

Location

Sapporo

Sapporo, which holds the 5th largest population in Japan, is a charming city where city life and nature coexist in harmony. In Sapporo, the center of Hokkaido's politics, economy, and culture, there are many buildings that tell Hokkaido's history, such as the Former Hokkaido Government Office Building (Red Brick Office), Sapporo Clock Tower, and Hokkaido University.

For more information please visit: www.sapporo.travel.



Hokkaido University

Hokkaido University is a leading comprehensive university that places importance on its graduate schools. The university started out in 1876 as the Sapporo Agricultural College, the first modern academic institute in Japan.

The Sapporo campus, located near JR Sapporo Station, has a sizable site which is approximately 2 km from north to south and is about 1 km from east to west. The campus is largely open to the public and you can enjoy the beautiful transition of nature's four seasons at the lush main street and central lawn.

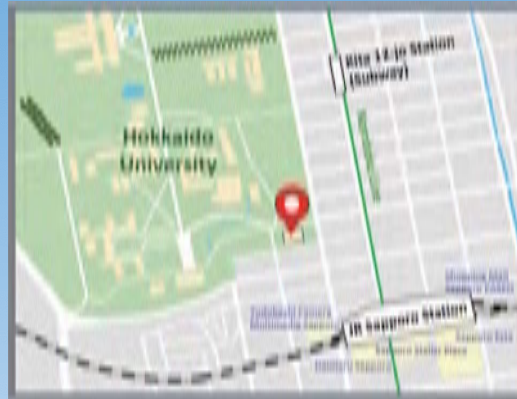
For more information please visit:
www.global.hokudai.ac.jp.



Conference Venue

Conference Hall of Hokkaido University

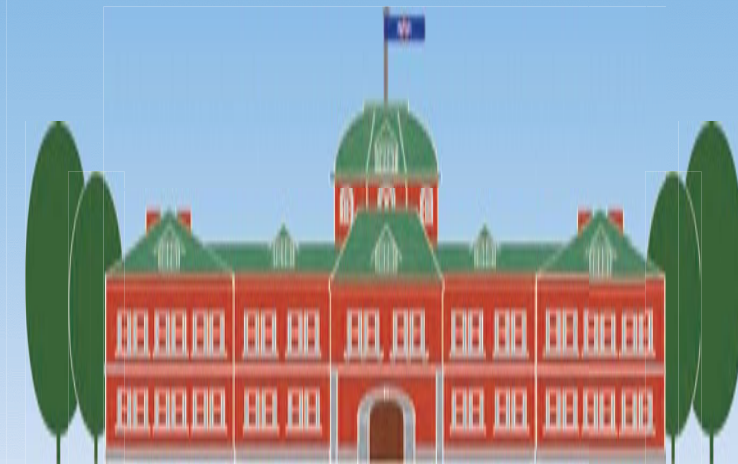
The conference will be held at the conference hall of Hokkaido University. This hall, located 7 minutes on foot from JR Sapporo Station, can be conveniently accessed from the New Chitose Airport, as well as hotels around the station.



VHCF8

Eighth International Conference
on Very High Cycle Fatigue

First Announcement



Please see the conference website for all information about VHCF8.

Conference Website:
<https://www.vhcf8.jp>

August 31st to September 4th, 2020
Sapporo, Hokkaido, Japan

<https://www.vhcf8.jp>

Chairmen

Prof. Takashi Nakamura
Hokkaido University, Sapporo, Japan
nakamut@eng.hokudai.ac.jp

Prof. Tatsuo Sakai
Ritsumeikan University, Kusatsu, Japan
sakai@se.ritsumei.ac.jp

Organization

JSMS Committee on Fatigue of Materials,
the Society of Materials Science, Japan

Organizing Committee

K. Masaki	T. Nakamura	T. Sakai
T. Matsumura	H. Oguma	A. Ueno

Local Technical Committee

H. Akebono	T. Makino	M. Sakaguchi
M. Endo	H. Matsunaga	Y. Shimamura
N. Fujimura	S. Miyakawa	D. Shiozawa
Y. Furuya	T. Morita	H. Soyama
N. Hisamori	N. Nagashima	A. Sugeta
N. Horikawa	Y. Nakai	K. Takahashi
T. Itoh	Y. Nakamura	K. Takahashi
T. Kakiuchi	T. Ogawa	M. Takanashi
S. Kikuchi	N. Oguma	Y. Uematsu
J. Komotori	Y. Omoto	D. Yonekura
M. Kubota	Y. Ono	

International Advisory Committee

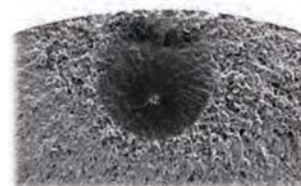
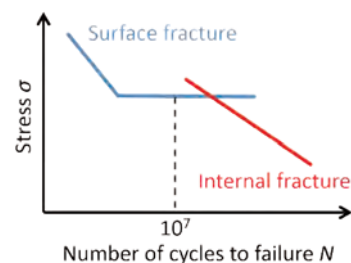
J. E. Allison	M. de Freitas	D. S. Paolino
F. Balle	D. G. Harlow	Y. S. Pyun
T. Beck	Y. Hong	A. Shanyavskiy
C. Berger	J. W. Jones	H. B. Shim
J. Bergstrom	H. Mayer	S. E. Stanzl-Tschegg
G. Chai	H. Mughrabi	C. M. Suh
H. -J. Christ	Y. Murakami	K. Tanaka
D. Eifler	S. H. Nahm	Q. Y. Wang
V. Favier	T. Palin-Luc	M. Zimmermann

Aim & Scope

The Eighth International Conference on Very High Cycle Fatigue (VHCF8) is scheduled to be held from August 31st to September 4th, 2020 in Sapporo, Japan.

After the 1980s epoch-making findings of internal fatigue fractures of high strength steel under numerous loading cycles, the very high cycle fatigue (VHCF) has been recognized as an emerging and unprecedented issue in the fields for material strength. These days, requirements for mechanical components and structures have been getting more demanding as represented by automobile engines, marine engines, turbine structures, high speed railway components, etc., and the reliability against the cyclic loading over 10^7 or even longer is regarded as one of the most important issue for strength design. Thus, improved understandings of the VHCF behaviors not only for metallic materials, but also for polymers and composites are essential to develop reliable fatigue life prediction methods. The Eighth International Conference on Very High Cycle Fatigue will focus on this topic based on the successful series of previous conferences: VHCF1 1998 in Paris, VHCF2 2001 in Vienna, VHCF3 2004 in Kusatsu, VHCF4 2007 in Ann Arbor, VHCF5 2011 in Berlin, VHCF6 2014 in Chengdu, and VHCF7 2017 in Dresden.

VHCF8 will provide a worldwide platform for scientific communication, discussion, and activities for all those interested in both fundamental aspects and practical applications. The conference will comprise of lectures by outstanding international scientists, contributed oral presentations, and posters. Suggestions for special topics are welcome. Exhibitions for testing and analyses related to VHCF researches will also be offered. The conference language is in English and the contributions are planned to be published via a renowned reviewed journal.



Scientific Topics

Fundamentals, physics and mechanisms

- Mechanisms of crack initiation
- Nonpropagating cracks, growth of short and long cracks

Effecting parameters

- Influence of microstructure and defects
- Influence of environment and temperature
- Notch and gradient effects
- Effect of mean and residual stresses
- Effect of variable amplitude loading
- Effect of surface treatment

Experimental methods

- Fatigue testing machines
- Instrumentation and experimental methods
- Prognosis and health monitoring

Applications to components and structures

- Statistical and probabilistic modelling, development of life estimation models
- Assessment and modelling of fatigue damage and damage accumulation
- Actual structures and their components
- Case studies in industrial applications

Material databases and its application

- Material databases and application systems
- Analysis of material databases

Timelines (TBD)

November 2019

Start of abstract submissions

Mid-January 2020

Deadline for abstract submissions

End of June 2020

Deadline for submissions of final brief papers

August 31st to September 4th, 2020

VHCF8, Sapporo, Japan

Other important information regarding abstract format, final brief papers, registration, exhibitions, accommodations, etc., will be announced on the website.