



ICCCM 2025

8th International Conference on Computational Contact Mechanics

July 2-4, 2025, Munich, Germany



ORGANIZERSA. PoppUniversität der Bundeswehr München, GermanyG. ZavarisePolitecnico di Torino, Italy

ICCCM 2025

8th International Conference on Computational Contact Mechanics

July 2–4, 2025, Munich, Germany

General Info & Daily Program

Computational Contact Mechanics

Program of the 8th International Conference on Computational Contact Mechanics, held in Munich, Germany

July 2–4, 2025

Edited by

Alexander Popp

University of the Bundeswehr Munich, Germany

Giorgio Zavarise

Politecnico di Torino, Italy

1 Preface

In recent years, Computational Contact Mechanics has continued to grow as a field of intense research and vibrant international exchange. Advancements in numerical methods, algorithms, and high-performance computing have enabled increasingly robust and efficient simulation techniques for a wide spectrum of contact problems in science and engineering.

The 8th International Conference on Computational Contact Mechanics (ICCCM 2025) in Munich marks the latest installment of this successful conference series. Previous editions were held in Lecce (2009, 2013, and 2017), Hannover (2011, 2015, and 2019), and Torino (2023). For the first time, the conference is now taking place in Munich, continuing the strong tradition of German editions inaugurated and successfully led by Peter Wriggers in Hannover.

A distinctive feature of this year's edition is the inclusion of two keynote lectures from industry, complementing the four regular keynote lectures by leading academic researchers. This expansion emphasizes our commitment to deepening the exchange between academia and industry, fostering collaboration and innovation across sectors.

ICCCM 2025 also celebrates its close friendship with the Contact Mechanics International Symposium (CMIS) community, ensuring that every year, a major international conference in contact mechanics provides a platform for knowledge sharing, discussion, and new collaborations. We see this synergy between ICCCM and CMIS as a vital step toward further integrating the global contact mechanics community.

We are particularly grateful for the tremendous response to this year's conference: for the first time in the history of ICCCM, more than 100 participants have registered. This milestone reflects the increasing interest in the field and the outstanding quality of the scientific contributions submitted.

It is a pleasure to welcome all participants to Munich, a vibrant scientific and cultural hub in the heart of Europe. Looking ahead, we are proud to note that Munich will also host the WCCM-ECCOMAS Congress in July 2026 – and we sincerely hope to see many of you back here for that event.

We wish you an inspiring and enjoyable conference experience and fruitful discussions that will advance the field of computational contact mechanics.

Munich, July 2025 The Chairmen of ICCCM 2025 Alexander Popp & Giorgio Zavarise





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2 Sponsors

We gratefully acknowledge the support of our industrial sponsors:



3 Supporting Organizations

The conference organizers acknowledge the support towards the organization of the ICCCM 2025 of the following organizations:





Universität

Zentrum für Digitalisierungs- und Technologieforschung der Bundeswehr



4 Conference Organizing Committee

Alexander Popp (Chairman)

Institute for Mathematics and Computer-Based Simulation (IMCS) University of the Bundeswehr Munich Werner-Heisenberg-Weg 39, 85577 Neubiberg, Germany E-mail: alexander.popp@unibw.de

Giorgio Zavarise (Co-Chairman)

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Aysun Dincer-Gedik (Administrative Assistant)

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Joachim Gwinner (Local Representative)

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Michel Raous (CMIS Representative)

Mechanics and Acoustics Laboratory CNRS - Marseille, France E-mail: raous@Ima.cnrs-mrs.fr

Peter Wriggers (Former Chairman)

Institute of Continuum Mechanics Leibniz University Hannover, Germany E-mail: wriggers@ikm.uni-hannover.de

5 International Scientific Committee

Vincent Acary	National Institute for Research in Digital Science and Technology (INRIA), France
Francisco M. Andrade Pires	Department of Mechanical Engineering, Faculty of Engineering of Porto University, Portugal
Zdeněk Dostál	Centre of Intelligent Systems & Structures, Technical University of Ostrava, Czech Republic
Damien Durville	Laboratory of Mechanics Paris-Saclay, France
Peter Eberhard	Institute of Engineering and Computational Mechanics, University of Stuttgart, Germany
Alfredo Gay Neto	Department of Structural and Geotechnical Engineering, University of São Paulo, Brasil
Christian Hesch	Chair of Computational Mechanics, University of Siegen, Germany
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Rolf Krause	Faculty of Mathematics and Computer Science, UniDistance Suisse, Switzerland
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Mike Puso	Lawrence Livermore National Laboratory, USA
Yves Renard	CNRS, INSA Lyon, France
Jerzy Rojek	Institute of Fundamental Technological Research Polish Academy of Sciences, Poland
Elio Sacco	Department of Structures for Engineering and Architecture, Univer- sity of Naples Federico II, Italy
Roger Sauer	Institute for Structural Mechanics, Ruhr University Bochum, Ger- many
Georgios E. Stavroulakis	Department of Production Engineering and Management, Techni- cal University of Crete, Greece
Vladislav A. Yastrebov	Centre for material sciences, MINES Paris, France

6 Keynote Lecturers









Roger Sauer

On the Computational Challenges of Simulating Rubber Friction

Institute for Structural Mechanics Ruhr University Bochum, Germany



Vladislav Yastrebov Boundary and Finite Element Methods for Contact Mechanics Centre for Material Sciences MINES Paris, France



Yongyi Zhu (Industry Keynote Lecture) Solving Large-Scale Contact Applications: Challenges & State of the Art Ansys Fellow, Ansys, Inc., USA

Vincent Acary

Numerical Solutions of the Discrete Coulomb Friction Contact Problem from the Perspective of Optimisation and Mathematical Programming

INRIA Grenoble, France

Alfredo Gay Neto

On the Master-Master Contact Approach: Basis, Applications and Perspectives

Department of Structural and Geotechnical Engineering University of São Paulo, Brasil

Hans-Peter Hackenberg (Industry Keynote Lecture) Computational Methods in the Field of Aero Engines Director Structural Mechanics MTU Aero Engines AG, Germany

8

7 Venue and How to Get There

Important Note

The ICCCM 2025 will be held at the University of the Bundeswehr Munich (UniBw M), which serves as the academic home of Prof. Alexander Popp since 2018. UniBw M offers a unique academic environment that combines independent civilian research with the education of members of the German Armed Forces.

As the university is located on a military site, all participants must present a valid passport to gain entry. Entry is granted each day through a security gate, and all attendees, regardless of nationality, must pass through this checkpoint. For participants from certain countries, e.g., Russia, China, Iran, additional security protocols apply (the full list can be found on the conference website). In some cases, campus security may retain your passport during the day and return it when you leave. This procedure is part of the formal access control process, over which we unfortunately have no influence. It is not a reflection on you personally. Citizens from EU countries, Switzerland, the United Kingdom, the United States, and many others are not subject to these extended controls.

We have successfully hosted numerous events at UniBw M with international participants, including those from countries subject to extended procedures, without any issues. We ask for your understanding and cooperation with these formalities.

Arrival by Train and Airplane

Munich, located in the heart of Europe, is easily accessible by both train and air travel. The conference will be held at the University of the Bundeswehr Munich, situated on the outskirts of the city.

To reach the conference venue from the city center, the preferred route is to take either the U5 subway line or the S5 S-Bahn to "Neuperlach Süd" where you can also find the REVO Hotel.



Public Transport Tickets

Attendants with a Deutschland-Ticket

If you have the *Deutschland-Ticket*, you can just use the public transport in the whole city for free.

Attendants without a Deutschland-Ticket

Public transportation in Munich has so called zones (see the official homepage of the Munich public transport company for more information). The city center is all contained in zone (M) (including the City Walking Tour and the Conference Banquet). The university as well as the stop "Neuperlach Süd" (next subway and suburban train station) are both in zone (M). The most outward zone you will probably need is the airport in zone (5).

The price of the ticket is calculated based on how many of these zones you pass. There are different pricing options:

Zones traveled	M	M-5
Single Trip Ticket	4.10€	14.30€
Daily Ticket (Single)	9.70€	16.30€
Daily Ticket (Group: 2-5 persons)	18.70€	30.50€
Weekly Ticket	22.40€	75.90€

Recommendation:

- If you are arriving to Munich central station by train, participate in all social events, have your accommodation at the REVO München (or some other hotel close to the "Neuperlach Süd" station), and intend to come to the campus by bus (6 min ride from "Neuperlach Süd" to Universitätsstraße, Neubiberg), the weekly ticket for zone (1) is the best choice (22.40€).
- If you are coming by plane and arrive to Munich airport (MUC) we recommend to get a Single trip Ticket to your accommodation and get the weekly ticket for zone (M) afterwards.
- If you are traveling in a group of 3-5 persons we recommend to also check if the Daily Ticket (Group) is an option for you.

You can find further information on the homepage of the public transport provider. You can either get your ticket at a ticket machine or through the MVGO App:



Reaching the University Main Entrance

From "Neuperlach Süd", buses 199 or 217 will take you directly to the site, just board at "Neuperlach Süd" from bus platform 6 (under the bridge) and exit at "Universitätsstraße". The buses depart roughly every 10 minutes.

Alternatively, if you prefer a morning walk, the university is only a 15-20 minute stroll from "Neuperlach Süd."



Getting to the Conference Venue

Starting from the bus stop "Universitätsstraße" it is a short stroll to the main entrance of the campus from which our staff will show you the way.



8 Conference Information

Pre-Registration

Conference registration will start on Tuesday, July 1, during the Welcome Reception at the Italian Canteen in the REVO hotel (Carl-Wery-Straße 35, 81739 München) between 19.00 and 21.00.

Registration

You can register on-site and pick up the conference material at the Conference Registration Desk, in the conference venue. The registration will be open each day from 8:00-12:00.

The Registration Desk will also serve as Conference Office during the conference.

Presentations: Time

Each contributed talk will last 15 minutes plus 5 minutes for Q&A, and keynote lectures are allocated 35 minutes plus 5 minutes for Q&A.

Presentations: Equipment

Speakers are kindly requested to use their own laptop for presentations. Each session room is equipped with an LCD projector and HDMI connection. Please ensure that you bring your own adapter, if necessary. We strongly recommend saving a copy of your presentation on a USB drive as a backup.

Presentations: Session Rooms

Due to the exceptionally high number of participants at ICCCM 2025, part of the conference program will take place in two parallel session rooms:

- Session Room 1 (Main Hall): Keynote lectures / technical sessions.
- Session Room 2 (Neubiberg Room): Technical sessions.

Details on the presentation slots are provided under program.

Wireless Internet Access

A wireless internet connection is available at the conference venue with the following credentials: Network (SSID): UniBwM Username: km06casino Password: mbD+jGv7QkxE

Coffees & Lunches

All coffee breaks and lunches will be provided on-site at the conference venue.

Emergency Contact

In case of urgent matters during the conference, please feel free to contact us:

- Prof. Alexander Popp (Conference Chair): +491762281342249
- Dr.-Ing. Ivo Steinbrecher (Scientific Secretary): +4917647388831

9 Social Events & Locations

Tuesday, July 1st

7pm - Join us for a relaxed evening to kick off the conference.

The welcome reception will take place the evening before the official program begins and offers a chance to meet fellow participants, enjoy light refreshments, and settle in before the scientific sessions start.

It will be located at the REVO Hotel Munich, Carl-Wery-Straße 35, 81739 München.

Wednesday, July 2nd

6:30pm - Explore Munich's historic city center with a guided walking tour.

Discover key landmarks, hidden alleys, and the city's rich cultural heritage in a casual and informative setting. A great opportunity to see more of Munich while networking with other attendees.

The city walking tour will start at Odeonsplatz, with the meeting point located in front of the Feldherrnhalle. Odeonsplatz, 80539 München.

Thursday, July 3rd

8pm - *Experience traditional Bavarian hospitality at the iconic Hofbräuhaus München.*

Our conference banquet will be hosted in one of Munich's most famous beer halls, offering local cuisine, a festive atmosphere, and the perfect setting to round off the day's discussions.

It will take place at the Platzl 9, 80331 München.

10 Touristic Munich

As the largest city in Bavaria and the third largest city in Germany Munich offers lots of touristic attractions.

We hope to have covered the most basic touristic sites during the walking tour.

If you are further interested in touristic Munich we recommend to have a look at the website of the tourist information Munich at Marienplatz 8, 80331 München.









11 Scientific Program

Tuesday, 1 July

19:00	Welcome Reception and Registration (at REVO)

Wednesday, 2 July

8:00	Registration
9:00	Opening – Main Hall
Keynote 1 – Ma	in Hall – Chair: Popp, Alexander
9:30	Coupled chemo-mechano-thermodynamical contact
	Sauer, Roger A.*
Session 1 – Mai	in Hall – Chair: Popp, Alexander
10:10	On a structure preserving approach for frictional mortar contact
	Puso, Michael Anthony*
10:30	Contact Formulations for Multilevel Strategies
	Krause, Rolf*; Weiser, Martin
10:50	Coffee Break
Session 2 (parallel session) – Main Hall – Chair: Gay Neto, Alfredo	
11:20	On analytical integration of interaction potentials and their application in
	modeling interactions between fibers with circular cross sections
	Borković, Aleksandar*; Gfrerer, Michael H.; Sauer, Roger A.
11:40	Mortar-type finite element formulations for mixed-dimensional beam-to-
	solid contact interaction
	Steinbrecher, Ivo*; Popp, Alexander
12:00	Equality-based weighted residual formulation for the forced vibration of a
	beam with an attached friction damper
	Hashemi, Arash; Pierre, Christophe*; Legrand, Mathias
12:20	Interaction of a filter made of continuous fibers in multiplicative contact with
	Krier, Maxime*; Orlik, Julia; Neusius, David; Steiner, Konrad
Session 2 (para	Ilel session) – Neubiberg Room – Chair: Krause, Rolf
11:20	Acceleration of Contact Mechanics Simulations in FEM Using Hierarchical
44.40	Boye, Yanya [*] ; Chailiat, Stephanie; Bleyer, Jeremy; Yastrebov, Vladislav
11:40	Contact Mechanics of a Partially Lifted Plate in Pulsatile Flow
10.00	Nanouroikar, Vijay"; Harish, Ajay
12:00	Modelling of multiple coupled normal and tangential contacts, application
	to the simulation of axial blade/disk attachments
	Kabondo Kashala, Ben"; Platzer, Auriane; Duvai, Arnaud; Casaliggi, Pas-
10.00	cal; Chalse, Thibau"; Nellas, Dahlel
12:20	A Generalized Electromechanical Framework for Intestinal Motility: Incor-
	poraling Self-Contact Disumsosi Doné Thistrut Longredo, District Cissi, Alassia, Dagrei Marsa
10-10	Djournessi, Hene Thierry"; Lenarda, Pietro; Gizzi, Alessio; Paggi, Marco
12:40	LUNCN

Keynote 2 – Ma	Keynote 2 – Main Hall – Chair: Sauer, Roger A.	
13:40	Numerical solutions of the Coulomb friction contact problem from the per-	
	spective of optimisation and mathematical programming	
	Acary, Vincent*	
Session 3 – Mai	in Hall – Chair: Sauer, Roger A.	
14:20	The Shifted Boundary Method for contact problems	
	Li, Kangan; Gorgi, Andrea; Rossi, Riccardo; Scovazzi, Guglielmo*	
14:40	A simple geometrical approach for augmentation of the contact penalty so-	
	lution	
	Zavarise, Giorgio*	
15:00	Coffee Break	
Session 4 (parallel session) – Main Hall – Chair: Puso, Michael		
15:30	Physics-based machine learning for forward and inverse problems in con-	
	tact mechanics	
	Wolff, Daniel*; Sahin, Tarik; Popp, Alexander	
15:50	Toward Real-Time Prediction of Adhesion in Viscoelastic Substrates with	
	Physics-Augmented Machine Learning	
	Maghami, Ali*; Stender, Merten; Papangelo, Antonio	
16:10	Solving unilateral problems using physics informed neural networks	
	Drosopoulos, Georgios*; Mouratidou, Aliki; Stavroulakis, Georgios E.	
Session 4 (para	Ilel session) – Neubiberg Room – Chair: Acary, Vincent	
15:30	Small-Sliding Beam-to-beam Frictional Contact Formulation for Large Ro-	
	tations	
	Aït Ammar, Karim*; Guidault, Pierre-Alain; Boucard, Pierre-Alain; Said,	
	Julien; Hafid, Fikri	
15:50	Nitsche-Based models for the unilateral contact of beams	
	Schorsch, Matthieu*; Renard, Yves; Dureisseix, David; Elguedj, Thomas;	
	Pozzolini, Cédric	
16:10	A Robust Curve-based Collision Detection Algorithm	
	Dai, Xu; Kövecses, József; Teichmann, Marek; Lou, Qingfeng*	
18:30	City walking tour	

Thursday, 3 July

8:00	Registration
Keynote 3 – Ma	in Hall – Chair: Zavarise, Giorgio
8:30	On the master-master contact approach: basis, applications and perspec-
	tives
	Gay Neto, Alfredo*
Session 5 – Ma	in Hall – Chair: Zavarise, Giorgio
9:10	Modeling sliding nonlinear viscoelastic contact in large deformation : the
	input of new experimental set ups
	Le Tallec, Patrick*; de Lorenzo, Matheus; Lopez-Pamies, Oscar; Bussetta,
	Philippe
9:30	Two-scale modelling of fluid flow in poroelastic media with self-contact in
	micropores
	Rohan, Eduard*; Heczko, Jan
9:50	Control of the accuracy and improvement of the convergence rate of a
	LATIN-based multiscale strategy for frictional contact problems
10-10	Zeka, Donald; Guidault, Pierre-Alain*; Neron, David; Guiton, Martin
10:10	Efficient Treatment of Stochastic Contact Problems via Model Order Re-
	duciion Zhang Zhihagi Nagkanharat Uda*
10.20	Coffee Breek
TU.JU Soccion 6 (nara	Ulal sossion) Main Hall Chair: Sooyazzi Guglialma
	Roundary element methods for electedynamic contact
11.00	Gimperlein Heiko*
11.20	Hyper-dimensional gap finite elements for the enforcement of frictionless
	contact constraints
	Giffin. Brian Doran*
11:40	A novel frictionless contact method for planar flexible bodies
	Cammarata, Alessandro*; Maddio, Pietro Davide; Sinatra, Rosario
12:00	A priori error analysis of a dual-dual formulation for contact problems with
	friction
	Stephan, Ernst Peter*
Session 6 (para	Ilel session) – Neubiberg Room – Chair: Shvarts, Andrei
11:00	A numerical approach to model transfer film formation within a mortar-
	based framework
	Silva Sabino, Tiago Rui*; Couto Carneiro, António Manuel; Pinto Carvalho,
	Rodrigo; Couto Carneiro, Francisco Manuel
11:20	Impact of modified mass matrices and temporal discretization of contact
	forces in implicit contact dynamics finite element analysis
	Perreira Rocha, Paulo Ricardo"; Couto Carneiro, Antonio Manuel; Andrade
11.40	Pires, Francisco Manuel
11:40	Strategy to address pointwise contact problems with non-convex bodies
	da Silva, Lucas*: Cav Note, Alfrede
12.00	Evoloring the virtual element method for frictionless penalty-based Node-
12.00	to-Surface contact
	Moherdaui Tiago Fernandes*: Gay Neto Alfredo
12.20	Izawa and Beturn Map Solvers for Poromechanics with Fracture Contact
	Mechanics
	Nevland, Marius*; Berre, Inga: Keilegavlen, Eirik: Both, Jakub Wiktor
	ivevianu, iviarius"; Berre, Inga; Keilegavien, Eirik; Both, Jakub Wiktor

12:40	Lunch
Keynote 4 – Ma	in Hall – Chair: Le Tallec, Patrick
13:40	Boundary and Finite Element Methods for Contact Mechanics at the
	Roughness Scale
	Yastrebov, Vladislav*
Session 7 (para	llel session) – Main Hall – Chair: Le Tallec, Patrick
14:20	Arbitrary Order Contact Formulation Tailored for Exact Schur Complement
	Preconditioner
	Shvarts, Andrei*; Athanasiadis, Ignatios; Lewandowski, Karol; Runcie, Cal-
	lum; Williams, Ross; McBride, Andrew; Steinmann, Paul; Pearce, Chris;
	Kaczmarczyk, Lukasz
14:40	A scalable two-level preconditioner for efficient Newton-based interior-point
	solvers in large-scale contact mechanics
	Hartland, Tucker; Kolev, Tzanio; Lee, Chak; Petra, Cosmin; Petrides,
	Socratis; Puso, Michael*; Solberg, Jerome; Wang, Jingyi
15:00	Shifted-Penalty Multigrid Method for Contact
	Zulian, Patrick*; Kothari, Hardik; Nelson, Austen; Vassilevski, Panayot;
/	Krause, Rolf
Session 7 (para	liel session) – Neubiberg Room – Chair: Wolff, Daniel
14:20	Identification of Non-Smooth Differential Equations Using Artificial Intelli-
	gence Methods
14-40	Adiouane, Mustapha [*] ; Pozzolini, Cedri [*] ; Grenat, Clemen [*]
14:40	A proper discretization for ML-optimizing the electrical contact resistance
	of random carbon fiber networks
	Roman, Victor"; Valtiner, Markus; Gkagkas, Konstantinos; Asouti, Varvara;
15.00	Vernes, Anuras
15:00	Graph Neural Networks for Local Contact Search
	Gautam Sachin
15.20	Coffee Break
Session 8 (nara	Ilel session) – Main Hall – Chair: Vastreboy, Vladislav
15.50	A Finite Element Approach to Contact Problems with Boughness
10.00	Bonari Jacopo* Marulli Maria Bosaria: Paggi Marco
16.10	Computational implementation and numerical applications of novel models
10.10	for homogenisation of contact between rough surfaces
	Couto Carneiro, António Manuel*: Pinto Carvalho, Rodrigo: de Souza Neto.
	Eduardo A.: Andrade Pires. Francisco Manuel
16:30	A multi-scale FEM-BEM framework for rough surface contact
	Shaw, Rishav*; Steinbrecher, Ivo; Bonari, Jacopo; Mayr, Matthias; Popp,
	Alexander
16:50	FFT-based Semi-Analytical Method (SAM) for the modeling of periodic
	rough viscoelastic contact
	Durand, Nicolas*; Chaise, Thibaut; Platzer, Auriane; Duval, Arnaud; Nélias,
	Daniel; Martzel, Nicolas
17:10	Pressure distribution solutions for 2D rough surfaces
	Marzoug, Abdellah*; Chaise, Thibaut; Raoult, Ida; Ye, William; Duval, Ar-
	naud; Nelias, Daniel
17:30	Size-dependent contact thermomechanics
	Hadjesfandiari, Alireza*; Hajesfandiari, Arezoo; Dargush, Gary F.
Session 8 (para	llel session) – Neubiberg Room – Chair: Kövecses, József

15:50	Understanding the role of friction modelling in the dynamics of a planar mechatronic system
	Hajžman, Michal*; Bulín, Radek; Kraus, Karel; Hrabačka, Martin; Šika, Zbyněk
16:10	A unified formalism for various types of materials and deformations: Its application to contact mechanics <i>Hwu, Chyanbin*</i>
16:30	An equality-based frequency domain formulation for the fretting wear of vibrating structures with frictional contact <i>McDonald, Sebastian Benedict; Legrand, Mathias; Pierre, Christophe</i> *
16:50	POD-Galerkin and hyperreduction methods for assembly simulations of air- frame components <i>Nikiema, Pouloumdé*; Denis, Vivien; Matzke, Florian; Mencik, Jean-</i> <i>Mathieu; Veen, Sjoerd Van Der; González, Sergio</i>
17:10	A Study of a Novel Bipenalty Formulation for Contact-Impact Problems Kwon, Yun-Jae*; Cho, Sang Soon; González, José A.; Kim, Jin-Gyun
17:30	An adaptive NURBS contact enrichment technique for accurate and effi- cient 2D contact simulations <i>Das, Sumit Kumar; Gaidu, Devraj Singh; Gautam, Sachin Singh</i> *
20:00	Conference Banquet

Friday, 4 July

8:00	Registration
Keynote 5 & 6 (Industry Keynotes) – Main Hall – Chair: Popp, Alexander
8:30	Solving Large-Scale Contact Applications: Challenges & State of the Art
	Zhu, Yongyi*
9:10	Computational Methods in the Field of Aero Engines
	Hackenberg, Hans-Peter*
Session 9 – Ma	in Hall – Chair: Gee, Michael W.
9:50	Thermal and electrical contact models for granular materials
	Rojek, Jerzy*; Nisar, Fatima; Nosewicz, Szymopn; Kaszyca, Kamil;
	Chmielewski, Marcin
10:10	Eulerian-Based Rigid Body Dynamics: A New Perspective
	Solanillas Francés, David Manuel; Kövecses, József*
10:30	Hybridised mixed formulation of contact in large deformations
	Kaczmarczyk, Lukasz*; Schvarts, Andrei
10:50	Coffee Break
Session 10 (par	allel session) – Main Hall – Chair: Rojek, Jerzy
11:20	Influence of shear on adhesive contacts
	Li, Qiang*; Popov, Valentin L.
11:40	The Application of Explicit Dynamics with Massless Contact to Damping
	Problems
	Dhondt, Guido Dominique*
12:00	Structural cohesive element - modelling the cohesive zone inside the ele-
	ment domain for coarse-mesh simulation of delamination
	Ai, Xiaopeng; Chen, Boyang*; Kassapoglou, Christos
12:20	Boundary / Finite Element Methods and Regularization Methods for the
	Numerical Solution of Nonmonotone Contact Problems
	Ovcharova, Nina*; Gwinner, Joachim
Session 10 (par	allel session) – Neubiberg Room – Chair: Kaczmarczyk, Lukasz
11:20	Adjoint-based sensitivity analysis in 3D finite deformation mortar frictional
	Contact problems for all types of contact regularization
11.40	Rinderer, Lukas, Gee, Michael W.
11:40	Billon Moritz*: Hostore Norbert
12.00	Billeri, Morriz , Hosters, Norbert
12.00	Doppelbauer Leophard Kilian*: Humer Alexander: Pechetein Astrid:
	Krommer Michael
12.20	An Embedded Mesh Approach for Coupling Isogeometric and Cartesian
12.20	Meshes for Contact Problems
	Loera Villeda, Eugenia Gabriela*: Steinbrecher, Ivo: Popp, Alexander
12:40	Lunch
Session 11 (par	allel session) – Main Hall – Chair: Popp, Alexander
13:40	Overset Mesh Method for Arbitrary Lagrangian Eulerian Contact on Un-
	structured General Polyhedral Meshes
	Vaughn-Kukura, Nathan*: Shashkov, Mikhail: Kenamond, Mack: Buechler,
	Miles
14:00	Best practices for modeling contact between fan blades and abradable rub
	strip in turbofan engines using three numerical methods: FEM, SPH, and
	adaptive FEM-SPH
	Cherniaev, Aleksandr*

14:20	Parallel Finite Element Crush Simulation for Battery Pack Casing of Electric
	Vehicles
	Okuda, Hiroshi*; Hayashi, Masae
14:40	Adhesion modelling in wheel-rail contact under friction modifier
	Myśliński, Andrzej*; Chudzikiewicz, Andrzej
15:00	Solving systems with frictional contact and elasto-plastic behavior for use
	in rockfall protection net simulation
	Eberhardt, Lisa*; Breuling, Jonas; Leine, Remco I.
15:20	Contact in dynamic beam model at the example of soft robots
	Berthold, Rebecca*
Session 11 (parallel session) – Neubiberg Room – Chair: Steinbrecher, Ivo	
13:40	An approach to model the influence of hydrodynamics on wet grinding
	Thunich, Paul*; Tong, Yan; Müller, Michael
14:00	An Augmented-Lagrangian approach for contact-friction in an open-source
	industrial-grade code
	Agouzal, Eki*; Abbas, Mickael; Tardieu, Nicolas
14:20	Investigating the effect of friction coefficient on the material properties of
	spruce wood in three-point bending test using a displacement-driven con-
	tact approach
	Rahmi, Diah Puspita*; Fleischhauer, Robert; Kaliske, Michael
14:40	Finite Element Implementation of an Adhesive Contact Law for Fine-
	Grained Soil
	Surya-Narayanan, Megha*; Schroeder, Maximilian; Milatz, Marius; Grabe,
	Jürgen
15:00	Atomistic-Continuum Framework for Simulating the Sliding Behavior of
	Graphene
	Yadav, Gourav*; Gupta, Shakti S.; Sauer, Roger A.
15:20	Investigations on electrical contact performance of axially canted coil
	springs used in heavy duty connectors
	Zhang, Chao*; Wei, Lai; Ren, Wanbin; Liu, Jian
15:40	Closing
15:50	Coffee Break

