

It is my great pleasure to open this event, honoring our colleague, teacher, advisor, and friend, Ed Clarke.

As Ed is so identified with Model Checking, it is not a coincidence that on this occasion we also celebrate 32 years of Model Checking (well, slightly more, but  $2^5$  is a nice number...).

We have gathered here, people related to all periods of Ed's career, starting in the early days of Harvard with Prasad Sistla; and up to Ed's current graduate student Anvesh Komuravelli.

Along this period, Ed not only developed the notion of Model Checking (together with Allen Emerson, and for that they received, with Sifakis, the Turing Award), he also played a central role in defining "model checking" as an important stand-alone research area, by establishing a conference and a journal, dedicated to Computer Aided Verification. Evidently, Ed was one of the distinguished founders of the Model Checking community.

At CMU, Ed built up a group that became a center of attraction to students, postdocs and collaborators, who spent there some time and then went out to the world, to spread the word.

I myself was lucky to be part of this group, first as a postdoc, then as a summer visitor, for over 25 years! There was always something new to learn, some exciting research to work on, some inspiring ideas to absorb. In so many ways I was inspired by Ed during this entire period that it is hard for me to imagine how my academic life would have been without it.

Thanks Ed!

But it is not only me. We have here today people from all over the US, from Austria, from Canada, from China, England, Germany, India, Israel, Italy, Japan, Korea, Romania, Switzerland, Taiwan (and I hope I didn't forget anyone...). We have here representatives from Academia as well as from industry; a fact that clearly shows that Model Checking is not only an academic discipline but also became a useful tool in practice.

The idea that started at Harvard more than 30 years ago, has branched now to so many application areas: hardware, software, hybrid and embedded systems, biological systems and more. We will hear about many of these developments during the coming two days.

I could mention all of Ed's contributions to model checking with the many breakthroughs, each significantly advancing model checking forward, and for which Ed got so many awards and acknowledgement.

Instead, I would like to share with you a story about the creation of one of these breakthroughs as I witnessed it. In CAV 1997, one of the invited talks was given by a Swedish guy from a company called Prover. The invited talk was dedicated to a new SAT solver, developed by this company. The talk was interesting but seems to have no direct relevance to model checking. Well, this is what I thought at that time. During my next visit to CMU I found Ed reading books and papers in order to get to the root of this new technology. In my next visit a year later I was told about a new invention "Bounded (SAT-based) Model Checking" by Ed, Armin Biere, Alessandro Cimmati, and Yunshan Zhu. We all know by now how essential this invention was for the advance of model checking.

In the next two days we will hear many personal memories, stories and talks on many different aspects of model checking and its applications. I apologize for the conciseness of the talks – just 10 minutes each, but this is a result of the large number of participants, which we are so happy to have.

I wish you Ed and you all, an enjoyable event.