

# **Vitae and Seminar List of Keith W. Hipel**

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## **Vitae Summary**

**Keith W. Hipel** is *University Professor* of Systems Design Engineering at the University of Waterloo where he is *Coordinator* of the Conflict Analysis Group. He is *President* of the Academy of Science within the Royal Society of Canada, *Senior Fellow* of the Centre for International Governance Innovation, and *Past-Chair* of the Board of Governors of Renison University College. Keith thoroughly enjoys mentoring students and is a recipient of the *Distinguished Teacher Award*, *Faculty of Engineering Teaching Excellence Award*, and the *Award of Excellence in Graduate Supervision* from the University of Waterloo, as well as the *Outstanding Engineering Educator Award* from IEEE Canada. His major research interests are the development of conflict resolution, multiple criteria decision analysis, time series analysis and other decision-making methodologies for addressing challenging interdisciplinary system of systems engineering problems lying at the confluence of society, technology and the environment, with applications in water resources management, hydrology, environmental engineering, energy, and sustainable development. Keith is the recipient of the *Japan Society for the Promotion of Science (JSPS) Eminent Scientist Award*, *Joseph G. Wohl Outstanding Career Award* from the IEEE Systems, Man and Cybernetics (SMC) Society, *IEEE SMC Norbert Wiener Award*, *Docteur Honoris Causa* (France), *Doctor Honoris Causa* (Hungary), *Sir John William Dawson Medal* (Royal Society of Canada), and *Engineering Medal for Research and Development* (Professional Engineers Ontario).

## **Seminar Presentations**

Keith Hipel has been privileged to deliver stimulating seminars in many nations around the globe on thought-provoking topics which include:

### **Environmental Issues of General Interest**

- 1. Tackling Climate Change: A System of Systems Engineering Perspective**
- 2. Trade versus the Environment: Strategic Settlement from a Systems Engineering Perspective**
- 3. Water Resources in Canada: A Strategic Viewpoint**
- 4. Strategic Investigations of Water Conflicts in the Middle East**

### **System of Systems Engineering**

- 5. Competition and Cooperation in Societal and Technological Systems of Systems**
- 6. Strategic Opportunities in Systems Engineering**

### **System of Systems Governance**

- 7. Responsible Governance in a Complex World: A System of Systems Engineering Design**
- 8. Value-Focused Policy Design: A System of Systems Engineering Perspective**
- 9. Risk Management of Extreme Events: A System of Systems Engineering Methodology**

### **The Graph Model for Conflict Resolution**

- 10. The Decision Support System GMCR II in Negotiations over Groundwater Contamination**
- 11. Decision Support Systems in Water Resources and Environmental Management**
- 12. A Systems Engineering Approach to Conflict Resolution (Cuban Missile Crisis Application)**
- 13. Attitudes in the Graph Model for Conflict Resolution (War of 1812 Application)**

### **Equitable Allocation of Water**

- 14. Systems Thinking in Fair Water Resources Allocation (South Saskatchewan River Basin Application)**

### **Environmetrics**

- 15. Trend Analysis in Environmental Impact Assessment**

### **Research, Education and Professional Engineering**

- 16. Fulfillment and Success in Research (can complement other speeches)**
- 17. How to Conduct Original Research in Graduate Studies (can complement other speeches)**
- 18. Educational Innovations at the University of Waterloo: Cooperative Workterm Experience, International Exchange Programs, and Systems Design Engineering**
- 19. The Internationalization of Engineering Education: A Tale of Two Countries**
- 20. Accreditation of Engineering Programs and Licensing of Engineers in Canada**