40 Years

of the Council on Tall Buildings and Urban Habitat
(1969–2009)
I am so indebted to the work of the Council on Tall Buildings—This research is the bedrock of genuine critical evaluation.

CTBUH: A Historical Sketch

Lynn S. Beedle
CTBUH Founder


It all started with the IABSE. It is not often that one can remember the precise start of something... right back to the moment he had the idea. But in the case of the Council on Tall Buildings and Urban Habitat, I can: The afternoon of Friday, September 13th 1968 at the 8th Congress of the IABSE in New York. Prof. H. Beer of Austria was summarizing the theme, “Tall Steel Buildings”, and I was struck by the significant tall building research he was describing. This research was not being coordinated or evaluated in a form useful to the designer. It spoke of the need for an international effort to bring information together.

Acting upon that idea, I wrote to Prof. Beer and in due course he responded that international exchange indeed should be started. By that time, it was February, 1969 and at a meeting of the US Group of IABSE in New Orleans, then chairman Elmer Timby, asked us to suggest a topic that we could “gather around” as a basis for more frequent exchanges with our professional colleagues overseas. Here was the opportunity to implant the idea: the preparation and updating of a Monograph that would provide a focus for continuing exchange. It would be a joint activity between the IABSE and ASCE - hence its original name “Joint Committee on Tall Buildings”.

Jewell Garrlets made the presentation to IABSE at its following meeting in Britain in September of 1969. Approval by the American Society of Civil Engineers came shortly afterwards. National Science Foundation funding was approved and we were on our way. The Headquarters was established at Lehigh University, Bethlehem, PA, USA.

The need for the Joint Committee was more than just the desire to get together. It stemmed from things like the exploding urban population, creating an increased demand for tall buildings; the need for economy in construction; the frequent neglect of human factors at the expense of livability and the quality of life; the need for new research required in the field; and the necessity of establishing priorities for such reasons.

The timing was right, too. There were very few high-rise buildings built in the 1950s. But by the 1970s, tall building construction increased substantially.
As a result of the increased emphasis on planning and environmental criteria in 1973, the American Institute of Architects, the American Planning Association, the International Federation for Housing and Planning, and the International Union of Architects were invited to join the forming organizations as equal participants with IABSE and ASCE. The American Society of Interior Designers, the Japan Structural Consultants Association and the Urban Land Institute also later became sponsoring societies. Then, in 1976, the “Joint Committee” changed its name and became known as the “Council on Tall Buildings and Urban Habitat.” In 1979 it was admitted as a Category B non-governmental organization of UNESCO.

One of the well-remembered Steering Group meetings was one of the first, at which Les Robertson and the late Fazlur Khan were debating the question of “What is a tall building?” After all, if we were going to do a Monograph on tall buildings, one needed a definition. The final decision: A tall building is not defined by its height or number of stories. Rather, the important criterion is whether or not the design is influenced by some aspect of “tallness.” It is a building whose height creates different conditions than those that exist in common buildings of a certain region or period.

The Steering Group next organized the 1971 conference in Bled, Yugoslavia, to bring together specialists from all over the world to decide what this Monograph would be all about. Delegates reviewed the abstracts of papers that later would be presented at the First International Conference (they are now called World Congresses) held at Lehigh University. More than 700 people attended this later five-day event from August 21 through 26, 1972. Adhering to a strictly enforced 7-minute time limit, 261 “reporters” and over 200 discussers participated, coming from 30 countries. Twenty-seven preprint volumes were available to the participants, followed by a five-volume set of Proceedings. It is still known around the world by Council members as the “Lehigh Conference.”

That conference was followed by an intensive series of follow-up conferences—20 being held in the 1972–1975 period. Their essential function was to disseminate the information coming out of the Lehigh Conference and to collect material for the Monographs.

Throughout its history, the Council has continued to strive toward the dissemination of information and the stimulation of research on tall buildings throughout the world. It continues to have a major concern with the role of tall buildings in the urban environment and their impact. It is not an advocate for tall buildings per se; but in those situations in which they are viable, it seeks to encourage the use of the latest knowledge in their implementation. In addition to sponsoring conferences on a regional and international basis, the Council has continued the work of the original Monograph, publishing updated volumes, a regular newsletter, and other reports and support documents.

Much has been accomplished by the Council, but most important perhaps, are the relationships that have been established with colleagues from a wide range of professions and from all over the world. We thank Prof. Beer for lighting the spark on September 13, 1968. And we thank Elmer Timby for asking the right question.

“A tall building is not defined by its height or number of stories. Rather, the important criterion is whether or not the design is influenced by some aspect of “tallness.” It is a building whose height creates different conditions than those that exist in common buildings of a certain region or period.”
The Council maintains an extensive database of tall buildings, keeping track of all major tall building proposals through the various phases of construction through to completion. The CTBUH Tall Building Database provides a multitude of lists of the tallest buildings in the world within a variety of categories—maintaining lists by geographic region (city, country, continent), function, structural material, etc—and is made available to the public through the CTBUH website.

The Council uses this information to track trends in tall building construction, both historically and into the projected future. It issues an annual “Tallest Ten” list which highlights the ten tallest buildings to complete construction in a given year, providing project details and a comparative diagram for each building (see following page for recent lists).

The Council also recently began projecting forward to produce a Tallest 20 by 2020 list. This list suggests what the tallest 20 buildings in the world will be in the year 2020 (see following page). It began issuing this list in response to the dramatic increase in super-tall building construction in recent years. While buildings like the Empire State Building were a fixture in the Top 10 List for decades, this research projects that by 2020 the top 20 buildings will be completely transformed, with only the Taipei 101 building (current World’s Tallest) even making the list (at number 19).

For more on the database visit: http://tallest.ctbuh.org

<table>
<thead>
<tr>
<th>Rank</th>
<th>Building Name</th>
<th>City</th>
<th>Year</th>
<th>Stories</th>
<th>Height</th>
<th>Material</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Burj Khalifa</td>
<td>Dubai</td>
<td>2010</td>
<td>162</td>
<td>828</td>
<td>Composite/Steel</td>
<td>Office/Hotel/Residential</td>
</tr>
<tr>
<td>2</td>
<td>Shanghai Tower</td>
<td>Shanghai</td>
<td>2011</td>
<td>101</td>
<td>492</td>
<td>Concrete</td>
<td>Hotel/Office/Residential</td>
</tr>
<tr>
<td>3</td>
<td>Federation Towers - Wostok Tower</td>
<td>Moscow</td>
<td>2017</td>
<td>101</td>
<td>483</td>
<td>Concrete</td>
<td>Office/Hotel/Residential</td>
</tr>
<tr>
<td>4</td>
<td>Burj Al Arab</td>
<td>Dubai</td>
<td>2010</td>
<td>162</td>
<td>828</td>
<td>Composite/Steel</td>
<td>Office/Hotel/Residential</td>
</tr>
<tr>
<td>5</td>
<td>One World Trade Center</td>
<td>New York</td>
<td>2013</td>
<td>105</td>
<td>541</td>
<td>Composite/Steel</td>
<td>Office/Hotel/Residential</td>
</tr>
<tr>
<td>6</td>
<td>Petronas Tower 1</td>
<td>Kuala Lumpur</td>
<td>1998</td>
<td>88</td>
<td>452</td>
<td>Concrete</td>
<td>Office/Hotel/Residential</td>
</tr>
<tr>
<td>7</td>
<td>Petronas Tower 2</td>
<td>Kuala Lumpur</td>
<td>1998</td>
<td>88</td>
<td>452</td>
<td>Concrete</td>
<td>Office/Hotel/Residential</td>
</tr>
<tr>
<td>8</td>
<td>Jinnan Treasure City Tower</td>
<td>Guangzhou</td>
<td>2006</td>
<td>103</td>
<td>440</td>
<td>Composite/Steel</td>
<td>Office/Hotel/Residential</td>
</tr>
<tr>
<td>9</td>
<td>Trump International Hotel &amp; Tower</td>
<td>Chicago</td>
<td>2010</td>
<td>101</td>
<td>415</td>
<td>Concrete</td>
<td>Hotel/Residential</td>
</tr>
<tr>
<td>10</td>
<td>Trump International Hotel &amp; Tower</td>
<td>Chicago</td>
<td>2010</td>
<td>101</td>
<td>415</td>
<td>Concrete</td>
<td>Hotel/Residential</td>
</tr>
<tr>
<td>11</td>
<td>Princess Tower</td>
<td>Dubai</td>
<td>2010</td>
<td>101</td>
<td>414</td>
<td>Concrete</td>
<td>Hotel/Residential</td>
</tr>
<tr>
<td>12</td>
<td>Marina 101</td>
<td>Dubai</td>
<td>2010</td>
<td>101</td>
<td>412</td>
<td>Concrete</td>
<td>Hotel/Residential</td>
</tr>
<tr>
<td>13</td>
<td>Two International Finance Centre</td>
<td>Hong Kong</td>
<td>2003</td>
<td>88</td>
<td>412</td>
<td>Concrete</td>
<td>Office/Hotel/Residential</td>
</tr>
</tbody>
</table>

Excerpt from the CTUBH Tallest 100 Buildings List (as of Oct 2009). The list includes buildings that are under construction (shown in red), topped out (shown in green), and which are on hold after having commenced construction (shown in brown). A building is not ranked until construction has completed (see pages 23–27 for CTBUH height criteria and definitions).
The Tallest 10 Buildings Completed in 2008

1. Shanghai World Financial Center
   - 492m (1614ft) / 101 Stories
   - Residential
   - MEP: J Roger Preston Ltd.
   - Structural: Sun Hung Kai Properties
   - Architect: Leslie E. Robertson Associates RLLP
   - Developer: Sun Hung Kai Properties

2. Almas Tower
   - Residential
   - 363m (1191ft) / 68 Stories
   - Dubai, UAE
   - MEP: WS Atkins & Partners
   - Structural: Nikken Sekkei Ltd.
   - Architectural Design & Research Co., Ltd.
   - Structural: Architectural Design & Research Co., Ltd.
   - Developer: Almas Capital

3. The Cullinan I
   - Residential
   - 492m (1614ft) / 101 Stories
   - Hong Kong, China
   - MEP: J Roger Preston Ltd.
   - Structural: Sun Hung Kai Properties
   - Architect: Arup
   - Developer: Sun Hung Kai Properties

4. The Address Downtown
   - Residential
   - 331m (1087ft) / 68 Stories
   - Dubai, UAE
   - MEP: Meinhardt Pte Ltd.
   - Structural: Thornton Tomasetti
   - Architectural Design & Research Co., Ltd.
   - Structural: Architectural Design & Research Co., Ltd.
   - Developer: Emaar Properties

5. One Island East
   - Office
   - 269m (884ft) / 51 Stories
   - Wuhan, China
   - MEP: Wuhan Architectural Institute
   - Structural: Wuhan Architectural Institute
   - Architectural Design & Research Co., Ltd.
   - Structural: Architectural Design & Research Co., Ltd.
   - Developer: Minsheng Bank

6. Comcast Center
   - Office
   - 296m (970ft) / 63 Stories
   - Philadelphia, USA
   - MEP: Paul H. Yeomans, Inc.
   - Structural: Kendall/Heaton Associates
   - Architect: Robert A.M. Stern Architects LLP / Weiss/Manfredi
   - Structural: Architectural Design & Research Co., Ltd.
   - Developer: Swire Properties

7. Emirates Crown
   - Office
   - 261m (856ft)
   - Hong Kong, China
   - MEP: Paul H. Yeomans, Inc.
   - Structural: Kendall/Heaton Associates
   - Architect: Cloud Architecture
   - Structural: Architectural Design & Research Co., Ltd.
   - Developer: Swire Properties

8. The Cullinan II
   - Residential
   - 296m (971ft) / 63 Stories
   - Hong Kong, China
   - MEP: Arup
   - Structural: Cloud Architecture
   - Architectural Design & Research Co., Ltd.
   - Structural: Architectural Design & Research Co., Ltd.
   - Developer: Sun Hung Kai Properties

9. The Cullinan I
   - Residential
   - 292m (958ft) / 61 Stories
   - Hong Kong, China
   - MEP: Arup
   - Structural: Cloud Architecture
   - Architectural Design & Research Co., Ltd.
   - Structural: Architectural Design & Research Co., Ltd.
   - Developer: Sun Hung Kai Properties

10. One Lujiazui
    - Office
    - 245m (804ft)
    - Hong Kong, China
    - MEP: Arup
    - Structural: Cloud Architecture
    - Architectural Design & Research Co., Ltd.
    - Structural: Architectural Design & Research Co., Ltd.
    - Developer: Swire Properties

Building Locations

PHILADELPHIA
1. Comcast Center
2. Eureka Tower
3. The Cullinan II
4. The Address Downtown
5. One Island East
6. Comcast Tower
7. Emirates Crown
8. The Cullinan I
9. The Cullinan II

SHANGHAI
1. Shanghai World Financial Center
2. Almas Tower
3. Minsheng Bank Building
4. The Address Downtown
5. One Island East
6. Comcast Center
7. Emirates Crown
8. The Cullinan I
9. The Cullinan II
10. One Lujiazui

HONG KONG
1. One Island East
2. The Cullinan I
3. The Cullinan II

DUBAI
1. Almas Tower
2. The Address Downtown
3. Burj Dubai
4. The Cullinan II
5. One Lujiazui

WAHAI
1. Al Fattan Towers
2. The Cullinan II
3. Minsheng Bank
4. The Address Downtown
5. One Island East
6. Comcast Center
7. Emirates Crown
8. The Cullinan I
9. The Cullinan II
Due to the current economic climate, some buildings on this list may have slowed construction / development pace or have been put on hold recently. The current attention, however, is that all projects on the list will be completed, though that may change in the coming months / years. Buildings included in this research are either built, under construction or considered real proposals. A real proposal can be considered such if it has a developer and full professional design team who are currently progressing the design beyond the conceptual stage. Furthermore, this research only considers projects that are within the public domain – there may be other proposed buildings that would make the list, but are for client / project confidentiality reasons not yet published. Please note that due to the changing nature of early stage designs and client information restrictions, some height data is unconfirmed.

### Building Locations

- **1.** Burj Khalifa
- **2.** Shanghai Tower
- **3.** Jeddah Tower
- **4.** Dubai Tower
- **5.** Seoul Financial District
- **6.** Guangzhou International Financial Center
- **7.** Taipei 101
- **8.** Macau Tower
- **9.** Tokyo Skytree
- **10.** Moscow International Business Center
- **11.** Qatar World Trade Center
- **12.** Taipei Financial Center
- **13.** Dubai International Financial Center
- **14.** Hong Kong International Financial Centre
- **15.** Burj Mubarak Al Kabir
- **16.** Federation Tower
- **17.** Shanghai Tower
- **18.** Pyeongtaek Tower
- **19.** Busan Lotte World Tower
- **20.** Seoul International Finance Centre