Linda Makovicka Osvaldova
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Samuel L. Zelinka *Editors*

Wood & Fire Safety

Proceedings of the 9th International Conference on Wood & Fire Safety 2020

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9th International Scientific Conference
wood & fire safety 2020
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Foreword

Dear Wood & Fire Safety 2020 participants.

It is an honour for us to welcome you to Slovakia at the Hotel Patria in Strbske Pleso for the 9th International Scientific Conference Wood & Fire Safety 2020 (WFS 2020).

The traditional meeting of experts in the field of fire protection who prefer wood and wood-based materials, is held at regular four-year intervals since its origin in the year 1988.

All the conferences have been held at this traditional venue - the hotel Patria in Strbske Pleso, Slovakia. Since that first event up until the last one in the year 2016, the Conference has hosted more than 750 participants, of which 224 were internationals.

The regular conference participants are not only delegates from the European countries but from non - European countries as well, mostly from Canada, U.S., New Zealand, Australia, Japan, and in recent years, also from China.

The aim of the WFS 2020 conference is to gather at one place new knowledge of this multidisciplinary field, namely the combustion of solid materials, modelling, measuring, testing of flammability, structure and properties of wood and their changes at high temperatures, the study of stages of the wood burning process, flame-retardant treatment of wood and wood-based materials, fire safety in wooden buildings, fire-fighting in wooden buildings, forest fires, fire-fighting in a historical building, and others.

This year WFS2020 has attracted about 65 papers from all over the world including Australia, Canada, China, India, Japan, New Zealand, UK, U.S., Russia and Europe.

The proceeding has been subdivided into the following sections:

- Structure and properties of wood and its changes at high temperatures
- Wood burning retardation and wood-based materials
- Fire modelling, fire testing, fire certification, fire investigation, fire dynamic, fire behaviour modelling, smoke control and combustion toxicity
- Fire safety in wooden buildings

– Forest fires
– Others topics that focus on wood & fire safety

The chairman of WFS2020 would like to thank the reviewers and authors for their contribution of the papers and posters and all participants for their effort, trust and team-work during, as well as in the preparation phase of the conference.

The chairman of WFS2020 also expresses sincere acknowledgement and appraisal to the conference' sponsors, partners and media partners whose support and contributions were remarkable and without whom this conference would not be possible.

Last, but not least our enormous gratitude and recognition goes to the main organizers and co-organizers, whose dedication and enthusiasm made the WFS 2020 edition an unforgettable experience.

Strbske Pleso, Slovakia
May 2020

Linda Makovicka Osvaldova
Chairman Wood & Fire Safety 2020

Preface

The Wood & Fire Safety 2020 proceedings present the latest results of scientific research in the field of combustion of wood and wood-based materials. Since this research topic involves so many aspects and disciplines, for a more detailed analysis of the issue we have divided it into six separate sections: Structure and properties of wood and its changes at high temperatures; Wood burning retardation and wood-based materials; Fire modelling, fire testing, fire certification, fire investigation, fire dynamic, fire behaviour modelling, smoke control and combustion toxicity; Fire safety in wooden buildings; Forest fires; Others topics that focus on wood & fire safety.

The Wood & Fire Safety 2020 proceedings encompasses the latest results of research papers in 65 scientific articles presented at the conference in the form of a lecture and 22 abstracts presented at the conference by a poster presentation. 242 authors from 32 countries participated in these researches. The papers (articles) have been a subject to a peer review process.

Strbske Pleso, Slovakia
May 2020

Linda Makovicka Osvaldova
Chairman Wood & Fire Safety 2020

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Chairman of Wood & Fire Safety 2020

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