

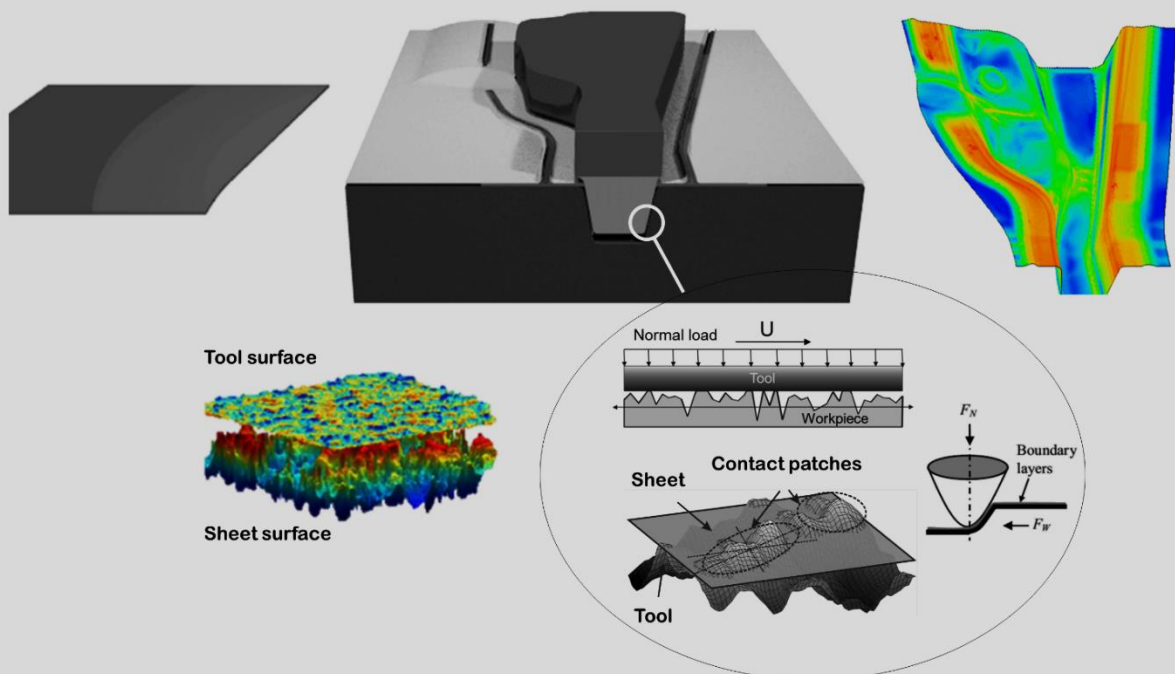


# Invitation

Course on “Fundamentals of Tribology in Sheet Metal Forming”

**Date:** 19 & 20 November 2018

**Location:** UNIVERSITY OF TWENTE.

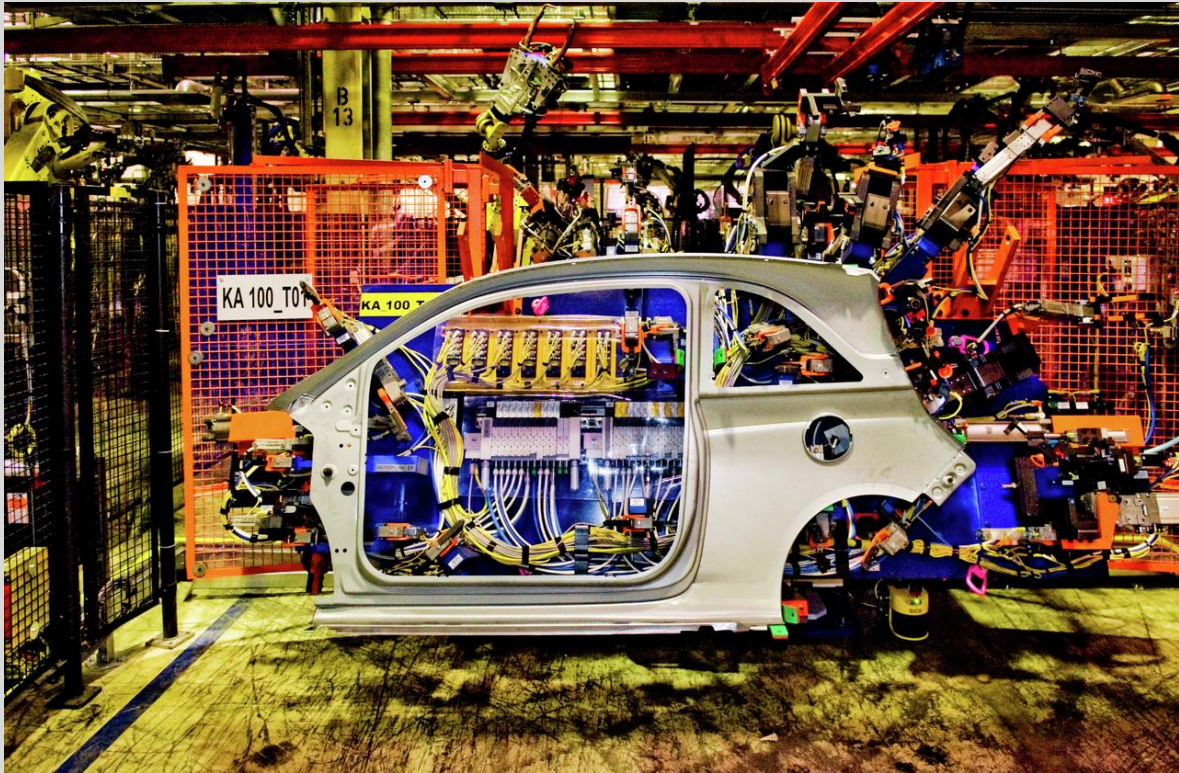


## Topics:

- Fundamentals of tribology
- Tribology in sheet metal forming

*Contact conditions; Friction mechanisms in deep drawing processes: adhesion, ploughing, lubrication regimes; classical friction tests; Flattening due to normal loading and sliding; surface roughness evolution due to plastic deformation; Wear mode diagram; Single asperity ploughing model; Slip-line field theory; Temperature effects*

- Introduction to metal plasticity  
*Yield functions; Strain hardening postulates; Large deformations; Forming limit diagrams*
- Advanced friction models in sheet metal forming and implementation in FEM
- Tribology Lab tour
- Workshop: Implementation of advanced friction model in sheet metal forming simulations



### Program, 19-11-2018

### Lecturers

8.00	Registration	
9.00	Fundamentals of tribology	Prof. em. Dr. Ir. Jean-Pierre Celis
10.45	Break	
11.15	Tribology in sheet metal forming (1)	Dr.ir. Matthijn de Rooij
12.00	Lunch	
13.00	Tribology in sheet metal forming (2)	Dr.ir. Matthijn de Rooij
14.45	Break	
15.15	Introduction to metal plasticity	Prof.dr.ir. Ton van den Boogaard

### Program, 20-11-2018

### Lecturers

8.00	Advanced friction models in sheet metal forming and implementation in FEM	Prof.dr.ir. Ton van den Boogaard Dr. Javad Hazrati
9.45	Break	
10.15	Lab tour	Dr.ir. Matthijn de Rooij Dr. Javad Hazrati
12.00	Lunch	
13.00	Workshop: Simulating cold stamping process using the advanced friction model	dr.ir. Jesus Mediavilla Varas

### Registration

#### Target group

MSc and PhD students, Researchers

Link for registration via **e-mail**.

Please send your name, e-mail and phone number. The registrations will be formalized by phone.