

# International Conference on Quenching and Distortion Engineering 2018

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Call for papers

Program

Important date

Organization

Conference registration

Corporate exhibition

Travel and Venue

Hotel list

Optional tour

Contact

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## Program (5/01 update)

| Day0, 11/26   |       |  |                    |
|---|-------|--|--------------------|
| Open  | 15:00 | 15 : 00~17 : 00  | registration       |
| Day1, 11/27   |       |  |                    |
| Open  | 9:00  | 9 : 00~18 : 00   | registration       |
| 9:20 Opening session                                |       |  |                    |
| 9:30~11:00 Quenchants (Michiharu Narazaki)          |       |  |                    |
| Keynote   | 9:30  | Online database for liquid quenchants  | Imre Felde         |
| 1   | 10:10 | First prototype of container elevator type test system using a small ball probe for determination of cooling characteristics of quenchants | Kyozo Arimoto      |
| 2   | 10:35 | Study on the influence of vapor blanket stage length which effects on cooling performance and distortion in polymer quenchants             | Takahito Sugiura   |
| Break time 11:00~11:15                              |       |  |                    |
| 11:15~12:30 Induction Heating (Imre Felde)          |       |  |                    |
| 3   | 11:15 | Development of a low distortion heat treatment process with high strength combined with vacuum carburizing and induction hardening         | Yasutaka Miyake    |
| 4   | 11:40 | Computer simulation of double hardened layer induction hardening   | Takashi Horino     |
| 5   | 12:05 | Effects of high-frequency induction heating treatment on the microstructures and residual stress of scm440 and s45c steels                 | Chung-Chun Wu      |
| Lunch time 12:30~13:15                              |       |  |                    |
| 13:15~15:10 Simulation (Friedhelm Frerichs)         |       |  |                    |
| Keynote   | 13:15 | Learning about mechanisms of distortion and residual stress due to heat treatment by simulated-strain based approach                       | Kyozo Arimoto      |
| 6   | 13:55 | Research for utility of combination calculation method between heat treatment simulation and computer fluid                                | Tsuyoshi Sugimoto  |
| 7   | 14:20 | Simulation of the austenization of ferrite-carbide microstructures by means of the celluler-automation method(ca)                          | Daniel Kaiser      |
| 8   | 14:45 | A simulation study on blade curving due to quenching in the Japanese sword   | Muneyoshi Iyota    |
| Break time 15:10~15:25                              |       |  |                    |
| 15:25~17 : 05 Simulation (Kyozo Arimoto)            |       |  |                    |
| 9   | 15:25 | A process chain simulation of cold forming and heat treatment incorporating segregation  | Jwalant Kagathara, |
| 10  | 15:50 | Optimizing mandrel dimensions for a fixture hardening process by finite element simulation   | Hannes Birkhofer   |
| 11  | 16:15 | Prediction of thermal boundary conditions by using fwa   | Zoltan Fried       |
| 12  | 16:40 | Simulation of high speed quenching of grooved steel cylinders  | Friedhelm Frerichs |
| 18 : 30 Beer Party (Departure from NCC at 17 : 30)  |       |  |                    |
| Day2, 11/28   |       |  |                    |
| Open  | 8:30  | 8 : 30?17 : 30   | registration       |
| 9:00~11:05 Gears and Carburizing (Youichi Watanabe) |       |  |                    |
| Keynote   | 9:00  | Distortion of gear base bodies in consideration of lightweight construction  | Thomas Lübben      |
| 13  | 9:40  | Identifying influencing factors from the manufacturing chain on distortion of case-hardened automotive truck gears                         | Anders Olofsson    |
| 14  | 10:15 | Single piece-flow vacuum heat treatment with distortion control for In-line manufacturing  | Maciej Korecki     |
| 15  | 10:40 | Effect of $\gamma$ -grain size on distortion of carburized steel   | Yuuki Tanaka       |
| Break time 11:05~11 : 15                            |       |  |                    |
| 11:15~12:30 Spray Quenching (Thomas Lubben)         |       |  |                    |
| 16  | 11:15 | Characterization of heat transfer in complex air-water spray quenching set-ups   | Sebastian Herbst   |
| 17  | 11:40 | Internal quenching : ideal heat treatment for difficult to access component sections   | Fabian Mühl        |
| 18  | 12:05 | Low distortion processes by controlled water mist quenching  | Mamoru Noguchi     |
| Lunch time 12:30~13:15                              |       |  |                    |
| 13:15~14:45 Others (Eva Troell)                     |       |  |                    |

|   |       |  |                             |
|---|-------|--|-----------------------------|
| Keynote   | 13:15 | Cooling characteristics and distortion during austempering using water added molten salt   | Youichi WATANABE            |
| 19  | 13:55 | Bainitic transformation under large stresses : parent phase, nonlinear transformation plasticity and transformation kinetics   | Diego Said Schicchi         |
| 20  | 14:20 | Advanced hot-zone and cooling gas stream design in vacuum furnaces for automotive applications   | Tim Wahle                   |
| Break time 14:45~15 : 00                          |       |  |                             |
| 15 : 00~16:40 Quenching (D. Scott MacKenzie)      |       |  |                             |
| 21  | 15:00 | Latest advances in distortion control by applying high pressure gas quenching  | Volker Heuer                |
| 22  | 15:25 | Application of universal function approximator to predict htc during quenching   | Sandor Szenasi              |
| 23  | 15:50 | Influence of pressure on vacuum oil quenching  | Eva Troell                  |
| 24  | 16:15 | Distortion prediction model during quenching process of transmissions shafts for heavy trucks  | Marco Antonio Delgado López |
| 16:40~17:50 Poster session & Companies exhibition |       |  |                             |
| 18:00~ Banquet (in NCC)                           |       |  |                             |
| Day3, 11/29                                       |       |  |                             |
| Open  | 9:00  | 9:00?11:00 registration  |                             |
| 9:15~11:05 Residual stress (Koichiro Nambu)       |       |  |                             |
| Keynote   | 9:15  | Quenching aluminum for residual stress and distortion control  | D. Scott MacKenzie          |
| 25  | 9:55  | Micro scale residual stress measurement using focused ion beam techniques and digital image correlation  | Hans-Bernward Besserer      |
| 26  | 10:20 | Numerical and experimental analysis of residual stress states after piezo peening in hardened and normalized conditions of aisi 4140   | Alexander Klumpp            |
| 27  | 10:45 | Experimental analysis of the contribution of residual stress relaxation and creep mechanism in the distortion of thin-walled structural die casting parts during the solution heat treatment | Asier Iglesias              |
| Break time 11:10~11 : 25                          |       |  |                             |
| 11:20~12:10 Others (Tsuyoshi Sugimoto)            |       |  |                             |
| 28  | 11:25 | Effect of quenching temperature on the distortion and microstructure of small components   | D. Scott MacKenzie          |
| 29  | 11:50 | Effects of material homogeneity and symmetry principles in manufacture on distortion of case-hardened disks  | Rüdiger Rentsch             |
| 12:15~12:25 Closing session                       |       |  |                             |
| Lunch time 12:25~13:00                            |       |  |                             |
| Nagoya tours (13:30~18:00)                        |       |  |                             |
| Day4, 11/30                                       |       |  |                             |
|   | 8:00  | kyoto tours (8:00~18:00)   |                             |

#### Poster Sessions

| number | title   |                    |
|--------|---|--------------------|
| p1     | Influence of steel cylinder size on surface heat transfer coefficient during oil quenching                            | Hiroyuki Akatsuka  |
| p2     | Effects of surface cleaning on heat treatment   | Ko Aoyagi          |
| p3     | Investigation of surface hardening treatment conditions for application to titanium alloys with high damping capacity | Tomoki Yuasa       |
| p4     | investigation of alloy design guideline for improvement of damping property of titanium alloys                        | Takanori Hirayama  |
| p5     | Validation of Phase Transformation Data by End Quenching Test of Steel Bars and its Simulation.                       | Shigeyuki Tamura   |
| p6     | Estimation Methods of Heat Transfer Coefficient during Spray Quenching of Steel Rod                                   | Michiharu Narazaki |
| p7     | Effect on the quality of the quenched steel parts by heat deterioration of heat treating oil                          | Seiji Hashimoto,   |
| p8     | Numerical simulation and optimization of gas quenching of a hot-work tool steel                                       | Minsu Jung         |