

**George V. Hadjisophocleous, PhD, P.Eng., FSFPE**

*CURRICULUM VITAE*

George Hadjisophocleous has been involved in fire safety research and engineering for over 25 years. His career in the field started with his PhD thesis project for which he developed a computer model to study the response of liquefied petroleum gas tanks to the effects of fire. Following the completion of his doctorate, he spent 12 years as a Research Officer and Group Leader in the Fire Research Program of the National Research Council of Canada, where he has worked on various projects, including the development of fire risk analysis models, fire modelling, smoke management and full-scale fire testing. In 2001, Dr. Hadjisophocleous moved to Carleton University to become the holder of the prestigious NSERC/FPIInnovations Industrial Research Chair in Fire Safety Engineering.

At Carleton University, Dr. Hadjisophocleous, started a graduate program in Fire Safety Engineering, developed world unique full-scale fire research facilities and now leads a team of 15 graduate students, two technicians and a postdoctoral fellow working on various research projects. His research areas include: the development of a fire risk analysis model; full-scale testing of timber connections that lead to the development of simple correlations that can be used to determine the fire resistance of heavy timber connections; full-scale testing and computer modelling to study the behaviour of HSS steel connections in fire; atrium smoke management; design fires; fire suppression in tunnels; and the measurement of the heat release rate of train cars using full-scale testing. Dr Hadjisophocleous has also performed computer modelling and testing dealing with fire investigations of major fires, and has used computer modelling to evaluate the performance of alternative solutions under objective-based codes.

Dr. Hadjisophocleous research has been funded by NSERC, FPIInnovations, ASHRAE, the National Research Council, the Steel Structures Education Foundation, Public Works and Government Services Canada and others.

Dr. Hadjisophocleous has delivered courses and lectures both in Canada and in many countries including, New Zealand, Australia, China, Saudi Arabia and Egypt. He organizes annual 3-day short courses on fire safety engineering directed towards practicing engineers, building officials and fire service personnel.

Dr. Hadjisophocleous has an international reputation in fire safety science and engineering. He is the Coordinator of the International Commission CIB W14 Fire Safety which has members from many countries around the world working on a variety of fire safety problems. He is on the editorial board of two major fire safety journals; he is a member of the Cyprus Safety Platform and was member of a number of International Panels that evaluated research programs of Portuguese Universities, the Hong Kong Polytechnic University, and CSIRO in Australia.

**SPECIALIZED EXPERTISE**

- Fire Modelling
- Smoke Management
- Fire Risk Analysis
- Fire Investigations
- Fire Dynamics
- Third-party Peer Reviews

## PROFESSIONAL AFFILIATIONS

Member of Association of Professional Engineers of Ontario  
Fellow of the Society of Fire Protection Engineers (SFPE)  
Coordinator of CIB W-14 Fire  
Academic Advisor, Canadian Wood Council  
Member of ULC Fire Test Committee, 2005 - present  
Member of National Fire Protection Association (NFPA)  
International Association for Fire Safety Science (IAFSS) (Executive committee member)  
Fire Technology (Member of Advisory Board)  
Journal of Fire Protection Engineering (Member of Advisory Board)  
Society of Fire Protection Engineers Ottawa Chapter (President 2004 – 2007)  
Member of College of Reviewers of Canadian Foundation for Innovation  
Member of College of Reviewers of Canada Research Chairs  
Member of American Society of Heating Air-conditioning and Refrigerating Engineers (ASHRAE)  
Chair of ASHRAE Technical Committee TC 5.6 – Fire and Smoke Control 2006-2008  
Member of ASHRAE Technical Committee TC 5.9 – Enclosed Vehicular Facilities

## PROFESSIONAL EXPERIENCE

2011 – Present	<b>CHM Fire Consultants Ltd.</b> , Fire Science Research and Engineering Principal
2001- Present	<b>Carleton University</b> , Department of Civil and Environmental Engineering, Professor, Holder of Industrial Research Chair in Fire Safety Engineering.
1989 – 2001	<b>National Research Council Canada</b> , Ottawa, Ontario Fire Risk Management Program, Institute for Research in Construction Senior Research Officer and Group Leader
1990 – 2001	<b>University of New Brunswick</b> , Fredericton New Brunswick Mechanical Engineering Department Adjunct Professor
1987 – 1988	<b>University of New Brunswick</b> , Fredericton New Brunswick Mechanical Engineering Department Lecturer and Research Engineer
1985 – 1986	<b>University of New Brunswick</b> , Fredericton New Brunswick Mechanical Engineering Department Research Assistant
1979 -1981	<b>A&amp;P Paraskevaides Ltd.</b> , Abu-Dhabi, UAE Air Conditioning Engineer

## EDUCATION

1989	<b>Doctorate in Philosophy (PhD) (Mechanical Engineering)</b> University of New Brunswick, Fredericton, New Brunswick
1985	<b>Master of Science (M.Sc.) (Mechanical Engineering)</b> University of New Brunswick, Fredericton, New Brunswick
1983	<b>Bachelor of Science (B.Sc.) (Mechanical Engineering)</b> University of New Brunswick, Fredericton, New Brunswick

1977 **Higher National Diploma (HND)**  
Higher Technical Institute, Nicosia, Cyprus

## SELECTED PUBLICATIONS

### Peer reviewed journals

- 2011** **Fire Performance of Timber Connections, Part 1: Fire Resistance Tests of Bolted Wood-Steel-Wood and Steel-Wood-Steel Connections**  
Lei Peng, George Hadjisophocleous, Jim Mehaffey and Mohammad Mohammad, Journal of Structural Fire Engineering. (*submitted*)
- Fire Performance of Timber Connections, Part 2: Thermal and Structural Modelling**  
Lei Peng, George Hadjisophocleous, Jim Mehaffey and Mohammad Mohammad, Journal of Structural Fire Engineering. (*submitted*)
- Dynamic modeling of fire spread in buildings**  
Hao Cheng, George Hadjisophocleous, Fire Safety Journal, Volume 46, pp 211–224, 2011
- Instrumentation Design for HRR Measurements in a Large-Scale Fire Facility,**  
Yoon J. Ko, Richard Michels, and George V. Hadjisophocleous, Fire Technology, 47, 1047-1061, 2011
- Assessment of the Use of Fire Dynamics Simulator in Performance-Based Design,**  
E. Zalok, G. V. Hadjisophocleous, Fire Technology, 47, 1081-1100, 2011
- Predicting the Fire Resistance of Wood-Steel-Wood Timber Connections,**  
Lei Peng, George Hadjisophocleous, Jim Mehaffey and Mohammad Mohammad, Fire Technology, 47, 1101-1119, 2011
- Experimental Study of Smoke Movement in Multi Storey Buildings,**  
Y. Wang, E. Zalok, and G. V. Hadjisophocleous, Fire Technology, 47, 1141-1169, 2011
- 2010** **Performance of Unprotected Wood-Wood-Wood and Wood-Steel-Wood Connections: A Literature Review and New Data Correlations,**  
Lei Peng, George Hadjisophocleous, Jim Mehaffey and Mohammad Mohammad, Fire Safety Journal, Volume 45, Issue 6-8, 2010, Pages 392-399.
- Survey of Fire Loads in Elementary Schools and High Schools,**  
G. V. Hadjisophocleous and Z. Chen, Journal of Fire Protection Engineering, Vol. 20, pp. 55-71, 2010
- 2009** **Design Fire Experiments for Commercial Premises,**  
E. Zalok, G. V. Hadjisophocleous, and G.D. Loughheed, Journal of Fire Sciences, 27, 4, pp 369 - 403, 2009
- The modelling of Fire Spread in Buildings by Bayesian Network,**  
Hao Cheng and George Hadjisophocleous, Fire Safety Journal, 44, 901 – 908, 2009
- Fire Loads In Commercial Premises,**  
E. Zalok, G. V. Hadjisophocleous, and J. R. Mehaffey, *Fire and Material*, 33, 63-78, 2009
- Comparison of FDS Prediction of Smoke Movement in a 10-storey Building with Experimental Data,**  
Hadjisophocleous, G.V., Jia, Q, Fire Technology, Vol. 45, No. 2, pp. 163-177, 2009
- Impact of Various Parameters on the CFD Predictions of Atrium Smoke Management Systems.**  
Hadjisophocleous, G., Ko Y, ASHRAE Transactions, CH-09-028, 2009
- Findings of the International Road Tunnel Fire Detection Research Project,**  
Kashef, Z.G. Liu, G. Loughheed, G. Crampton, K. Yoon, G. Hadjisophocleous and K.H. Almand, Fire Technology, Vol. 45, No. 2, pp. 221-237, 2009
- 2008** **Predicting the Thermal Response of Gypsum Board Subjected to a Constant Heat Flux.**  
Craft, S.T.; Isgor, B.; Hadjisophocleous, G.V. and Mehaffey, J.R. 2008. Fire and Materials, 32, 333-355, 2008.
- An Overview of Evacuation Analysis with Application to Smoke Control Systems,**  
Klote, J, and Hadjisophocleous G.V., ASHRAE Transactions, SL-08-014, pp. 143-150, 2008
- Evaluation of Atrium Smoke Exhaust Make-up Air Velocity,**  
Hadjisophocleous G.V. and Zhou J., ASHRAE Transactions, Volume 114, Part 1, pp 147-155, 2008

**Parameters Affecting Fire Plumes,**

Zhou J. and Hadjisophocleous G.V., ASHRAE Transactions, Volume 114, Part 1, pp. 140-146, 2008

**CFD Study of the Air Entrainment of Balcony-Spill Plumes at the Balcony Edge**

Ko Y, Hadjisophocleous, G., Lougheed, G., ASHRAE Transactions, Volume 114, Part 1, pp. 344-354, 2008.

**Effect of Partial loss of Spray-on Protection on the Load Capacity of Steel Beams during a Standard Fire**

Kang, Y., Hadjisophocleous, G.V. , Khoo, H.A , , *Journal of Fire Protection Engineering, 2008; vol. 18: pp. 5 – 27*

**Peer reviewed conference proceedings**

- 2011**     **Fire Risk Analysis for Single Family Houses – Validation of CURisk,**  
Ling Lu, Jim Mehaffey, George V. Hadjisophocleous and Xin Mou, Fire and Materials 2011 12th International Conference, 31st Jan - 2nd Feb 2011, San Francisco, California, USA, pp195-207.
- Fire Modelling of Axially-restrained Tubular Steel Beams,**  
Osama Salem, George Hadjisophocleous and Ehab Zalok, Proceedings, Application of Structural Fire Engineering, 29 April 2011, Prague, Czech Republic, pp 49-54. (Best Poster Award)
- 2010**     **Modelling the Interaction Between Suppression and Ventilation Systems in Tunnel Fires,**  
Yoon Ko, George Hadjisophocleous, Proceedings of the Twelfth International Conference INTERFLAM, 2010, Nottingham UK, pp. 1103-1113
- An Experimental Study of the Impact of Tunnel Suppression on Tunnel Ventilation,**  
Yoon Ko, George Hadjisophocleous, Proceedings of the Fourth International Symposium on Tunnel Safety and Security, 2010, Frankfurt am Main, Germany pp. 232-240
- 2009**     **Experiments to Investigate Radiant Heat Flux on Adjacent Buildings,**  
Cheng, H., Hadjisophocleous, G.V., Advanced Research Workshop, Fire Protection and Life Safety in Buildings and Transportation Systems, Santander, Spain, pp 87-102, 2009
- 2008**     **Modelling Smoke Movement during the Early Stage of Tunnel Fires under Different Ventilation Conditions,**  
Yoon, K., Hadjisophocleous, G.V., Kashef, A., Proceedings of International Congress Smoke Control in Buildings and Tunnels, Santander, Spain, pp 305-332, 2008
- A Numerical Study of the Modulus of Elasticity for Wood Floor Joists during a Fire,**  
Lu, L., Isgor, B, Hadjisophocleous, G.V., CSCE 2008 Annual Conference, June 10-13, 2008, Quebec City, QC, Canada.