SFPE 2018 Annual Report

Brian Meacham, 2019 President
Nicole Boston, CEO

September 10, 2019
SFPE Mission
To define, develop, and advance the use of engineering *best practices*; expand the scientific and *technical knowledge* base; and *educate* the global fire safety community to reduce fire risk.

SFPE Vision
The leaders in engineering a fire safe world.
2018 Board of Directors

Officers
• President: J.C. Harrington
• President-Elect: Brian Meacham
• Sec/Treasurer: Jack Poole
• Past Pres: Paul Rivers

Ex-Officio
• Nicole Boston

Directors
• John Campbell
• Wan-Ki Chow
• Michael Crowley
• John Ivison
• Amanda Kimball
• Bob Libby
• Armelle Muller
• Bernie Till, Jr.
• Beth Tubbs
2018-2020 Strategic Plan Goals

1. Advocate for the profession
2. Serve the education needs across the lifespan of the FPE/FSE professional’s career
3. Be the trusted resource for the FPE/FSE profession
4. Establish the Society as a global organization – including our chapters and member communities – that meets the profession’s needs and our vision, mission, and strategic goals
Membership and Chapter Relations

Bill Koffel, 2018 CMC Chair
Julie Gordon, Staff Liaison
Membership History

2010-2018

*not audited data (pulled from old reports in files)
Membership History

2014-2018

<table>
<thead>
<tr>
<th>Year</th>
<th>Membership</th>
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<tbody>
<tr>
<td>2014</td>
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<td>2018</td>
<td>4109</td>
</tr>
<tr>
<td>2019</td>
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Membership Retention and Attrition Rates

2008-2018

<table>
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<th>Year</th>
<th>New Members</th>
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<td>2018</td>
<td>396</td>
<td>434</td>
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</table>
Membership Dues Revenue (as reported on EOY Audited Financial Statements)
97 Chapters Worldwide

47 U.S.
18 Student
11 in Europe
5 in Canada
3 in Middle East
12 in Asia-Oceania
1 in Latin America
2018 Awards & Honors

13 Fellows inducted in the Society
32 Professional Members upgraded in the Society
17 award winners
29 awards for chapter excellence (ACE) winners
  • 15 Gold
  • 11 Silver
  • 9 Bronze
Standing Committees – 315 volunteers

- Research, Testing & Methods: 37%
- Professional Qualifications: 21%
- Outreach & Advocacy: 18%
- Membership & Chapters: 12%
- Professional Development: 12%
Where we are today!
Membership

• 4,627 total members
• 4,234 paying members (+125 members over 2018); 393 non-paying members
• 25% of the paying membership is made up of members outside of U.S.
  • 3,157 within U.S.
  • 1,077 outside the U.S.
Member Grades

Of our 4,627 members:

Member: 2,572
Professional Member: 1,469
Fellow: 193
Student: 388
Honorary: 5*
Top 10 Countries

1. United States - 3349
2. Canada - 260
3. United Kingdom - 137
4. Australia - 115
5. New Zealand - 89
6. China - 54
7. United Arab Emirates - 41
8. Sweden - 34
9. India - 31
10. Italy - 27
Out of 195 countries in the world, SFPE has members in 82 countries
Geographic Member Distribution

<table>
<thead>
<tr>
<th>Region</th>
<th>2015</th>
<th>2016</th>
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<td>Canada</td>
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<td>Latin America</td>
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<td>Africa</td>
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International Membership – Regional Breakdown

<table>
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<tr>
<th>Region</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
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<td>Asia</td>
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<td>Central America</td>
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<td>Middle East</td>
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<td>99</td>
</tr>
<tr>
<td>New Zealand</td>
<td>59</td>
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<tr>
<td>South America</td>
<td>34</td>
<td>35</td>
<td>40</td>
<td>28</td>
</tr>
</tbody>
</table>
Members Outside the U.S.

- We have 1,077 members outside of the U.S. (25% of total membership)
- 509 of the 1,077 live in English speaking countries, Canada, Australia, New Zealand and the UK (47% of membership outside of the U.S)
- 568 of 1,077 live in non-English speaking countries
3157 Members in the United States
Top 10 States

1. California – 282
2. Maryland - 245
3. Massachusetts - 228
4. Texas - 200
5. Illinois – 184
6. New York – 152
7. Georgia - 143
8. Pennsylvania – 137
9. Virginia – 132
10. Florida - 102
Students and Early Career Professionals

21 student chapters
388 student members
388 Student Members (52% outside USA)
187 Students in the United States (48%)
Number of Women in FPE Is Growing!

- **Members**: 90% Male, 10% Female
- **Students**: 79% Male, 21% Female
The SFPE Forum

• An online network solely for the fire protection community
• Discuss current industry issues
• Learn of available tools
• Build a network that will support your fire protection career
Find An FPE
SFPE’s Speakers Bureau
Get Involved!

1. Membership and Chapter Relations (CMC)
2. Research, Tools and Methods (RTM)
3. Professional Qualifications (CPQ)
4. Continuing Professional Development (CPD)
5. Outreach and Advocacy (COA)
2018 Corporate 100 Partners

• No. of Partners: 54
  • Visionaries: 8
  • Benefactors: 7
  • Patrons: 12
  • Sustainers: 27
2018 Corporate 100 Visionary Partners

- AGF
- AIG
- HEX
- FM Global
- Johnson Controls
- Koffel Associates
- Jensen Hughes
- Siemens
2018 Corporate 100 Benefactor Partners

ARUP

COFFMAN ENGINEERS

GLOBE FIRE SPRINKLER CORPORATION

POOLE FIRE PROTECTION

Honeywell

telgian

UL
2018 Corporate 100 Patron Partners

- Automatic Fire Alarm Association
- Code Consultants, Inc.
- Harrington Group, Inc.
- James W. Nolan, Emeritus
- JBA Consulting Engineers
- National Fire Protection Association
- National Fire Sprinkler Association
- Swiss Re
- The Protectowire Co., Inc.
- The Reliable Automatic Sprinkler Company
- Wiss, Janney, Elstner Associates, Inc.
- XL Catlin Property Risk Engineering/GAPS
2018 Corporate 100 Sustainer Partners

- ACCÉNT Fire Engineering International, Ltd.
- FireLink, LLC
- Fisher Engineering, Inc.
- FlexHead
- Foster Engineering & Consulting, LLC
- Granby Composites, Inc.
- Hose Monster Company
- HSB Professional Loss Control
- Keltron Corporation
- LeGrand Engineering, Inc.
- Liberty Mutual Property
- Micropack Detection, Inc.
- ORR Protection Systems
- Phoenix Fire Systems
- Robert M. Gagnon, PE, SET, FSFPE
- Rollinger Engineering, Inc.
- Sabalcore Computing
- Seneca Fire Engineering, LLC
- Sheladia Associates, Inc.
- Slicer & Associates
- Stat-X Aerosol Fire Suppression
- TERPconsulting
- The University of Maryland Online Master's Degree Program
- Thunderhead Engineering
- U.S. Smoke & Fire
- Viking Group, Inc.
- Worcester Polytechnic Institute
On the CMC Horizon...

• Enhanced Find An FPE database
• Enhanced value proposition
• Membership growth and engagement (needs assessment, campaigns)
• Student programs & student chapters
• Affinity programs -> member discounts on insurance, hotels, software, rental cars, vacations, etc.
• Diversity and inclusion policies and implementation
Research, Tools & Methods

Greg Baker, 2018 RTM Chair
Chris Jelenewicz, Staff Liaison
Strategic Goal #1 - Trusted Resource

• Research Roadmap
• Emerging Trends and Technology Advances
• Standards Development & Technical Documentation
## Promote & Implement the Research Roadmap

### Research Needs for the Fire Safety Engineering Profession

<table>
<thead>
<tr>
<th>THREADS</th>
<th>Data</th>
<th>Innovative Technology/Materials</th>
<th>Design Tools</th>
<th>Risk/Probabilistic Approaches</th>
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<tbody>
<tr>
<td>Human Behavior</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Building Fires</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Resilience/Sustainability</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Fire Service</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>Fire Dynamics</td>
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<tr>
<td>Fire Safety Systems</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Forensics/Investigations</td>
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<tr>
<td>Wildland/WUI Fires</td>
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<td>✓</td>
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<tr>
<td>Non-Building Fires</td>
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</table>
Research Needs for the Fire Safety Engineering Profession

Note: Items highlighted in **RED** are identified as the highest priority for each thread. Items highlighted in **BOLD** are identified as the highest priority for each cell.

### Tools, Applications, and Methods

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<thead>
<tr>
<th>Threads</th>
<th>Data</th>
<th>Innovative Technology/Materials</th>
<th>Design Tools</th>
<th>Risk/Probabilistic Approaches</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Human Behavior</strong></td>
<td>Demographics</td>
<td>Smart egress systems</td>
<td>Design egress scenarios</td>
<td>Residential buildings</td>
</tr>
<tr>
<td></td>
<td>▶ Vulnerable populations</td>
<td>▶ Cameras</td>
<td>◀ Behavior based models</td>
<td>Large populations</td>
</tr>
<tr>
<td></td>
<td>▶ Anthropometry</td>
<td>▶ Cell phones</td>
<td>◀ Cultural</td>
<td>Community level</td>
</tr>
<tr>
<td></td>
<td>▶ Cultural differences</td>
<td>▶ Exit usage</td>
<td>◀ Pre-evacuation time</td>
<td>High-challenge environments</td>
</tr>
<tr>
<td></td>
<td>▶ Basis for numbers in codes</td>
<td>▶ Other</td>
<td>▶ Actions other than evacuating</td>
<td>Quantify level of “life safety” in a building</td>
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<tr>
<td></td>
<td>▶ Response to notification</td>
<td>LED strobes</td>
<td>Combined fire and evacuation models</td>
<td>Effects of fire</td>
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<tr>
<td></td>
<td></td>
<td>Occupant evacuation elevators</td>
<td></td>
<td>▶ Visibility</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>▶ Gases</td>
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<tr>
<td><strong>Building Fires</strong></td>
<td>Combustibility of external cladding systems</td>
<td>Building information modeling</td>
<td>Standardization of design fires and analysis approaches</td>
<td>High-rise building design</td>
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<tr>
<td></td>
<td>Fire loads for structural fire engineering</td>
<td>Smart buildings</td>
<td>◀ Best practices for retrofitting existing buildings to achieve equivalent level of safety</td>
<td>Risk-informed PBD</td>
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<tr>
<td></td>
<td>Material testing data (new materials)</td>
<td>Big data</td>
<td></td>
<td>Single family homes</td>
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<td></td>
<td>Effectiveness of existing/new fire safety solutions</td>
<td>Improved test methods</td>
<td></td>
<td>Risk assessment/management systems</td>
</tr>
<tr>
<td></td>
<td>Quantification of building code performance criteria</td>
<td></td>
<td></td>
<td>Structural FP performance</td>
</tr>
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</table>

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**SFPE**
Emerging Hazards, Products & Technologies Impacting Our Profession

• Building Materials (i.e. new construction materials, lightweight construction, external cladding systems, & tall timber buildings)
• Energy Storage
• Wildland Urban Interface Fires
• Alternate Detection
• Advances in Suppression System Technology (i.e. SMART Sprinklers, Storage commodities, automated storage and oxygen reduction systems)
• Computer Models
• BIM/BIS
E-News
Fire Technology Journal

• Guillermo Rein, editor-in-chief
• Published by Springer
• Available digital (members get this for free) and print
• 6X month
SFPE Handbook of Fire Protection Engineering

• The definitive reference on fire protection engineering, now expanded to three volumes
• Available in electronic format for the first time
• Work is started on 6th edition
• Subcommittee completed recommendations for 6th edition & guiding principles document
• Peer review of 5th edition starting Soon
• Finalizing Editorial Board
• Vision & Guiding Principles Document Completed
Handbook of Smoke Control Engineering

• Smoke control technology, including fundamental concepts, smoke control systems, and methods of analysis

• Information needed for the analysis of design fires, including considerations of sprinklers, shielded fires, and transient fuels.

• Systems discussed in the handbook include those for stairwell pressurization, elevator pressurization, zoned smoke control, and atrium smoke control.

• This is the first smoke control book with climatic data so that users have easy-to-use weather data specifically for smoke control design.
Standards

• Structural Fire Protection Engineering
  ✓ Standard S.01 -- Standard on Calculating Fire Exposures to Structures (under revision)

  ✓ Standard S.02 -- Calculation Methods to Predict the Thermal Performance of Structural and Fire Resistive Assemblies
Engineering Guide:
Fire Safety for Very Tall Buildings

Task Group is currently revising this document

Addresses the complex fire protection challenges of very tall buildings and provides information on the following topics:

- Facades
- Detection and alarm
- First responder issues
- Buildings under construction
- Commissioning
- Components of performance-based design
- Unique features of tall buildings
- Integration of building systems
- Fire Service
- Fire resistance
- Suppression
- Smoke control

• Published by Springer in 2018
• Available in electronic & print
• New content related to:
  • Incapacitating effects of fire effluent & toxicity analysis methods
  • Occupant behavioral scenarios
  • Movement models and behavioral models
  • Egress model selection, verification, and validation
  • Estimation of uncertainty and use of safety factors
  • Enhancing human response to emergency notification and messaging
Guides and Books

• Performance-Based Design

  ✓ Guide to Performance-Based Fire Protection
    ✓ Next version to be a ANSI standard
    ✓ Starting the process to recruit committee in March 2019

  ✓ Performance-Based Fire Safety Design

  ✓ Code Officials Guide to Performance-Based Design Review
Guides (continued)

• Fire Development

✓ Guide to Piloted Ignition of Solid Materials Under Radiant Exposure
✓ Engineering Guide to Assessing Flame Radiation to External Targets from Pool Fires
✓ Guide to Predicting Room of Origin Fire Hazards
✓ Engineering Guide to Predicting 1st and 2nd Degree Skin Burns
Guides (continued)

• Other

✓ Guidelines for Peer Review in the Fire Protection Design Process (under revision)
✓ Guidelines for Substantiating a Fire Model for a Given Application
✓ Guide to Fire Risk Assessment (under revision)
✓ Human Behavior in Fire (under revision)
✓ Design Fire Scenarios - focuses on life-safety (under revision)
New Standards & Guides

• Planning process for new standards and guides underway
  ✓ Focus on how SFPE can leverage becoming an ANSI-ASD into developing more referenced standards that are recognized by the global fire safety engineering community.

• SFPE is now an ANSI-Accredited Standards Developer. This will:
  ✓ Ensure SFPE’s standards are developed in a manner that is open to public scrutiny that provides interested stakeholders with an opportunity to be heard, without dominance by any one party.
  ✓ Increase SFPE’s ability to more readily introduce SFPE standards into more codes and standards.
  ✓ Reinforce SFPE as the principal global source for technical knowledge in fire safety engineering.
<table>
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<th>Standard or Guide</th>
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<td>Guide -- Human Behavior in Fire</td>
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<td>Guide -- Fire Risk Assessment</td>
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<td>Guide -- Peer Review</td>
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</table>
Codes and Standards Development

• Working to increase SFPE standards and guides references in all model building / fire codes

• Subcommittee established to focus on:
  ✓ NFPA – over 200 public inputs
    ✓ SFPE Guides & Standards currently referenced over 400 times in NFPA documents
  ✓ ICC – Presentation on PBD at 2018 Conference
    ✓ Submitted code change proposal on PBD
    ✓ Subcommittee assisted in writing commentary for smoke control section of the IBC
## Top Sellers

<table>
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<tr>
<th>Publication</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
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<tr>
<td>SFPE Reference/Answer Manual</td>
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<td>Handbook of Fire Protection Engineering, 4th Ed.</td>
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<td>Handbook of Fire Protection Engineering, 5th Ed.</td>
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<td>Engineering Guide Fire Safety for Very Tall Buildings</td>
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<tr>
<td>Engineering Guide to Predicting Room of Origin Fire Hazards</td>
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<td>34</td>
<td>12</td>
<td>3</td>
</tr>
<tr>
<td>Fire Protection Engineering Compensation Survey</td>
<td>27</td>
<td>12</td>
<td>29</td>
<td>31</td>
</tr>
<tr>
<td>Handbook of Smoke Control</td>
<td>22</td>
<td>12</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Eng. Guide to Human Behavior in Fire</td>
<td>23</td>
<td>11</td>
<td>31</td>
<td>16</td>
</tr>
<tr>
<td>Standard Calc Mtds to Predict of Structural &amp; Fire Resistive</td>
<td>15</td>
<td>16</td>
<td>12</td>
<td>8</td>
</tr>
</tbody>
</table>
SFPE Handbook of Fire Protection Engineering

5th Edition Chapter Downloads

<table>
<thead>
<tr>
<th>Year</th>
<th>Downloads</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>19009</td>
</tr>
<tr>
<td>2016</td>
<td>288224</td>
</tr>
<tr>
<td>2017</td>
<td>299396</td>
</tr>
<tr>
<td>2018</td>
<td>335513</td>
</tr>
</tbody>
</table>
RTM Summary

• Promote and implement the SFPE Research Roadmap with alignment with the SFPE Foundation
• Increase reference of SFPE documents in codes/standards
• Advance and lead technical activities (in progress)
  • Revise Risk Guide
  • Revise Fire Exposure Standard
  • Fire Scenarios Standard
  • Revise Tall Building Guide
  • Revise Peer Review Guide
  • Develop New PBD Standard
  • New edition of the SFPE Handbook
Professional Qualifications

Tony Militello, 2018 CPQ Chair
Victoria Valentine, Staff Liaison
Strategic Goal #2 - Advocate

- Ensure core competencies and key responsibilities are adopted by key stakeholders.
- Advocate for licensure and credentialing in U.S. to ensure continued adoption.
- Collaborate with other organizations to promote licensure/credentialing requirements outside of the U.S.
- Be a resource and partner for undergraduate and graduate programs and career pathways education.
- Increase recognition of SFPE as the source for info on FPE and expand communications to others regarding the value of quality FPE.
Maintaining Licensure Exam

**Sessions in 2018**

- Annual Conference (TN)
- Central Savannah River
- Greater Atlanta
- New England
- New York Metro
- Rocky Mountain

**Computerized testing scheduled for 2020**
## Fire Protection Engineering
### Quality Measurements

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Number Examinees</strong></td>
<td>213</td>
<td>201</td>
<td>208</td>
<td>210</td>
<td>212</td>
<td>203</td>
<td>199</td>
<td>234</td>
<td>241</td>
<td></td>
</tr>
<tr>
<td><strong>No. of 1st Time Examinees</strong></td>
<td>134</td>
<td>120</td>
<td>142</td>
<td>137</td>
<td>147</td>
<td>140</td>
<td>133</td>
<td>164</td>
<td>165</td>
<td></td>
</tr>
<tr>
<td><strong>1st Time Pass Rate</strong></td>
<td>52%</td>
<td>68%</td>
<td>60%</td>
<td>69%</td>
<td>64%</td>
<td>61%</td>
<td>68%</td>
<td>64%</td>
<td>56%</td>
<td></td>
</tr>
<tr>
<td><strong>Repeat Pass Rate</strong></td>
<td>29%</td>
<td>44%</td>
<td>29%</td>
<td>37%</td>
<td>32%</td>
<td>25%</td>
<td>39%</td>
<td>44%</td>
<td>28%</td>
<td></td>
</tr>
</tbody>
</table>

*Last Paper and Pencil Exam*
SFPE Career Center

SFPE Career Connect
THE Place for Fire Protection Engineering Jobs
Career Resources at www.sfpe.org

What is a Fire Protection Engineer?

Use Science & Technology to Make Our World Safe from Fire
SFPE Minimum Core Competencies

• Recommended Minimum Core Competencies for the Practice of Fire Protection Engineering
  • Following resolution of public comments, the document was published in December 2018

• Competency is obtained upon the completion of structured education in specific knowledge and skill areas, and accompanying applied experience
SFPE Minimum Core Competencies

Tier 1: Learning Skills
- Professionalism
- Integrity
- Adaptability
- Reliability
- Lifelong Learning

Tier 2: General Academics
- Reading
- Writing
- Math
- Science
- Communication
- Computer Skills

Tier 3: Workplace Skills
- Teamwork
- Organizing
- Creative Thinking
- Problem Solving
- Coordination

Tier 4: Technical Knowledge Base
- General Engineering
- Design
- Professional Ethics
- Economics
- Public Policy

Tier 5: Fire Protection Knowledge Base
- Fire Science
- Human Behavior and Evacuation
- Fire Protection Systems
- Fire Safety Analysis
SFPE Minimum Core Competencies (continued)

• “A Fire Protection Engineer is an individual who, by formal training and professional experience, carries the necessary competency, and has the skills to provide guidance and direction to protect life, property and environment from threats posed by fire and its related mechanism.”
SFPE Minimum Core Competencies (continued)

• Knowledge Areas:
  • Fire Science
    • Underlying physical principles of fire and its related mechanisms
  • Human Behavior and Evacuation
    • Human behavior and the principles of means of egress design
  • Fire Protection Systems
    • Fire mitigation, water- and non-water-based suppression; fire detection and alarm systems; smoke management systems; passive systems; fire testing; and code and standard concerns
  • Fire Protection Analysis
    • Principles of technical analysis related to fire protection design
CPQ Summary

- Define professional minimum core competencies
- Develop model curricula for B.S./M.S./FPET programs
- Administer ABET accreditation reviews
- Develop and ensure continuity of the PE Exam
- Define licensing and credentialing criteria for regions that do not recognize the U.S. engineering licensure exam
- Maintain SFPE’s Code of Ethics
- Develop and publish the FPE Compensation Report (tri-annually)
- Develop and publish the FPE Career Guide (tri-annually)
Continuing Professional Development

Paul Hart, 2018 CPD Chair
Victoria Valentine, Staff Liaison
Strategic Goal #3 - Educate

• Develop and implement SFPE education for new, continuing and advanced professionals.
• Develop and implement a robust policy for course development and deliver minimizing conflicts of interest and meets needs of global membership.
77% Who Take This, Pass the Exam!

FIRE PROTECTION ENGINEERING
PE ONLINE EXAM REVIEW

14 LIVE, 1.5 HOURS ONLINE SESSIONS
STARTING THIS JULY - OCTOBER

EVERY TUE
July 10 - Oct. 9
2:30 - 4:00 PM
Eastern Time

EVERY THU
July 12 - Oct. 11
6:30 - 8:00 PM
Eastern Time

REGISTER AND FIND MORE DETAILS www.sfpe.org

EARN 21 PDHs
PE Exam Review

Participants

Certified Fire Protection Specialist (CFPS) Online Exam Review – *No Longer Offering as of 2019*

- 2018 saw low numbers, with the fall course cancelled
- NFPA now offers an online course for CFPS
- Target audience is not inline with SFPE focus
- 8th year, 11 participants in 2018, 246 participants since 2011
Professional Development Seminars

NEW! Advanced Fire Dynamics Simulator (FDS) & Smokeview Workshop
Nov. 6 - 9, 2017
Gaithersburg, Maryland
Professional Development Seminars

• Advanced Fire Alarm Systems Design
• Application of Fire Risk Assessment
• Beyond Cause & Origin: Engineering Analysis of Building Fire
• Dust Explosion: Hazard Recognition, Assessment and Management
• Emergency Communications Systems, Design and Use
• Engineering Human Response in Fire: Principles, Models and Applications
• Ethics – Online
• Evacuation for Fire Safety Engineering
• Fire Dynamics Simulator and Smokeview
• Fire and Life Safety Design for Very Tall Buildings: Challenges and Strategies
• Fire Pumps
• Human Behavior – New in 2018 - eLearning
Professional Development Seminars

• Hydraulic Calculations for Fire Sprinkler Systems
• Introduction to Industrial Fire Protection Engineering
• Introduction to Structural Fire Protection Engineering
• Performance-Based Design and the Codes
• Principles of Fire Protection Engineering
• Protecting Flammable & Combustible Liquids
• Practical Chemistry for the FPE
• Protection of Storage Occupancies
• Smoke Control
• Speech Intelligibility for Emergency Communications Systems
• Sprinkler Design for Engineers – Updated in 2018, planning comprehensive revision for 2019
• The Code Official’s Guide to Performance-Based Design Review
SFPE Webinar Series

In 2018:
- 4,727 participants watched 19 live webinars
- 1,561 participants watched 19 recorded webinars
- 113 people participated in 9 live technical courses
North America Conference Attendee History
Annual Conference Demographics

<table>
<thead>
<tr>
<th>Conference</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austin</td>
<td>237</td>
<td>320</td>
<td>347</td>
<td>362</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Long Beach</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>418</td>
</tr>
<tr>
<td>Philly</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Denver</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Montreal</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>234</td>
<td></td>
</tr>
<tr>
<td>Nashville</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

USA: 15, 21, 21, 21, 13, 13
Canada: 7, 12, 14, 10, 7, 10
Europe: 5, 4, 3, 2, 3, 1
Asia & Oceania: 3, 2, 1, 0, 1, 3
South America: 5, 4, 3, 0, 2, 1
Middle East: 0, 0, 1, 0, 1, 0
Other: 3, 3, 3, 0, 4, 3
Annual Conference Financial Summary

<table>
<thead>
<tr>
<th>City</th>
<th>Income</th>
<th>Expense</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austin</td>
<td>182010</td>
<td>103471</td>
</tr>
<tr>
<td>Long Beach</td>
<td>238409</td>
<td>221483</td>
</tr>
<tr>
<td>Philadelphia</td>
<td>284635</td>
<td>185672</td>
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<tr>
<td>Denver</td>
<td>337473</td>
<td>233747</td>
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<tr>
<td>Montreal</td>
<td>395622</td>
<td>261847</td>
</tr>
<tr>
<td>Nashville</td>
<td>437421</td>
<td>282379</td>
</tr>
</tbody>
</table>
PBD Conference History
PBD Conference Demographics

Australia 2014:
- USA: 22
- Canada: 2
- Europe: 0
- Asia & Oceania: 54
- South America: 0
- Middle East: 2
- Other: 1

Warsaw 2016:
- USA: 23
- Canada: 3
- Europe: 2
- Asia & Oceania: 36
- South America: 4
- Middle East: 6
- Other: 0

Hawaii 2018:
- USA: 45
- Canada: 49
- Europe: 11
- Asia & Oceania: 77
- South America: 0
- Middle East: 1
- Other: 1
PBD Financial Summary

<table>
<thead>
<tr>
<th>Location</th>
<th>Income</th>
<th>Expense</th>
</tr>
</thead>
<tbody>
<tr>
<td>GOLD COAST</td>
<td>266619</td>
<td>182404</td>
</tr>
<tr>
<td>WARSAW</td>
<td>166151</td>
<td>136567</td>
</tr>
<tr>
<td>HAWAII</td>
<td>204873</td>
<td>166948</td>
</tr>
</tbody>
</table>
Auckland – Coming March 2020

• Chairs:
  • Peter Senez
  • Martin Feeney
  • IJsbrand van Straalen

• Dates: March 11-13, 2020
European Fire Safety Conference History

Number of participants:

- 2015 Copenhagen:
  - Conference: 132
  - Conference and Seminar: 25
  - Seminar Only: 0

- 2018 Rotterdam:
  - Conference: 159
  - Conference and Seminar: 18
  - Seminar Only: 9
European Fire Safety Conference Demographics

Copenhagen 2015

- USA: 14
- Canada: 2
- Europe: 6
- Asia & Oceania: 0
- South America: 1
- Middle East: 3
- Other: 4

Rotterdam 2018

- USA: 26
- Canada: 5
- Europe: 11
- Asia & Oceania: 1
- South America: 3
- Middle East: 4
- Other: 0
Europe Fire Safety Financial Summary

<table>
<thead>
<tr>
<th>Year</th>
<th>Income</th>
<th>Expense</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015 - COPENHAGEN</td>
<td>123197</td>
<td>84645</td>
</tr>
<tr>
<td>2018 - ROTTERDAM</td>
<td>121606</td>
<td>86424</td>
</tr>
</tbody>
</table>
CPD Summary

• Defining core curriculum
• Developing implementation plan and creating core curriculum
• Delivering curriculum online through the LMS – Ethics course and webinars up first
• PE online exam review in July
• Delivering professional development seminars
• Host monthly webinars
• Maintain a vibrant community of young engineers
• Developing a strategy and implementation plan for a Knowledge Management System (KMS)
• Planning and hosting global conferences
Outreach & Advocacy

Ralph Foster, 2018 COA Co-Chair
John Barrot, 2018 COA Co-Chair
Victoria Valentine, Staff Liaison
### 2018 Web Traffic

<table>
<thead>
<tr>
<th>Category</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Users</td>
<td>279,402</td>
</tr>
<tr>
<td>New Users</td>
<td>274,719</td>
</tr>
<tr>
<td>Sessions</td>
<td>430,340</td>
</tr>
<tr>
<td>Number of Sessions per User</td>
<td>1.54</td>
</tr>
<tr>
<td>Pageviews</td>
<td>987,123</td>
</tr>
<tr>
<td>Pages / Session</td>
<td>2.29</td>
</tr>
</tbody>
</table>

**Pie Chart:**
- **New Visitor:** 84.7%
- **Returning Visitor:** 15.3%
# 2018 Global Web Traffic

<table>
<thead>
<tr>
<th>Country</th>
<th>Users</th>
<th>% Users</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>159,460</td>
<td>56.25%</td>
</tr>
<tr>
<td>India</td>
<td>15,641</td>
<td>5.52%</td>
</tr>
<tr>
<td>Canada</td>
<td>10,903</td>
<td>3.85%</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>10,460</td>
<td>3.69%</td>
</tr>
<tr>
<td>Australia</td>
<td>6,379</td>
<td>2.25%</td>
</tr>
<tr>
<td>Philippines</td>
<td>5,001</td>
<td>1.76%</td>
</tr>
<tr>
<td>United Arab Emirates</td>
<td>4,558</td>
<td>1.61%</td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>4,241</td>
<td>1.50%</td>
</tr>
<tr>
<td>Malaysia</td>
<td>3,002</td>
<td>1.06%</td>
</tr>
<tr>
<td>Qatar</td>
<td>2,760</td>
<td>0.97%</td>
</tr>
</tbody>
</table>
Webinar Series 2014 – 2018

- **2014**: Attended 2831, Registered 4083
- **2015**: Attended 2367, Registered 3427
- **2016**: Attended 3436, Registered 4962
- **2017**: Attended 4108, Registered 5965
- **2018**: Attended 5699, Registered 8472

Legend:
- Blue: Attended
- Orange: Registered
2018 Social Media Presence

• Facebook page grew by 10.75% from 7,156 to 7,928 followers
• LinkedIn group increased by 1.05% from 19,212 to 19,419 members
• Twitter has 2,066 followers, 454,100 tweet impressions
• 185,769+ overall YouTube views (up from the 132,800 in 2017)
Jobs by the Numbers

• 245 job candidates uploaded a resume in SFPE’s Career Center
• 311 employer signups
• 181 resume views
• 247 job postings
• 134,753 job views
2018 News by the Numbers

- **FPE Magazine** digital 2,346 unique readers and 4,118 article views; 57,290 page views

- **SFPE Europe Magazine** – 20,830 digital distribution list

- **SFPeUpdate** – 4,230 members

- Trusted news source: Received 39 media mentions in 14 states (Arizona, California, Georgia, Illinois, Kansas, Maryland, Massachusetts, Michigan, New York, North Carolina, South Dakota, Tennessee, Texas, and Wisconsin) and 12 countries (Canada, China, India, Italy, Mexico, New Zealand, Nigeria, Poland, Portugal, Saudi Arabia, The Netherlands, and United Kingdom)
COA Summary

• Increase recognition of SFPE as the source for information on FPE and expand communications to others regarding the value of quality FPE

• Participate in student outreach projects such as the Future City competition and U.S. Science and Engineering festival

• Establish and participate in Special Interest Groups (e.g., fire service, students, ITM, public policy, women in engineering, etc.)

• Contact FPE schools to identify the research they are conducting and map it back to the research roadmap as well as status of their student members/chapters

• Develop partnerships with other allied organizations
2018 Financial Statements
## 2018 Balance Sheet

<table>
<thead>
<tr>
<th>Assets</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash and cash equivalents</td>
<td>532,460</td>
<td>240,941</td>
<td>176,590</td>
</tr>
<tr>
<td>Accounts receivable</td>
<td>117,466</td>
<td>158,024</td>
<td>205,904</td>
</tr>
<tr>
<td>Prepaid expenses</td>
<td>115,030</td>
<td>150,975</td>
<td>119,895</td>
</tr>
<tr>
<td>Publications Inventory</td>
<td>36,853</td>
<td>19,454</td>
<td>18,265</td>
</tr>
<tr>
<td>Property and equipment</td>
<td>83,353</td>
<td>70,022</td>
<td>56,907</td>
</tr>
<tr>
<td>Investments</td>
<td>1,691,210</td>
<td>2,377,322</td>
<td>2,261,098</td>
</tr>
<tr>
<td>Deposits</td>
<td>21,320</td>
<td>21,320</td>
<td>21,320</td>
</tr>
<tr>
<td>TOTAL ASSETS</td>
<td>2,597,692</td>
<td>3,038,072</td>
<td>2,859,979</td>
</tr>
</tbody>
</table>
## 2018 Balance Sheet

<table>
<thead>
<tr>
<th>Liabilities and Net Assets</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounts payable and accrued expenses</td>
<td>243,880</td>
<td>312,661</td>
<td>99,060</td>
</tr>
<tr>
<td>Deferred members dues</td>
<td>543,812</td>
<td>660,116</td>
<td>606,436</td>
</tr>
<tr>
<td>Net Assets</td>
<td>1,810,000</td>
<td>2,065,295</td>
<td>1,979,341</td>
</tr>
<tr>
<td><strong>TOTAL LIABILITIES AND NET ASSETS</strong></td>
<td>2,597,692</td>
<td>3,038,072</td>
<td>2,859,979</td>
</tr>
</tbody>
</table>
## 2018 Statement of Activities

<table>
<thead>
<tr>
<th>Operating Revenue</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Membership dues</td>
<td>742,566</td>
<td>769,633</td>
<td>873,798</td>
</tr>
<tr>
<td>C100</td>
<td>165,874</td>
<td>172,033</td>
<td>160,882</td>
</tr>
<tr>
<td>Registrations</td>
<td>663,729</td>
<td>704,353</td>
<td>865,108</td>
</tr>
<tr>
<td>Sponsorships &amp; exhibits</td>
<td>130,094</td>
<td>167,308</td>
<td>195,847</td>
</tr>
<tr>
<td>Publications</td>
<td>182,474</td>
<td>150,843</td>
<td>138,327</td>
</tr>
<tr>
<td>Royalties</td>
<td>274,328</td>
<td>366,974</td>
<td>286,467</td>
</tr>
<tr>
<td>Interest and dividends</td>
<td>31,733</td>
<td>60,976</td>
<td>80,161</td>
</tr>
<tr>
<td>Gain (loss) on investments</td>
<td>93,279</td>
<td>187,523</td>
<td>(196,393)</td>
</tr>
<tr>
<td>Other income</td>
<td>8,552</td>
<td>22,618</td>
<td>23,997</td>
</tr>
<tr>
<td><strong>TOTAL REVENUE</strong></td>
<td><strong>2,395,776</strong></td>
<td><strong>2,602,265</strong></td>
<td><strong>2,428,195</strong></td>
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</table>
## 2018 Statement of Activities

<table>
<thead>
<tr>
<th>Operating Expense</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Membership</td>
<td>214,066</td>
<td>309,257</td>
<td>252,750</td>
</tr>
<tr>
<td>Professional Development</td>
<td>657,097</td>
<td>778,544</td>
<td>992,396</td>
</tr>
<tr>
<td>Marketing</td>
<td>246,818</td>
<td>214,628</td>
<td>215,473</td>
</tr>
<tr>
<td>Professional Qualifications</td>
<td>65,790</td>
<td>78,132</td>
<td>155,369</td>
</tr>
<tr>
<td>Technical</td>
<td>77,486</td>
<td>113,925</td>
<td>146,202</td>
</tr>
<tr>
<td>Governance</td>
<td>47,229</td>
<td>71,888</td>
<td>71,855</td>
</tr>
<tr>
<td>Publications</td>
<td>19,405</td>
<td>28,445</td>
<td>14,569</td>
</tr>
<tr>
<td>General and Administrative</td>
<td>729,678</td>
<td>754,286</td>
<td>665,535</td>
</tr>
<tr>
<td><strong>TOTAL EXPENSES</strong></td>
<td>2,057,569</td>
<td>2,349,107</td>
<td>2,514,149</td>
</tr>
</tbody>
</table>
2018 Operating Revenue

- Membership Dues: 34%
- Corp 100: 6%
- Registrations: 34%
- Sponsor/Exhibits: 8%
- Royalties: 6%
- Publications: 11%
- Other: 1%
2018 Operating Expenses

- Personnel: 41%
- Travel: 6%
- Meetings: 5%
- Support Services: 6%
- Commissions & Fees: 4%
- Facilities: 14%
- Operating: 19%
- Business: 5%
2018 Income and Expenses

Income Expense
2018 Reserve Investments

- 2009: $807,478
- 2010: $908,822
- 2011: $963,290
- 2012: $1,138,766
- 2013: $1,170,507
- 2014: $1,384,914
- 2015: $1,691,210
- 2016: $2,377,322
- 2017: $2,261,098

![Graph showing reserve investments from 2009 to 2018](image_url)
2018 Summary

• Membership remains steady
• Developing new technical publications
• Core competencies have been published
• Courses being developed to align with the core competencies
• Positive financial year
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