Contribution to:

Forward Looking Panel Discussion

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Direct Numerical Simulation

- Physical
  - ever-higher Reynolds number
  - better chemistry: more fuels, better constants, less stiffness
  - even better boundary conditions
  - geometry, two-phase, radiation…
- Computational
  - no more Moore's law
  - much more parallelism – even on the desktop
- Algorithmic
  - adaptive schemes in time and space
  - implicit solvers

Combustion Modelling

- LES is king
  - but RANS has its place
  - better appreciation of LES strengths and weaknesses
- Old combustion problems
  - flame-turbulence interaction remains the key issue
- New combustion problems
  - partially-premixed systems, HCCI, fuel blending, biofuels
  - better treatment of chemistry
  - better modelling for two-phase, radiation, acoustics…