TUESDAY 25 SEPTEMBER

08:45 - 09:15 Introduction to the special session in memory of K.L. Johnson. Session Chair: Stuart Grassie

09:15 - 9:45 Anders Ekberg and Björn Pålsson. THE ROLE OF CONTACT MECHANICS IN MULTISCALE MODELLING OF TRAIN–TRACK INTERACTION PHENOMENA

9:45 - 10:15 Robert Fröhling, Ulrich Spangenberg and Eduard Reittm. LOCOMOTIVE WHEEL TREAD POLYGONISATION CAUSED BY TORSIONAL AXLE SHAFT VIBRATION

10:15 - 10:45 Coffee break

10:45 - 11:00 Introduction to the special session in memory of J.J. Kalker. Session Chair: Zili Li

11:00 - 11:30 Irina Goryacheva and Almira Miftakhova. MODELLING OF THE VISCOELASTIC LAYER EFFECT IN ROLLING CONTACT

11:30 - 12:00 Sebastian Stichel, Carlos Casanueva, Mats Berg, Saeed Hossein Nia. WEAR AND RCF PREDICTION BASED ON IMPROVED CONTACT MECHANICS MODELLING

POSTER SESSION

12:00 - 14:45

Category 1: Wheel–Rail Interaction and Tribology

Shaoqiang Zhu, Xianju Huang and Beichen Liu. STUDY ON THE HIGH FREQUENCY MINOR VIBRATION AND ITS MITIGATION MEASURES OF SERVICE ENVIROMENTS

Dial Chen, Gang Shen and Bichen Chen. OPTIMIZATION OF RAIL GRINDING PROFILES IN SWITCH PANELS OF TURNOUT BASED ON CONTACT STRESS ANALYSIS

Huiping Fu, Maozhi Hou, Zhongpeng Feng and Xing Fang. A STUDY OF THE WHEEL WEAR ON SHARP CURVES IN ENVIROMENTAL DEPOT ENVIRONMENT


Juniun Ding, Yinhua Huang and Junping Wang. EFFECT OF WHEEL HOLLOW WEAR ON FREIGHT TRAINS’ DYNAMICAL PERFORMANCE AND RCF AND RCF DAMAGE EVALUATION

Elsa Butin, Lorenzo Marr, Martina Maccio, Enrico Meli and Andrea Rindi. DEVELOPMENT OF AN INNOVATIVE TOOL FOR SIMULTANEOUS WHEEL AND RAIL WEAR AND RCF DAMAGE EVALUATION

Yao Qian, Ping Wang, Jingmang Xu, Rong Chen and Li Wang. WEAR ASSESSMENT OF TURNOUT SWITCH PANELS AT HIGH-SPEED RAILWAY, CONSIDERING CREEP CHARACTERISTICS

Hiromi Tanaka and Masahisa Mino. MODELING OF RAIL SURFACE ROUGHNESS GROWTH AND ECONOMICALLY OPTIMAL GRINDING METHOD FOR RAIL CORROSION

Pu Wang, Shuping Wang, Wei Li and Dazhao Shi. STUDY ON WHEEL WEAR PREDICTION AND FRICTION CONTROL FOR HIGH-HAUL RAILWAY

Category 2: Wheel–Rail Contact

Xiao Xu, Weidong Wang, Xing Fang, Jinhuo Liu and Shenchao Sun. A SYNCHRO-SQUEEZED STFT METHOD FOR CORROSION CHARACTERISTIC EXTRACTION OF AXLE BOX ACCELERATION

Maorui Hou, Xiaoyu Hu and Di Cheng. OPTIMAL DESIGN OF WHEELSET GUIDANCE STIFFNESS FOR HIGH-SPEED PASSENGER CAR

Bowen Wu, Guangxiong Chen, Kianam Zhao, Jinghuo Lu, Qi Zhu, Xi Kang and Huajiang Yang. FORMATION MECHANISM AND COUNTERMEASURES OF RAIL CORROSION AT A TIGHT CURVED METRO TRACK WITH VARIOUS FRICTION LEVELS

Andrea Bracciali and Gianluca Megna. TRACK FRIENDLINESS OF AN INNOVATIVE FREIGHT BOGIE DESIGN

Yan Sun, Qing Wu, Maksym Spiryagin and Colin Cole. INVESTIGATION ON WHEEL–RAIL CONTACT BEHAVIOURS AND TRACK DAMAGE DUE TO TRACK COMPONENT DEFECTIONS

Han Leng, Huijie Wang and Lihu Ren. DYNAMIC RESPONSE OF A TRANSPORT RCF COUPLED WHEELSET

Ping Wang, Yuan Gao, Jingmang Xu, Boyang An, Rong Chen and Jiyuan Chen. SIMPLIFIED FINITE ELEMENT METHOD FOR EVALUATING THE INFLUENCE OF FLANGE BEARING FROG CROSSING ON WHEEL WEAR

Category 3: Function of measurement

Angelo Mazza, Andrea Ghidini, Nicola Zani and Nicole Facchini. STUDY OF WHEEL/RAIL MATERIAL COUPLING IN PRESENCE OF SOLID CONTAMINANTS

Jinhuo Liu, Xing Fang, Maosun Zhang, Shenchao Sun and Xiaoyu Hu. DYNAMIC INSPECTION METHOD FOR HIGH-SPEED RAILWAY SHORT-TERM VELOCITY BASED ON VEHICLE DYNAMIC RESPONSE

Shinya Fukagai, Henry Brunski, Andrew Hunter, Rob Dryer-Joyce and Tarek Zaki. MEASUREMENT OF ROLLING-SLIDING WHEEL/RAIL CONTACT CONDITION USING SMALL SCALE ROLLER RIG WITH ULTRASONIC

Ben White and Roger Lewis. THE DEVELOPMENT OF A TRACTION GBL ASSESSMENT METHODOLOGY

Maria Meacci, Zhong Shu, Elisa Butini, Lorenzo Marr, Enrico Meli and Andrea Rindi. A NEW LOCAL DEGRADED ADHESION MODEL FOR RAILWAY APPLICATIONS INCLUDING ENERGY DISSIPATION AND ADHESION

Daisuke Yamamoto. CHARACTERISTICS OF TANGENTIAL FORCE AT THE WHEEL/RAIL INTERFACE UNDER NON-STEADY SLIP RATIO

Donald Edie, Harold Harrison, Rui Sun, Roger Lewis, Alexander Kaye and Nicholas Wilson. FIELD ASSESSMENT OF CORROSION AND CREPAGEN WITH A NEW TRIBOMETER


Jianbin Wang, Chunchen Song, Sheng Qu, Dadi Li, Huanyun Dai, Pengbo Fan and Jing Zeng. A NONDESTRUCTIVE INSTRUMENTED WHEELSET SYSTEM FOR CONTACT FORCES MEASUREMENTS
**Category 1: Poligonisation and 10:00 - 11:00**

**11:00 - 11:15**
- Fengshou Liu, Guang Yang, Chuang Li, Shaobo Feng, Liu, Olivier Chételat, Jean-François Boitier. **WEAR RULES AND PROFILE CHANGES OF HIGH-SPEED RAILWAY RAIL IN CHINA**

**11:15 - 11:30**
- Anreza Alemi, Yousuf Pang and Gabriel Lodewijks. **WEAR EVOLUTION IN WHEEL–RAIL CONTACT PROBLEMS USING DISSIPATED ENERGY APPROACH**

**11:30 - 11:45**
- Nirmal Kumar Mandal. **STRESS ANALYSIS OF STRESS ANALYSIS OF INFLUENCE OF RESILIENT WHEEL CONTACT SOLUTION AT RAIL WELD USING A DYNAMIC FINITE ELEMENT MODEL**

**11:45 - 12:00**
- Brice Nelain, Nicolas Vincent, Stephane Teppe, Emmanuel Reynaud, Adnaf El Zekian and Emmanuel Laurens. **RAIL JUMP DYNAMIC FORCES COMPUTATION**

**12:00 - 12:15**
- Nirmal Kumar Murali. **STRESS ANALYSIS OF JOINT BARS OF INSULATED RAIL JOINTS DUE TO WHEEL/RAIL CONTACT LOADINGS**

**ROOM 2**

**12:15 - 13:30**
- Handeep Singh Wala, Tori Vermersson, Roger Lundén, Fredrik Blennow and Marcus Henzel. **TEMPERATURES AND WEAR AT RAILWAY TREAD BRAKING: FIELD EXPERIMENTS AND SIMULATIONS**

**13:30 - 13:45**
- Shuai Chen, Guangyu Zhao, Mengyu Wang, Gongqiang Tan, Zefeng Wen and Lai Wu. **STUDY OF WHEEL WEAR INFLUENCED BY TREAD TEMPERATURE RISING DURING BRAKING**

**13:45 - 14:00**
- Boyang An, Ping Wang, Daolin Ma, Jinming Xu, Rong Chen, Bing Wu and Hongjun Liang. **ELASTIC–PLASTIC WHEEL/RAIL ROLLING CONTACT SOLUTION AT RAIL WELD USING A DYNAMIC FINITE ELEMENT MODEL**

**14:00 - 14:15**
- Brice Nelain, Nicolas Vincent, Stephane Teppe, Emmanuel Reynaud, Adnaf El Zekian and Emmanuel Laurens. **RAIL JUMP DYNAMIC FORCES COMPUTATION**

**14:15 - 15:30**
- Xiaoping Wu, Peidi Wen, Chengcheng Gao, Xianwei Du and Keyuan Shi. **RESEARCH ON MECHANISM AND CONTROL METHOD OF WHEEL/RAIL NOISE**

**15:30 - 15:45**
- Paul Meehan and Daolin Ma. **PREDICTION OF INSTANTANEOUS ROLLING CONTACT MODIFIERS BASED ON INSTANTANEOUS ROLLING CONTACT MECHANICS**

**15:45 - 16:00**
- Xin Zhou, Xin Zhai, Bing Wu, Yue Zhao and Xuesong Jin. **APPLICATION OF RELIABLE WHEEL ON DYNAMIC CHARACTERISTICS OF METRO WHEEL/RAIL SYSTEM UNDER WHEEL FLAT CORRUPTION EXCITATION**

**16:00 - 17:15**
- Ali Esmaili, Mohammad Strobel, Rolf Schick and Jianfei An. **ROLLING CONTACT INDUCED FATIGUE FAILURE IN METRO RAIL 추천**

**17:15 - 18:30**
- Martin Henschel, Nico Burgelman. **ROLLING CONTACT FATIGUE DAMAGE FUNCTION DEVELOPMENT FROM TWO-DECK TEST DATA**

**18:00 - 19:00**
- Elena Kabo, Anders Elberg and Michele Maglio. **ROLLING CONTACT FATIGUE ASSESSMENT OF RAIL WELDS**

**19:00 - 19:15**
- Yongfeng Liu, Tao Jiang, Xin Zhao, Zuofeng Wu and Shuiliang Wang. **ON THE WHEEL ROLLING CONTACT FATIGUE OF HIGH POWER AC LOCOMOTIVES RUNNING IN COMPLICATED ENVIRONMENTS**

**19:15 - 20:30**
- Martin Henschel and Nico Burgelman. **ROLLING CONTACT FATIGUE: DAMAGE FUNCTION DEVELOPMENT FROM TWO-DECK TEST DATA**
17:00 - 18:00 Closing Ceremony by Prof. Zili Li and Prof. Rolf Dollevoet
18:00 - 19:30 Network drinks

THURSDAY 27 SEPTEMBER

09:00 - 12:30 Technical tours TU Delft Campus
12:30 - 14:00 Lunch