Editorial

Special Issue on Wildland–Urban Interface (WUI) Fires

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Wildland–Urban interface (WUI) fires have caused significant destruction to communities in Australia, Greece, Portugal, Spain, and the USA. The 2003 Cedar Fire in California resulted in \$2B in insured losses and destroyed more than 3,000 homes. The 2007 Southern California Fire displaced more than 300,000 people, destroyed over 1,000 structures, and resulted in \$1B paid by insurers in 2007 alone [1]. WUI fires continue to burn in the USA and are rapidly getting worse; most recently in Texas in 2011 and Colorado, California in 2012. In 2009, fires in Victoria, Australia caused the death of more than 100 people, destroying more than 1,000 structures. The 2007 Fires in Greece destroyed several hundred structures and caused the deaths of more than 70 people.

From a pragmatic point of view, the WUI fire problem can be seen as a structure ignition problem. In spite of these facts, little effort has been spent on understanding the processes of structure ignition in these fires. Scientifically based building codes and standards are needed to guide construction of new structures in areas known to be prone to these fires in order to reduce the risk of structural ignition. Proven, scientifically based retrofitting strategies are required for homes located in areas prone to such fires.

Historically, fire safety science research has spent a great deal of effort to understand fire dynamics within buildings. Research into WUI fires, and how to potentially mitigate the loss of structures in such fires, is far behind other areas of fire safety science research. This is due to the fact that fire spread in the WUI is incredibly complex, involving the interaction of topography, weather, vegetation, and structures.

The purpose of this special issue, the first devoted solely to WUI fire research in any peer-reviewed archival publication devoted to fire safety science, is to share recent scientific research on this important, emerging problem. A total of eight papers are included as part of this special issue. These papers are from around the world and include contributions from China, Portugal, and the USA. It is desired that this special issue brings more attention to the WUI fire problem and the fire safety science research community begins to focus more emphasis on this emerging, challenging, and multifaceted area.

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Reference

1. CDI (2007) Annual report of the insurance commissioner. California Department of Insurance, San Francisco. <http://www.insurance.ca.gov>. Accessed 28 June 2007