



University of
Pittsburgh

Pittsburgh Declaration

Taking Action on Bamboo in the Urban Environment

May 4-6th Symposium
University of Pittsburgh, USA

Chairs

Kent A. Harries, University of Pittsburgh and
David Trujillo, Coventry University and INBAR Bamboo Construction Task Force Chair
on behalf of the Symposium participants

Vision: Bamboo as a Construction Material for the 21st Century

- 1 As it is our belief that bamboo can contribute significantly to achieving many of the social, economic and environmental objectives of the new UN Sustainable Development Goals;
- 2 Furthermore, noting that bamboo has a major and significant role to play in securing the transition to a greener urban environment;
- 3 And whereas bamboo can provide affordable, disaster resilient infrastructure to communities, while, at the same time, helping to address the major global challenge of climate change;
- 4 Recognizing that the bamboo sector, through development of appropriate technologies, can specifically contribute to achieving the [Sustainable Development Goal 11](#) agreed to in the [2030 Agenda for Sustainable Development](#) adopted at Paris in 2015;
- 5 Further recognizing that this Goal, which states that "...: cities [should be] inclusive, safe, resilient and sustainable" in order to meet the massive demands of 21st century urbanization, while improving the living standards of the 863 million people currently estimated to live in slums;
- 6 Pointing to the fact that many of the estimated 1 billion people living in bamboo housing today urgently need options to use bamboo in housing upgrading programmes;
- 7 Underscoring that Bamboo is among the most rapidly renewable structural materials in the world;
- 8 Further underscoring that, when used sustainably in its untransformed culm-form, bamboo has a smaller environmental impact than any other conventional structural material, including timber, and further that bamboo's light weight and flexibility makes it particularly well-suited for residential construction in seismic regions;
- 9 Underlining that standardisation is essential for empowering construction professionals to adopt bamboo as a mainstream building material;

- 10 And recognizing that the time has come for a renewed, concerted international effort to establish a full pathway to appropriate standardization for bamboo;
- 11 And further recognizing that this effort will require partners to mobilise resources, we call for the following actions;

Recommendations

1. We call for the creation of a coalition of partners under the auspices of INBAR to share information, pool resources, coordinate efforts and develop a new harmonised, best-practice international ISO design standard for round culm bamboo by 2022;
2. We further call for the coalition to agree on a draft framework for the design standard by no later than spring 2017, with a view to making a formal work item submission to ISO TC 165 by September of the same year;
3. We call upon the world's advanced economies, including the US and the UK, to join INBAR and its existing 41 sovereign member states;
4. We invite all producer and consumer countries to fully participate in ISO bamboo standard development in the new ISO Technical Committee (TC) 296 - Bamboo and Rattan, as well as in ISO TC 165 - Timber Structures, Working Group 12 - structural uses of bamboo;
5. We invite researchers, business and industry to validate the adoption of timber testing standards as a basis for standardisation of engineered bamboo composite products and to engage actively with ISO TCs 165 and 296;
6. We request the Colombian Earthquake Engineering Association (AIS) to work towards the development of a new standard on the structural use of laminated bamboo, with the support of the INBAR Task Force on Bamboo Construction;
7. We request that INBAR works with ISO and national standard authorities to maintain a list of national specialists working on bamboo standardization;
8. We invite US business, industry and academia to work with INBAR to form a group for the purpose of advancing bamboo national and international standards and cooperation, thus building on current US State Department support;

The participants of the Symposium endorse this Declaration by acclamation, committing themselves to action and call upon their national governments and all relevant organizations to mobilize and share resources to implement these recommendations

About the Meeting

The Symposium on Bamboo in the Urban Environment held at the University of Pittsburgh is part of a US State Department and UK British Council-funded [Global Innovation Initiative](#) (GII) project that is supporting development of bamboo as a viable, sustainable and engineered alternative construction practice in many areas of the world. The meeting, which brought together academic, private sector and civil society actors from 14 countries and territories, was jointly organised by the University of Pittsburgh,

Coventry University and the [International Network for Bamboo and Rattan](#) (INBAR), a multilateral organisation with 41 member states.

Participants

GII Project Team

Kent Harries	University of Pittsburgh	USA (Symposium Chair)
David Trujillo	Coventry University	UK (ISO meeting Chair)
Oliver Frith	INBAR	Intergovernmental Organization
Naresworo Nugroho	Bogor Agricultural University	Indonesia
Ramesh Chaturvedi	IIT (retired)	India

Invited Participants

Pablo Acevedo	U. Puerto Rico – Mayaguez	USA
Nripal Adhikary	INBAR	Intergovernmental Organization
Drew Armstrong	U. of Pittsburgh Architecture	USA
Jason Avraham	TieBam Inc	USA and Vietnam
Juan Correal	Universidad de los Andes	Colombia
Lissie Crumley	University of Pittsburgh	USA
J.J. Garcia	Universidad del Valle	Colombia
Verónica María Correa Giraldo	Kaltia	Mexico
Mateo Gutierrez Gonzalez	Universidad La Gran Colombia	Colombia
Rebecca Glucksman	University of Pittsburgh	USA
Christopher Guignon	U. of Pittsburgh Architecture	USA
Suneina Jangra	Coventry University	UK
Liu Kewei	INBAR	Intergovernmental organization
Andrew Linn	World Bamboo Organization	USA
Luis Felipe Lopez	Base Bahay Inc	Philippines
Claudio Maxwell	Lamboo Inc. and Memplex	USA
Jan McAlpine	INBAR Board Member & Former Director UN Forum on Forests	USA
Wade Miller	UDPRaxis	USA
Maximiliano Montes	Servicio Nacional de Aprendizaje	Colombia
Denamo Addissie Nuramo	Addis Ababa University	Ethiopia
Chris Papadopoulos	U. Puerto Rico – Mayaguez	USA
Shawn Patton	IIE	USA
Shawn Platt	University of Pittsburgh	USA
Michael Richard	Simpson, Gumpertz and Heger	USA
David Sands	Bamboo Living	USA

Bhavna Sharma	University of Bath	UK
Effendi Tri Bahtiar	Bogor Agricultural University	Indonesia
Janine Vieira	UFF	Brazil
Jelani Vigro	University of Pittsburgh	USA & Jamaica
Kelly Webb	Coventry University	UK
Xiong Xiaohong	Jiangxi Province Precious Bamboo Development Co.	P.R. China
Yan Xiao	Nanjing Tech University	P.R. China
Brian Zook	UDPRaxis	USA
Clareesa Zook	UDPRaxis	USA