Emerging Geometries for Statistical Science: II. Future Directions

Frank Critchley (Open University)

WOGAS2, CRiSM, University of Warwick

7 April 2010

Algebraic and Information Geometric Methods in Statistical Science

- special interests in:

  1-A Algebraic Statistics: AS $\cong$ AG in SS

  1-G Geometric Statistics: GS $\cong$ IG in SS

- mutual benefits of establishing conversations/interactions:

  2-IN internal: AS $\leftrightarrow$ GS

  2-OUT external: AS $\cup$ GS $\leftrightarrow$ mainstream statistics/science

(One iteration of) Statistical Science

- Working Problem Formulation:

  WPF = (Q, p.c., model, data, inference) ⇒ A

(One iteration of) Statistical Science

- Working Problem Formulation:

  WPF = (Q, p.c., model, data, inference) $\Rightarrow$ A

- *perturbations of problem formulation are pertinent*, hence ...

(One iteration of) Statistical Science

- Working Problem Formulation:

  WPF $= ($ Q, p.c., model, data, inference $) \Rightarrow$ A

- *perturbations of problem formulation are pertinent*, hence ...
- *sensitivity analyses are sensible*