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Physics in action: a personal journey from the Space Shuttle to aeronautics, explosions, rational drug design and ocean waves

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The privilege of working on Space Shuttle plasma physics using massively parallel processors was a good introduction to the world of applied science. I will describe a series of steep personal learning curves from academia to industry and business, and to national strategy. Adapting to aeronautics appeared at first sight to be a case of taking out the fields and charges, but turned out to be a much more complex engagement with complicated geometry and validation, particularly when the safety of human beings is on the line. A hitherto unexplored factor in my life as a physicist - a sudden change in corporate strategy - meant a methodological change from cellular automata to Computational Fluid Dynamics. Predicting the behaviour of shocks in transonic flight was a difficult but rewarding field. Experience with fluid phenomena led on to simulation of explosions in coal mines, to work on ocean wave modelling, and to a new description of order and disorder in coastal breakwaters. An inclination to collaborate resulted in work on HIV/AIDS, on tuberculosis, and to research on non-linear materials as protection for the eyes of aircraft pilots from laser illumination. The relationships between these apparently disparate areas, and their value to society, will be explained from the point of view of an applied computational physicist.

Apply to be considered for a student ; award (Yes / No)?

No

Level for award;(Hons, MSc, PhD, N/A)?

N/A

Consent on use of personal information: Abstract Submission

Yes, I ACCEPT

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