

SMART FIRE FIGHTING

WHERE BIG DATA AND FIRE SERVICE UNITE



CHAPTER SCOPES & AUTHOR ASSIGNMENTS

Last Updated: 11 June 2014

Chap	Description	Chapter Scope	Fire Co-Author	CPS Co-Author
<i>I</i>	Roadmap Scope and Purpose	Scope: Overview of the current state and future trends, along with clarifying the vision of smart fire fighting.	Hamins/Bryner/ Overholt/Grant (NIST / FPRF)	Jones/Koepke (NIST)
<i>II</i>	Communication Technology & Delivery Methods	Scope: Gathering of data based on communication technology and delivery methods, including personal area networks on-board fire fighters, teams and units, fireground incident command, and inter-jurisdiction.	Steve Verbil (State of Connecticut)	Nada Golmie (NIST)
<i>III</i>	Sensors: PPE	Scope: Sensor technology involving Personal Protective Equipment (PPE), i.e., fire fighter on-board Electronic Safety Equipment (ESE that includes but is not limited to: environmental monitoring; physiological monitoring; sensory support; tracking/location; and electronic textiles	Paul Greenberg (NASA-Glenn)	DK Ezekoye (University of Texas - Austin)
<i>IV</i>	Sensors: Mobile	Scope: Sensor technology involving mobile fire fighting, including but not limited to: portable equipment (mobile equipment not on-board the fire fighter); land based vehicles' air and water craft; robotics; and UAV/satellites.	Brian Meacham (WPI)	Ashish Jain (Applied Communication Sciences)
<i>V</i>	Sensors: Stationary	Scope: Sensor technology involving stationary technology; including buildings; occupants and the general public; public and utility-services infrastructure; and outdoors.	Gavin Horn (University of Illinois)	Andre Marshal (University of Maryland)
<i>VI</i>	Data Collections	Scope: Existing database collections (e.g., fire loss records, fire fighting resources, building information management, building supporting infrastructure, outdoor, etc.), as well as trends for future databases.	Ed Plaugher (IAFC)	Leo Neumeyer (Aqualab)

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VII	Hardware/Software and Interoperability	Scope: Computation of data involving hardware and software, including issues relating to compatibility, integration and interoperability.	Wayne Haase (Summit Safety)	Justyna Zander (Humanoid Way)
VIII	Data Analytics	Scope: Real-time data analytics such as data mining and big data applications, as well as knowledge based fire fighter decision-making and analysis (e.g., NFPA 1500 risk management concepts), such as modeling, inverse modeling/data assimilation, algorithms, and database analytics.	Jay Gore (Purdue University)	Jeff Chen (FDNY Analytics)

IX	Fire Service Data User Applications: Pre-Emergency and Post-Event	Scope: Fire service data user applications that are focused on pre-event and post event, including but not limited to: inspectors and enforcers, pre-planning, training and education, and fire investigation.	Bret Butler (USFS)	Peter Wang (Continuum)
X	Fire Service Data User Applications: Event	Scope: Fire service data user applications that are focused on the fireground even, including but not limited to: buildings, transportation systems, wildland, and special applications (e.g., proximity, technical rescue, hazmat, EMS, etc.).	Paul Siebert (City of Frisco Fire Department)	Nalini Venkatasubramanian (University of California - Irvine)
XI	Non-Fire Fighter Data User Applications	Scope: User applications that involve data for other than fire fighters, such as call processing centers (e.g., 911 centers), primary and secondary emergency receivers (e.g., hospitals, medical examiners, environmental cleanup, salvage, insurance), general public and building occupants, and governmental administration.	Eric Nickel (City of Palo Alto Fire Department)	Daniel Hoffman (Montgomery County)
XII	User Interface Delivery Methods	Scope: User interface delivery methods such as hand-held devices, heads-up displays, and augmented reality.	Bob Athanas (FDNY)	Mary Theofanos (NIST)

XIII	Summary Observations	Scope: Summary observations, prioritized recommendations for future research, and real and hypothetical case study examples.	Hamins/Bryner/ Overholt/Grant (NIST / FPRF)	Jones/Koepke (NIST)
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