Message from the Chairs

In June 1959, the first *International Conference on Information Processing* was held in Paris, under the sponsorship of UNESCO. During that conference, the *International Federation for Information Processing* (IFIP) was established to meet the need to promote information science and technology, stimulating research, development and cooperation among several countries. Among others, one important aim was supporting education in information processing. In 1972, the Technical Committee TC 7 *System Modeling and Optimization* was established, with its working groups including WG 7.3 *Computer System Modeling*. In 1973, the WG 7.3 - *International Symposium on Computer Performance Modeling, Measurement, and Evaluation* was launched.

During the same years, the *National Bureau of Standards* and its *Institute for Computer Sciences and Technology* started a series of *Federal Information Processing Standards* (FIPS) Task Groups. In 1971, the FIPS Task Group 10 *Computer Component and Systems Performance Evaluation* promoted a self-governing *Computer Performance Evaluation User's Group* (CPEUG). The CPEUG brought together people from many United States Governmental agencies, a number of academicians as well as analysts from business and industry working in this area, and this gave rise to the formation within the ACM of SIGME [Special Interest Group in Measurement and Evaluation], now known as SIGMETRICS. In ten years, many universities started Performance Modeling (*PM*) courses, and *PM* teaching reached its peak in the 80s.

We have come a long way from that starting point. Computing evolves at a frenetic pace, and new technologies and applications continually enrich the landscape. Consequently, new computing-related disciplines emerge and push their way into university curricula. This led to cutbacks in the teaching of *PM*, as budgets are squeezed and student interests shift.

Moreover, no one could have imagined what has happened in the last two years: A pandemic has forced the whole world to change lifestyle habits, and physical distance becomes the first rule of behaviour. At all levels and for most courses, teaching has been forced online.

In this 50th anniversary of SIGMETRICS and of *PM* teaching, the Performance Community needs to take stock of performance modeling as a discipline. With enthusiastic encouragement from Evgenia Smirni (the Workshop Chair for IFIP Performance 2021), we therefore launch this first Workshop on *Teaching Performance Analysis of Computer Systems* (TeaPACS). The aim is to discuss how our community should respond to the various challenges posed by the complex current context.

In the last two decades, various economic crises left a negative impact on many educational systems, and industry interests are driving social transformation. Inevitably, higher learning is changing its role, perhaps unawares. Meanwhile, new generations of students are changing their learning modes. Thus, on one hand, the university is pushed to become a utilitarian organization and, on the other hand, technological tools are substituting knowledge.

How does the education community want to answer to this challenge? Does it want to regain the thinking spaces? If the education community does not want to abdicate its responsibility and make way for economic and technological considerations, and if it wants to defend its role in leading knowledge and critical thinking, it needs to be fully aware of the surrounding difficulties.

For example, how should course content in performance analysis be updated for undergraduate and graduate students? Should we reach out to the industry, to import case studies, as well as educate engineers and managers? Can we demonstrate the relevance of performance analysis to other disciplines, and adopt pedagogical approaches from currently popular courses?

We therefore invited 5 speakers to help set the tone for the Workshop by providing keynotes that touch on the above issues. They will also help lead the discussion on how the community should respond to the challenges in teaching performance analysis to students and engineers.

Mor Harchol-Balter has consulted extensively for industry. Based on her experiences, she identifies the performance modeling questions that are most relevant to industry.

Chee Wei Tan shows how theoretical techniques for Performance Analysis of communications systems can be effectively taught through abstractions and also using online classroom flipping and mobile software technologies.

Cathy Xia shares her experience on how to incorporate various digital technologies in teaching Performance Modeling and keep the course updated with new topics.

Jean-Yves Le Boudec illustrates aspects of Performance Evaluation teaching that are important for different areas such as data science and machine learning.

Finally, Giuseppe Serazzi addresses the problem of textbooks for Performance Analysis courses. He analyzes what factors affect their choice and their lifespan. On the other side, he underlines the role a book may play in students' affection for the subject. A technique that could be interesting for teaching Performance Analysis courses is also presented.

We think this reflection is urgent and necessary. We are grateful to Evgenia and Danilo Ardagna (General Chair) for helping us organize this Workshop, and to the speakers for accepting our invitation to share their experience, knowledge and ideas. But most of all, we thank the participants who contribute to the discussions. We will provide our community with a report of these discussions after the workshop.

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