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Time and events in Computer Science

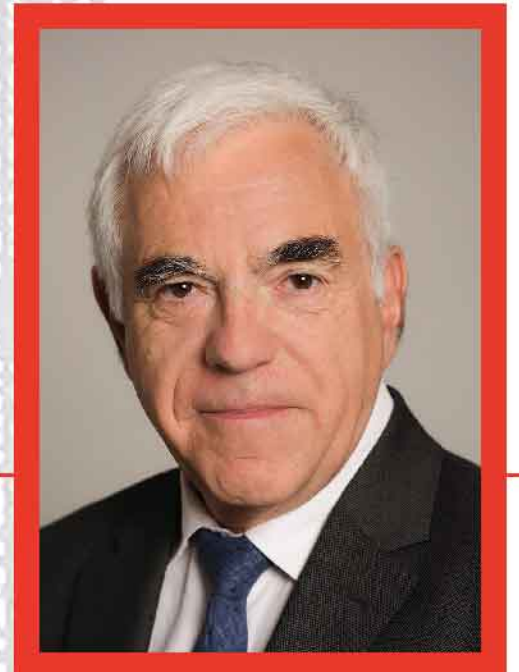
by

Professor Gérard Berry

Member of the French Academy of Sciences

Member of the French Academy of Technologies

Gold Medal of the CNRS



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Abstract:

In classical computer science, time is mostly considered as a program execution cost but not as a programming concern. But explicit and rigorous manipulation of time and events became central for industry in the 1980's, when cyber-physical systems such as airplanes, trains, robots, etc., started to be driven and supervised by computer programs. This led to the development of synchronous programming languages by mixed computer scientists and control theory teams, first in France with Esterel by the author and Lustre and Signal in two other labs. Based on synchronous concurrency, which greatly simplifies time-aware programming but did raise now solved tricky semantical problems, they started the new domain of Reactive Programming, later joined by Statecharts in Israel and Ptolemy at Berkeley. Helped by their rigorous semantics, they now have an important industrial impact in safety-critical domains such as airplane flight control etc., but also hardware circuits design and complex human-machine interaction. The talk will discuss their design, semantics and applications.

Date: 6 November 2024 (Wednesday)

Time: 4:30 pm

Venue: Senate Room, 19/F
Lau Ming Wai Academic Building
City University of Hong Kong

Enquiries: Ms Winnie Yee
Tel: 3442 8670
Fax: 3442 0252
Email: vpre@cityu.edu.hk



Online registration:
<https://go.cityu.hk/uuxfdl>

All are Welcome