

# Grand Challenges of Unconventional Computation

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- Unconventional computation (1998) = computation getting “real(ly) dirty” (e.g. TMs in a physical universe, TM with a quantum random oracle)

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- B) A computational approach to science (mathematics, physics, biology, brain, philosophy, linguistics, ...).
- C) Effects: hyper-computation, emergency, ...

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- How: Improve the international conference “Unconventional Computation”  
and  
and?

Every “decent” Monte Carlo simulation algorithm (like Rabin’s primality test) powered with algorithmic randomness produces the result not only true with high probability, but **rigourously correct**.

What about Monte Carlo simulation algorithm working with a source of quantum random bits (produced, say, by Quantis, the quantum mechanical random number generator produced and sold by *id Quantique* of the University of Geneva)?