

# **The Mechanisms of Surface Damage in Rolling-Sliding Contacts**

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## **Abstract:**

The ongoing trends for reduction in viscosity of lubricating oils and increases in power densities of mechanical systems are leading to growing incidences of surface-initiated damage in common machine elements such as bearings, gears and cams. This talk discusses the physical mechanisms behind the main types of such surface damage occurring in lubricated rolling-sliding contacts including pitting, micropitting, scuffing and wear. The talk attempts to cover the basic understanding of these damage modes as well as present some recent research in the field covering both experimental and numerical developments. Finally, some of the future challenges being presented by developing technologies are briefly discussed.

## **Short Biography - Amir Kadiric**

“Dr Amir Kadiric is a Reader in Mechanical Engineering at Imperial College London where he is involved in a range of teaching and research activities. His research interests include damage mechanisms in rolling-sliding contacts, efficiency of mechanical transmissions, contact mechanics, condition monitoring and surface coatings. He currently supervises ten PhD students and post-doctoral researchers within Imperial’s Tribology Group.”