



<http://www.agr.nagoya-u.ac.jp/~butsuri/pbm8/>

Plant Biomechanics and Mechanobiology is an expanding interdisciplinary field, at the interface of biology, mechanics, physics and engineering. Over the years, the International Plant Biomechanics Conference has become the central event of this community, as well as a unique place for interdisciplinary exchanges focused on the amazing features that plants have evolved to sense, acclimate and adapt to the mechanical challenges to which they have been exposed.

The 8th PBM follows a series of conferences organized every third year since 1994. The first took place in Montpellier, FR, followed by Reading, UK (1997), Freiburg, DE (2000), East Lansing, MI, US (2003), Stockholm, SE (2006), Cayenne, French Guyana (2009), Clermont-Ferrand, FR (2012). We hope that this forthcoming conference in Nagoya will bring a similarly stimulating experience as the ones in the past.

**Conference format.** The sessions include keynote lectures, invited and contributed papers, and posters introduced by a flash-talk. The official language of the conference is English.

**Topics of regular sessions.** The usual topics of preceding events will be addressed:

- Biomechanics of tree and wood
- Mechano-perception, growth and morphogenesis
- Fluid dynamics in plants
- Micromechanics of cell wall, cell, and tissue
- Scaling of pattern and development in plants
- Biomechanics of root and root systems
- Mechanics of the plant material and plant surface
- Trade-offs and multifunctionality
- Plant-animal interactions
- Plant motions
- Modelling and numerical simulation
- Experimental devices and methods.

**Special session on “Plant Biomechanics and 500 million history of land plant evolution”.** The greening of the planet Earth over the past 500 million years has involved vast and intricate patterns of changing phylogenetic and functional diversity. Compared to the original aquatic environment, plants had to deal with gravity, wind, snow... Biomechanics lies at the heart of this diversification, from the colonization of the land and the appearance of stems, roots and leaves to the complex and diverse growth forms and ecosystems we see today. The first aim of this special session is to discuss recent findings on some of the main biomechanical innovations that have characterized land plant evolution culminating in today's complexity and biodiversity; the

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second objective is to invite both empirical and theoretical discussions on how “biomechanical innovations” that have proved such a success for plants, can be used as bioinspiration for technical applications and biomimetics research.

A **Young scientists forum** will be organized to encourage participation of M.S., and Ph.D. students, postdocs and young staff.

A **Post-conference tour** to cultural places of technical interest within Nagoya area will be proposed on 4th December.

### Conference chairs

Hiroyushi Yamamoto (Nagoya University, Japan)

Miyo T. Morita (Nagoya University, Japan)

Joseph Gril (CNRS, France)

### Scientific advisory board

Bernard Thibaut, Meriem Fournier and Bruno Moulia (FR) – George Jeronimidis (UK) – Thomas Speck (DE) – Lennart Salmén (SE) – Frank Telewski and Frank Ewers (US)

### Organizing committee

Ugai Watanabe (Chiba) – Tomoyuki Fujii (Yatsugatake) – Jiro Sakamoto (Kanazawa) – Junji Sugiyama (Uji) – Keiji Takabe (Kyoto) – Kosei Ando (Nagoya) – Miyuki Matsuo (Nagoya) – Kazuharu Ogawa (Nagoya) – Hitoshi Tatsumi (Nagoya) – Masato Yoshida (Nagoya) – Mitsuhiro Aida (Nara) – Takashi Hashimoto (Nara) – Hidetoshi Kobayashi (Osaka) – Naomi Nakayama (Edinburgh, UK) – Kazuhiko Nishitani (Sendai) – Hideyuki Takahashi (Sendai) – Hidetoshi Iida (Koganei) – Takahisa Hayashi (Tokyo) – Ryo Funada (Fuchu)

### Local organizing committee

Miyuki Matsuo, Masato Yoshida, Kosei Ando, Kazuharu Ogawa and Hitoshi Tatsumi, Marie Capron (Nagoya University)

### Calendar

Reception of abstracts*:	<b>May 31, 2015</b>
Acceptance of the papers/posters:	June 20, 2015
Revised manuscripts:	September 1, 2015
Early registration deadline:	<b>July 15, 2015</b>
Late registration deadline:	<b>September 30, 2015</b>

(\*) One or two-pages abstracts should be sent by e-mail to: [pbm8@agr.nagoya-u.ac.jp](mailto:pbm8@agr.nagoya-u.ac.jp)  
template: <http://www.agr.nagoya-u.ac.jp/~butsure/pbm8/submission.html>

### Fees

Regular participant	400 USD
Late registration	500 USD
Student	200 USD
Student late registration	250 USD

Fees include lunches, coffee breaks, welcome party, conference banquet and conference proceedings.

### Contact

[pbm8@agr.nagoya-u.ac.jp](mailto:pbm8@agr.nagoya-u.ac.jp)

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## Conference website

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### How to get to Nagoya, Japan?

1. From Nagoya International airport (Centrea, NGO):  
by train, 28~40 min to the city (Kanayama, Nagoya).
2. From Kansai International airport (KIX):  
by Kanku-Tokkyu Haruka train, from KIX to Shin-Osaka, 60 min,  
and Shinkansen, from ShinOsaka to Nagoya, 60 min.
3. From Narita (NRT) or Haneda (HND):  
you need to transit airplane to Nagoya (NGO).

### Accommodations in Nagoya

Nagoya is the 4th largest city in Japan, having many hotels and guest houses with prices from 6,000 JY (=55 USD) to 20,000 JY. Recommended accommodations will be uploaded to the conference web site.

### The Venue

Nagoya is the third-largest incorporated and the fourth most populous urban area (2.27 million live) in Japan. Located on the Pacific coast in central Japan, it is one of Japan's major ports along with those of Tokyo, Osaka, Kobe, Yokohama, Chiba, and Kitakyushu. It is also the center of Japan's third largest metropolitan domain, known as the Chukyo Metropolitan Region. One possible etymology for the city's name is the adjective nagoyaka, meaning "peaceful", with 400 years of history since Nagoya Castle was built.

Nagoya is the center of Greater Nagoya which earned nearly 70 percent of Japan's trade surplus as of 2003.

Nagoya's main industry is the automotive business, as many Japanese automotive companies are based out of Nagoya, akin to how many U.S. automakers are based out of Detroit. Toyota's luxury brand Lexus is headquartered in Nagoya.

