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Quantum mechanics front-stage at UTC

March 16, 2017, Prof. William A. Goddard III, Charles and Mary Ferkel Professor of Chemistry, Materials Science and Applied Physics at the California Institute of Technology (Caltech), Director of the Materials and Process Simulation Center (Caltech-MPSC) accepted the invitation of Fahmi Bedoui, Associate Professor at the MPSC, and senior lecturer at UTC-Roberval

22 May 2017

This opportunity enabled the emeritus American research scientist to give a lecture on multiscale modelling and digital computation, in nanomaterials and complex molecular systems. *“Questions like these represent major future challenges. They are primordial in certain fields such as energy, for example. We must develop sources of green electricity (solar and hydraulic, notably). This requires we identify and implement storage processes, create new and more efficient materials for this very purpose that cost less and are environment friendly. In my laboratory, that is exactly what I am trying to do”,* says Prof Goddard while at UTC.

Professor William A Goddard III, who graduated from UCLA and Caltech, is a world famous specialist in solid-state physics. After solving some quantum physics problems, he gradually widened the scope of his research to address theoretical chemistry and multi-scale modelling of complex chemical systems. His investigations were often conducted in collaboration with industrial partner-clients. *“I myself have set up several companies which enjoyed a fair amount of success in the market-place”,* says William, amusingly. He now plans to orient his work to the health and environment sectors. His aim is to improve the efficiency of active ingredients in drugs, as well as the accuracy of their therapeutic action/delivery, while reducing as far as possible any unwanted side effects. *“In essence, I’m seeking ways to deliver a personalised drug treatment to patients that would prove far more efficient than what we do today”,* adds Prof. Goddard.

As Prof. Bedoui sees it, *“the various approaches adopted by Prof. Goddard are certainly highly theoretical but they could help in the design and development of innovative materials and, furthermore, the industrial challenges here are important. For that reason alone, we saw numerous company representatives who attended his lecture”.*

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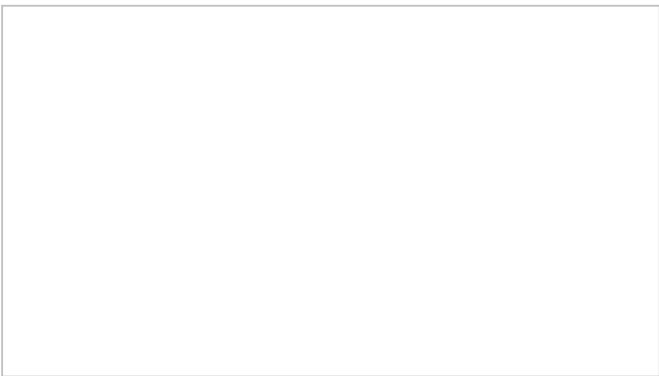
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