

# KISSsoft Live Stream Training

Special: Calculation of Bevel and Hypoid gears

September 26 – 29, 2022



The below schedule is shown in time zone CET 02:00 pm – 06:00 pm (Brussels)

### Session 1: September 26, 2022

02:00 – 02:15	Welcome
02:15 – 03:25	Cutting methods for straight and helical bevel gears Cutting methods Face Hobbing, Face Milling and its specialties
03:25 – 03:40	Break
03:40 – 05:00	Calculation of geometry according to ISO 23509
05:00 – 06:00	<b>Exercises: Input from a Gleason dimension sheet</b>

### Session 2: September 27, 2022

02:00 – 03:40	Strength calculation according to different standards such as ISO 10300, AGMA, etc.
03:40 – 03:55	Break
03:55 – 05:00	Other calculations such as scuffing, flank fracture, efficiency, etc.
<b>05:00 – 06:00</b>	<b>Exercises: Bevel gear strength calculation</b>

### Session 3: September 28, 2022

02:00 – 03:40	Design of spiral bevel and hypoid gears
03:40 – 03:55	Break
03:55 – 05:00	Sizing for strength and noise
05:00 – 05:30	Differential bevel gears
<b>05:30 – 06:00</b>	<b>Exercises: Sizing of a hypoid gear pair</b>

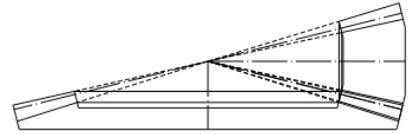
### Session 4: September 29, 2022

02:00 – 02:15	Exercise follow up
02:10 – 03:40	Contact analysis and micro geometry
03:40 – 03:55	Break
03:55 – 04:30	Manufacturing processes
<b>04:30 – 05:00</b>	<b>Exercises: Topological modification and measurement grid</b>
05:00 – 05:30	Bevel gears in transmissions
05:30 – 06:00	<b>Exercises: EPG and contact analysis</b>

# Training Scope

## Cutting Methods and Geometry

- Cutting methods for straight and helical bevel gears
- Cutting methods Face Hobbing, Face Milling and its specialties
- Different cone for bevel and hypoid gears
- Calculation of geometry, virtual cylindrical gear

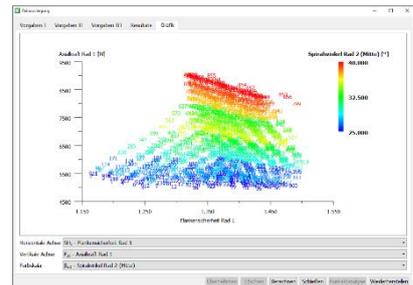


## Strength Calculation

- Strength calculation according to different standards
- Scuffing according to ISO/DTS 10300-20
- Flank fracture according to ISO/DTR 19042

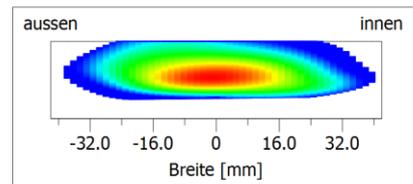
## Design of Bevel Gears

- Rough sizing, relevant parameters
- Fine sizing, optimization of bevel and hypoid gears
- Microgeometry



## Contact Analysis

- Determination of EPG displacement with KISSsys
- Contact analysis, contact pattern and transmission error
- Optimization using gear modifications



## Processes

- Design processes for conventional manufacturing (GEMS®) and 5-Axis milling
- Generating 3D models, check of contact lines
- Topological modifications

## Bevel gears in transmissions

- Bevel and hypoid gears in KISSsys models
- Rear axle, industrial gear boxes, etc.
- Calculation of EPG values

