is the city of tolerance, where people of all religions live together (82% Jewish, 14% Christian, 4% Muslim). Haifa also houses part of the Bahá'í World Centre, the famous Shrine of the Báb and its gardens, a UNESCO World Heritage Site.

## Registration Fees

ACM/SIGCSE Member registration fees: \$500 for early registration (\$600 for late registration).

Nonmember registration fees: \$600 for early registration (\$725 for late registration).

Student registration fees: \$250 for early registration.

All the prices above are in US Dollars.

Registration includes entrance to sessions and exhibits, a USB stick of the conference proceedings, two lunch buffets, reception, and the banquet on Wednesday evening.

## Excursions and Tours

Pre-conference and Post-conference tours to Jerusalem (2 days and 3 days) and the Galilee (2 days) will be offered to ITiCSE 2012 participants, as well as several excursion options on July 3 morning.

Excursions: ITiCSE 2012 Excursions will be on Tuesday July 3 morning.

Participants will be able to choose between a tour to the Sea of Galilee (including Mount of Beatitudes, Tabgha, and Capernaum), a tour to Nazareth and Cana, a tour to Acre, and a Haifa city tour.

Pre-conference and Post-conference tours: ITiCSE 2012 participants will be able to reserve 2 or 3 days tour to Jerusalem and the Galilee.

The Jerusalem (2 days) tour will include historical sites in the old city, such as the Western Wall and the Via Dolorosa; as well as sites in the modern city, such as the Yad Vashem Holocaust museum and the Shrine of the Book, where on display are the Dead Sea Scrolls.

Participants will be able to add a third day and visit Masada and the Dead Sea.

The Galilee (2 days) tour will include Megiddo (Armageddon), Nazareth, Mount Tabor, Mount of Beatitudes, Tabgha, and Capernaum.

## Keynote Speakers

All three Keynotes of ITiCSE 2012 will be in conjunction with the Turing Centenary.

On **Tuesday 3 July**, **Prof. Michael O. Rabin**, from the Hebrew University and Harvard University, and a Turing Award winner, will talk on "Never Too Early to Begin: Computer Science for High-School Students".

**Abstract:** Computer science and technology innovated over the past sixty years, have revolutionized science, the economy and societal interactions. Inherently CS constitutes a new science combining mathematics, logic, information theory and electronics, on par with physics, chemistry and the life sciences. It is appropriate to educate students in the fundamentals of this science. The curriculum should emphasize the scientific content rather than provide mere training in some programming language.

On **Wednesday 4 July**, **Prof. Lenore Blum**, from Carnegie Mellon University, will talk on "Alan Turing and the Other Theory of Computation".

**Abstract:** The two major traditions of the Theory of Computation, each asking claim to similar motivations and aspirations, have for the most part run a parallel non-intersecting course. On one hand, we have the tradition arising from logic and computer science addressing problems with more recent origins, using tools of combinatorics and discrete mathematics.

On the other hand, we have numerical analysis and scientific computation emanating from the classical tradition of equation solving and the continuous mathematics of calculus. Both traditions are motivated by a desire to understand the essence of computation, of algorithm; both aspire to discover useful, even profound, consequences.

While the logic and computer science communities are keenly aware of Alan Turing's seminal role in the former (discrete) tradition of the theory of computation, most remain unaware of Alan Turing's role in the latter (continuous) tradition, this notwithstanding the many references to Turing in the modern numerical analysis/computational mathematics literature.

In this talk I recognize Turing's work in the foundations of numerical computation. I also indicate its role in complexity theory today, and how it provides a unifying concept for the two major traditions in the Theory of Computation.

On **Thursday 5 July**, **Prof. David Harel**, from the Weizmann Institute of Science, will talk on "Standing on the Shoulders of a Giant: One Person's Experience of Turing's Impact".

**Abstract:** The talk will briefly describe three of Turing's major achievements, in three different fields: computability, biological modeling and artificial intelligence. Interspersed with this, I will explain how each of them directly motivated and inspired me to carry out a variety of research projects over a period of 30 years, the results of which can all be viewed humbly as extensions and generalizations of Turing's pioneering and ingenious insights.