Online introduction

My background and a brief introduction to my research project

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Design for *IGA*-type
discretization workflows

Funded by the
European Union

Background

- Diploma of Mechanical Engineering at Aristotle University of Thessaloniki (AUTh)
- Thesis project: Finite element simulation of test benches for durability testing of automotive leaf springs under multiaxial operational fatigue loading.

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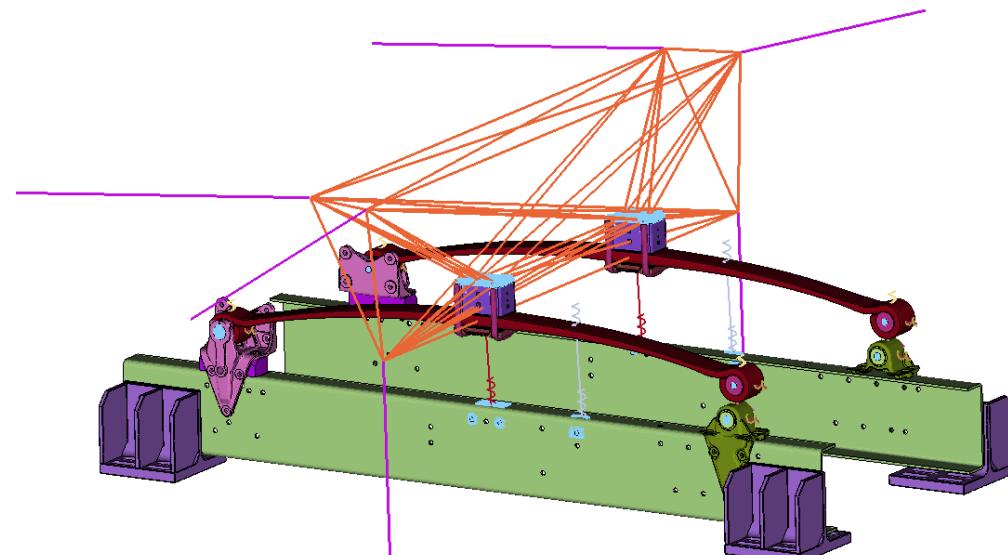

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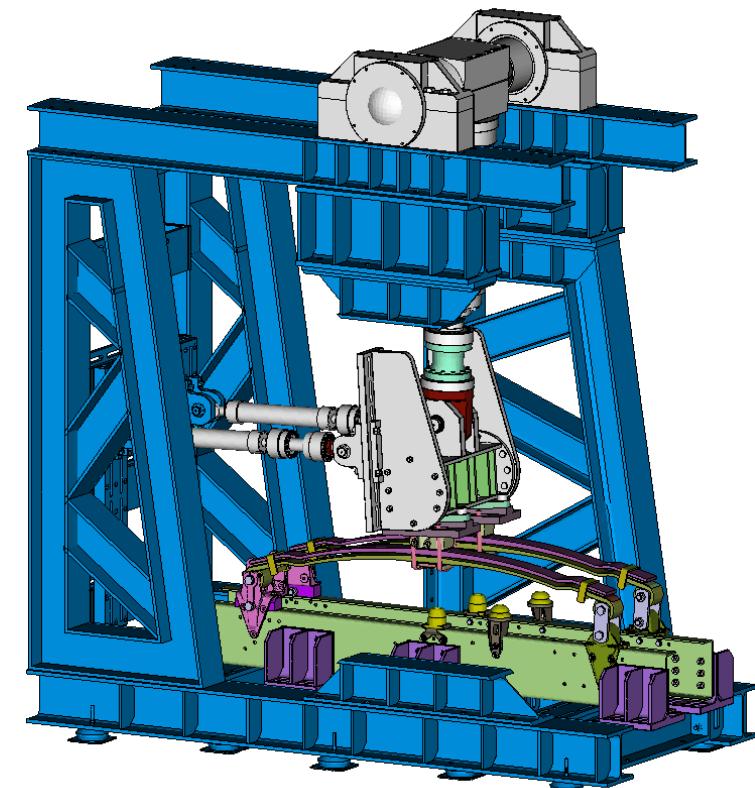
Background

- Intern at BETA CAE Systems (automated software testing – scripting API documentation for META post-processor)
- Research Projects at the Lab of Machine Elements and Machine Design (AUTh)
- EU funded project and MAN
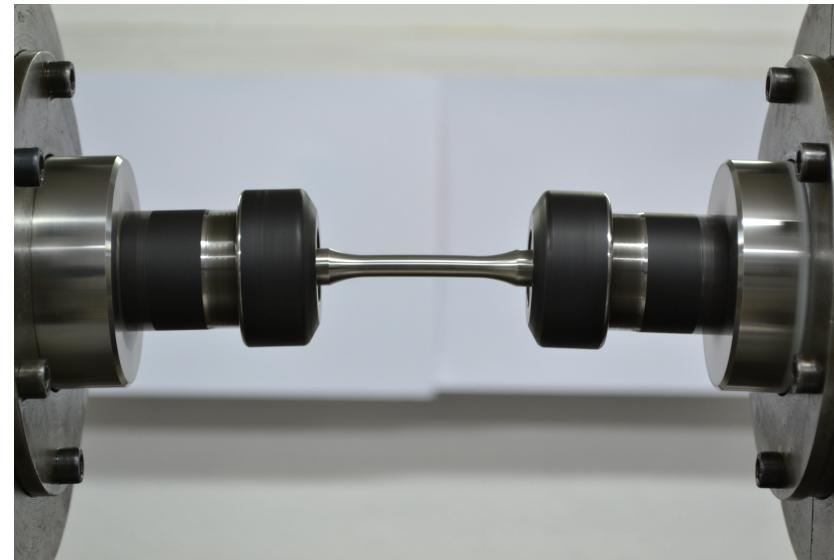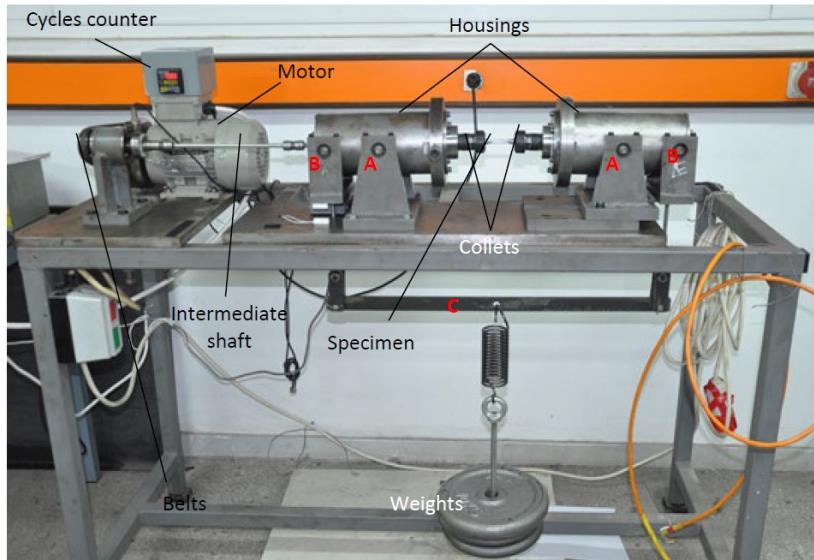
Rotating bending (LMEMD – AUTh)

Uniaxial tension - compression
(LMEMD – AUTh)

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Background

- Research Projects at the Lab of Machine Elements and Machine Design (AUTh)
- Schaeffler Aerospace (Tribological testing – Development of cracks in integrated roller bearings)
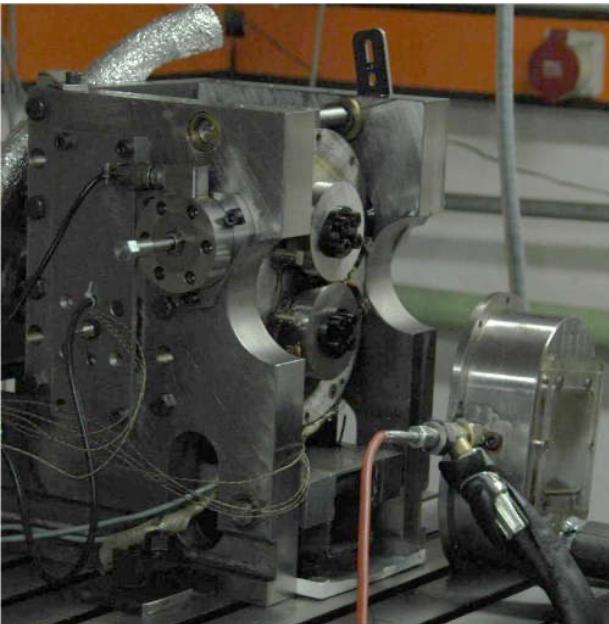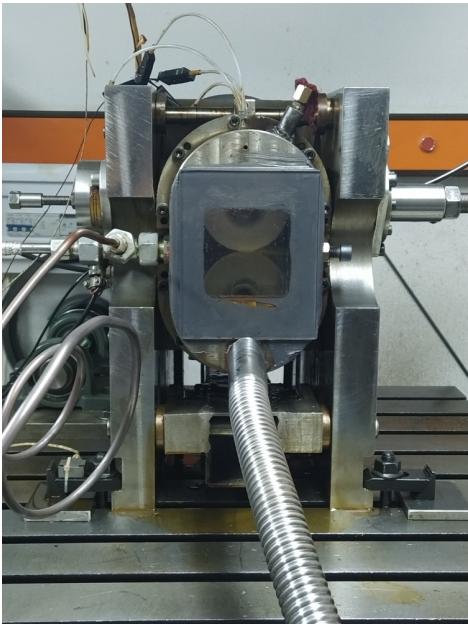

Two Disk Test Rig (LMEMD – AUTh)
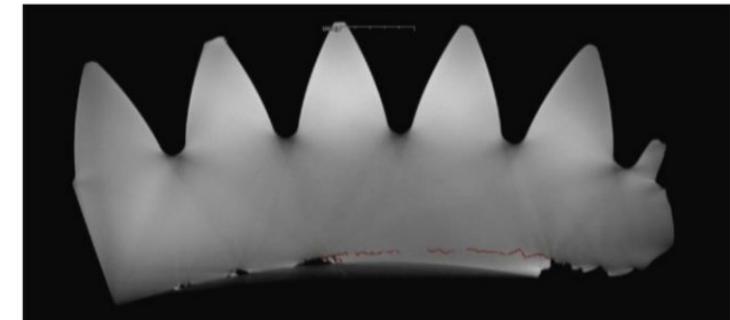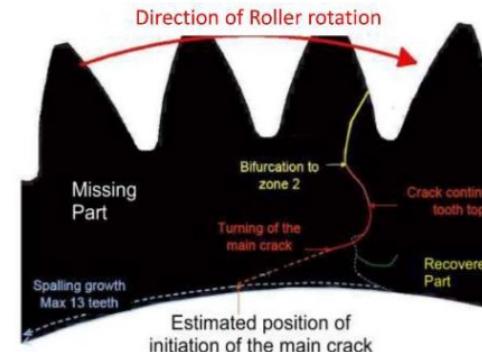
Figure 77: Stress model estimation of crack growth from the G-REDL accident to the left (Source: Airbus Helicopters) compared with the CT scan from the LN-OJF gear with the crack in red (Photo: CT-scan from AIBN/Southampton University).

From: AIBN, 2018, "REPORT ON THE AIR ACCIDENT NEAR TURØY, ØYGARDEN MUNICIPALITY, HORDALAND COUNTY, NORWAY 29 APRIL 2016 WITH AIRBUS HELICOPTERS EC 225 LP, LN-OJF, OPERATED BY CHC HELIKOPTER SERVICE AS" [Online]. Available: https://www.sintef.no/globalas-sets/project/hfc/2018-04-ln-ojf-aibn-2018-rapport-om-luftfartsulykke-nar-turoy-29-april-2016med-airbus-helicopters-ec-225-lp.pdf

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Background

- Contractor for:
    - Schaeffler Aerospace (critical C-Crack defect size of hybrid ceramic ball bearings)
    - EVCON – ZOOX (pre-processing – creating workflows and automations for automotive use cases)
- Experimental and computational projects – Fatigue, FEA, Fracture Mechanics, Tribology

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Research project

- Design and implementation of immersed solid and shell discretization techniques
  - Advanced constitutive models
  - Composite structures simulation
  - Phase-field modelling of brittle fracture
  - Structural dynamics
- First goal: building a strong background on IGA

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Thank you!

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Date: 10/11/2013
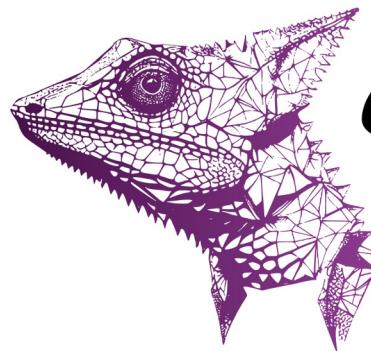
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European Commission