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Season's greetings

and a happy new year 2024!

Dear friends of IFHTSE,

my name is Okumiya and I was the president of IFHTSE for 2022 and 2023.

In 2022, the regulations of each country regarding COVID-19 became looser, and in September, the 27th International Congress of FHTSE was held in Salzburg, and I was very happy that many were able to participate face to face.

In November of this year, the 28th International Congress was held in Yokohama, Japan, about 350 participants from 20 countries attended the congress and 176 presentations were given. We also held a Heat Treatment and Surface Engineering Summit as a new approach, and many people commented that it was an interesting event. And many people also commented that the congress was perfectly organized, including the reception and the factory tours. I would like to thank all those



who attended, the many companies that donated a lot of money, and the members of JSHT.

The next international conference (4th Mediterranean Conference on Heat Treatment and Surface Engineering & 5th International Conference on Thermal Process Modeling and Simulation) will be held in April 2024 in Lecce, Italy, and in September 2024 the 29th IFHTSE Congress will be held in Cleveland OH, USA. Many colleagues will participate at these conferences/congress and we look forward to seeing you there.

Finally, I would like to say many thanks to all the EC members and friends of IFHTSE and the JSHT staff for their support during two years which I was President. I look forward to seeing you again at the conference and congress in 2024 and in the future.

Please don't forget me, and please keep in touch!

28th IFHTSE Congress

This Congress, held in Yokohama November 13-16, was the third IFHTSE Congress in Japan after Kyoto 1992 and Kobe 2008. It found great attention worldwide and gathered as many as 342 experts from 20 countries. It was accompanied by an industrial exhibiton with 24 company booths.

Up to five parallel sessions and the posters in the foyer covered the following topics:

- Modelling and Simulation of Thermal Processes and Surface Engineering
- Thermal and Thermochemical Treatment in Additive Manufacturing
- Thermal Processing of Iron and Steels
- Residual Stresses and Distortion
- Thermal Processing of Non-Ferrous Alloys
- Metallurgy and Properties of Heat Treated and/or Deformed Steels and Non-Ferrous Alloys
- Surface Hardening
- Coating Technology
- Thermochemical Treatment
- Shot Peening
- Industrial Heat & Surface Treatment Equipment
- Quenching Technology
- Physical Metallurgy in Heat Treatment and Surface Engineering
- Testing & Characterization of Heat & Surface Treated Components
- Brazing
- Artificial Intelligence, Process Control, and Reliability in Thermal Processing and Surface Engineering
- Energy Savings and CO2-Reduction

The organiser, our member association Japan Heat Treatment Association, more than honoured the reputation which Japan has: being the world champion in organisation. Information, programme, breaks, catering, technical facilities, transport, and side events all went like clockwork.

JSHT could also proudly look back on 60 years of the organisation. During the welcoming party, this anniversary was celebrated with a slide show and Special Achievement Awards to five persons of merit.

IFHTSE Medal for Prof. Michel Jeandin



Michel Jeandin giving his video lecture in a particular format with himself always visible to the left and the graphs and pictures to the right

The medal was awarded to Michel Jeandin (see [Bulletin 2023-02](#)) with the citation reading

“IN RECOGNITION OF HIS LIFE-TIME CONTRIBUTIONS TO MATERIALS SCIENCE AND THE DISSEMINATION OF KNOWLEDGE, ESPECIALLY IN SURFACE MODIFICATION TECHNOLOGIES SUCH AS THE DEVELOPMENT OF COLD SPRAY TECHNOLOGY AND NEXT-GENERATION SURFACE COATINGS”.



The Medalist, who could unfortunately not be present in person, gave his lecture on “Heat Treatment and Surface Engineering issues in Thermal Spray” via video.

The laudation was held by the new IFHTSE Executive Committee member Christophe Stocky.

Note the Medal on the lectern.

IFHTSE Fellowship for Prof. Yoshinao Mishima

The citation of the Fellowship for the former President of IFHTSE and JSHT (see [Bulletin 2020-06](#)) read:

“IN RECOGNITION OF HIS STUDY FOR IMPROVING THE MECHANICAL PROPERTIES OF HEAT-RESISTANT METAL MATERIALS BY CONTROLLED MICROSTRUCTURE, AND CONTRIBUTION TO THE DEVELOPMENT OF HEAT TREATMENT TECHNOLOGY AND IFHTSE.”



The Fellowship had been decided during the pandemic. But now Yoshinao Mishima could receive the Fellowship plaque from IFHTSE President Masahiro Okumiya



Socializing and technical discussions at the exhibition booths

Heat Treatment Summit: a global view

In a format not so common until now in IFHTSE Congresses, in a special session called “Heat Treatment Summit”, five leading international experts gave most interesting overviews and insights on the situation and trends in the USA, Europe, and Asia. The presentations were subsequently discussed among the panelists and with the audience.

→ **An extensive report about this special session will appear in the next IFHTSE Bulletin.**



Janusz Kowalewski, Ipsen International, USA:
“Trends in the US Heat Treatment Industry”



Prof. Rainer Fechte-Heinen, Leibniz-Institut für
Werkstofforientierte Technologien - IWT,
Bremen, Germany

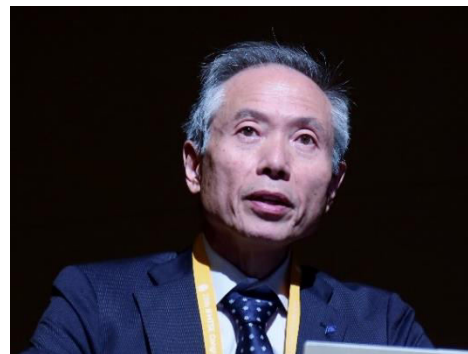
“Heat Treatment Situation in Europe”



Seiji Kaga, Dowa Thermotech Co., Ltd. Japan
“Heat treatment market in Asia”

Dr. Yoichi Watanabe, Japan Society for
Heat Treatment, Vice President, NIHON
PARKERIZING CO., LTD., Fellow, Japan

*“Recent Trend of Research and
Development on Heat Treatment
Technology in Japan”*



Toshiki Hara, Japan Metal Heat Treatment Industry
Association, Vice Chairman METAL HEAT Co., Ltd.,
Representative Director, Japan

“Trends in Japan’s Metal Heat Treatment Industry”

Conference Banquet

During the Conference Banquet, awards for the best posters were announced and given. The awards were sponsored by the Japan Metal Heat Treatment Industry Association. The awardees were:

- Koki Matsumoto, Li He, Shogo Takesue, and Tatsuro Morita from the Kyoto Institute of Technology, and Yoshitaka Misaka from Neturen Co., Ltd
- Masaki Kuribayashi and Akio Nishimoto from the Department of Chemistry and Materials Engineering, Kansai University
- Sien Liu and Shoichi Nambu from the Department of Materials Engineering, The University of Tokyo
- Chun-Yin Lin, Mu-Jou Ho, and Cheng-Hsun Hsu from the Department of Mechanical and Materials Engineering, Tatung University, Taipei



The Yokohama-Geigi-Association entertained the guests with their Japanese traditional song and dance performance.





After their show...



... the artists went parading among the guests.

Three awards for young authors under 35

Niki Nouri from the Karlsruhe Institute of Technology in Germany was this year's winner of the "Tom Bell Young Author Award". She got the award for the paper:

"Tailored Hardness Profiles Through a Combination of Specialized PBF-LB Processing Strategies with Subsequent Heat Treatment for Graded High-strength Components Made of Maraging Steel".

This awards is her ticket for the free trip and participation at the next IFHTSE Congress in Cleveland OH, USA, September 30 to October 03, 2024.

While the Tom Bell Young Author Award has been given since 1992 (with the first awardee being from Japan, see <https://www.ifhtse.org/about-us/awards/>), two awards have been given for the first time:

Niki Nouri receiving the congratulations on her Tom Bell Young Author Award from IFHTSE President Masahiro Okumiya and Vice President and head of the jury Massimo Pellizzari



The “IFHTSE Congress Scholarship” went to

→ Daniel David from the University of Applied Sciences Upper Austria and

→ Benjamin Dollhofer from the Karlsruhe Institute of Technology in Germany who will have free admission to the next IFHTSE Congress.



The very end of the Congress were – as usual – the announcements of the next IFHTSE events Here: the next IFHTSE Congress presented by the new IFHTSE Vice President Dr. Lesley Frame.

New IFHTSE office holders

The 52nd Assembly of the IFHTSE Governing Council has elected a new Vice President and two new IFHTSE Executive Committee members. They will be presented in detail in the next IFHTSE Bulletin.



Dr. Lesley Frame

is IFHTSE Vice President 2024-2025. Subsequently, she will pass to position of President and then Past President for again two more years each.

She works at the University of Connecticut and is the President of [ASM's Heat Treatment Society](#).

Prof. Rainer Fechte-Heinen

is Director of our member Institute Leibniz-Institut für Werkstofforientierte Technologien – IWT in Bremen, Germany.

He is on the board of our German member association [AWT](#).



Christophe Stocky

Is head of the R&D centre of ABS Acciaierie Bertoli Safau in Metz, France.

He is on the board of our French member association [A3TS](#).

IFHTSE Fellow Prof. Tatsuo Inoue †

We have sad news. Prof. Tatsuo Inoue passed away at the age of 83. He held a professorship at Kyoto University from 1983 to 2003 where he made a significant and lasting contribution to the theory of heat treatment simulation, which is in widespread use today.



The basic theory for heat treatment simulation was first reported at an international conference in Linköping, Sweden in 1984. Prof. Inoue's theory and fundamental equations cover metallurgical changes due to phase transformation, temperature and inelastic stress/strain as well as carbon diffusion during the carburizing process. Professor Inoue designated these effects as "metallo-thermo-mechanical coupling", a term that remains in widespread use.

Prof. Inoue's theories have been applied to manufacturing processes such as oil hardening, carburizing and induction hardening. The results have been used to optimize component design and improve fatigue life. He extended the application of his theory to simulation of casting and welding taking into account phase transformation between solid and liquid. He applied molecular dynamics to the coupled metallo-thermo-mechanical fields for improving the theory and understanding of transformation-incorporated phenomena.

Prof. Inoue was active in various national and international academic societies. He provided many important and widely cited contributions at IFHTSE conferences, ASM International Conferences and other materials societies. Prof. Inoue helped to organize the 6th International Conference of Mechanical Behavior of Materials, which was held in Kyoto, (ICM-6) in 1991 as the secretary general. He then served as President of ICM until 1995.

The applied software of Prof. Inoue's theory was presented at ASM International's 1st International Conference on Quenching and the Control of Distortion in 1992 where its advanced nature was recognized. Ultimately, he was elected as a Fellow of ASM International in 2000. In addition, IFHTSE honored Prof. Inoue with the Fellowship in 2006. The citation for this award was: "In recognition of globally acknowledged leadership in the development of mathematical modelling principles and practices and their application to the benefit and advancement of heat treatment and surface engineering science and technology".

In 1993 Prof. Inoue published a paper in which he applied heat treatment simulation to the quenching of Japanese swords, revealing changes in temperature, curving, microstructure, stress and strain during the traditional multi-step heat treatment and quenching process. In 2017 he published "The Science of Japanese Swords" with Sumihira Manabe, a swordsmith, to communicate his specific achievements to the general public.

Forthcoming Conferences

All member associations are invited to submit their conferences in English language to be featured here!

2024	APRIL	17-19	4th Mediterranean Conference on Heat Treatment and Surface Engineering (MCHTSE)	Lecce	Italy	https://www.aimnet.it/eng/manifestazione.php?id=788&idc=4	
2024	APRIL	17-19	5th International Conference on Thermal Process Modeling and Simulation (5th ICTPMS)	Lecce	Italy	https://www.aimnet.it/eng/manifestazione.php?id=789&idc=4	
2024	APRIL	26-26	2nd Bosphorus International Heat Treatment Symposium	Istanbul	Turkey	https://www.bhtsheat.com/en	
2024	JUNE	5-7	European Conference on Heat Treatment and Surface Engineering and A3TS 50th Congress	Toulouse	France	https://echt2024.a3ts.org/en/page/echt-congres-a3ts-2024/	
2024	SEP OCT	30-3	29th IFHTSE Congress	Cleveland	USA	https://www.asminternational.org/ifhtse-congress/	
2024	NOV	13-15	Mo4Steel – Molybdenum Symposium 2024	Vienna	Austria	https://asmet.org/event/mo4steel-from-sustainable-mining-to-high-performance-steels/	
2025	MAY	6-8	3rd QDE - International Conference on Quenching and Distortion Engineering	Vancouver	Canada		
2025	June	4-6	5th International Conference on Heat Treatment and Surface Engineering in Automotive and Transportation Applications	Prague	Czech Republic		