

## **List of Publications by topic**

- Coatings
- Micro-/nano- Tribology (Small scale Tribology)
- Tribocorrosion
- Lubrication
- Biomaterials

### ***Coatings***

1. On the mechanical and tribological behavior of Al<sub>3</sub>Mg<sub>2</sub> complex metallic alloys as bulk material and as coating,  
Intermetallics (2010) – to be published.  
S. Achanta, M. Feuerbacher, A. Grishin, X. Ye, J.-P.Celis.
2. Effect of hydrogen content in a-C:H coatings on their tribological behaviour at room temperature up to 150 °C,  
Surface and Coatings Technology, Vol. 203 (2009) Pages 3472-3479  
T. Van der Donck, M. Muchlado, W. Zein Eddine, S. Achanta, N.J.M. Carvalho and J.-P. Celis.
3. Structure and mechanical properties of plasma sprayed nanostructures alumina and FeCuAl-alumina cermet coatings,  
Surface and Coatings Technology, Vol. 202 (2008) Pages 2368 - 2373  
A.K. Basak, S. Achanta, J.P. Celis, M. Vardevoulias, P. Matteazzi.
4. Effect of Al and Cr addition on tribological behavior of HVOF and APS nanostructured WC-Co coatings,  
Transactions of the institute of metal finishing, Vol. 85 (2007) Pages 1-7  
A. K.Basak, S. Achanta, P. Matteazzi, M.Vardavoulias, J.-P.Celis, M. DeBonte
5. Impact of corrosion on fretting damage of electrical contacts,  
Proc. 52<sup>nd</sup> IEEE Holm Conference on Electrical Contacts, Sep 2006, Quebec, Canada  
T.Liskiewicz, A.Neville, S.Achanta.
6. Friction of thin coatings on three length scales under reciprocating sliding,  
Surface and Coatings Technology, Vol. 188-189 (2004) Pages 511-518,  
D.Drees, J.-P.Celis, S.Achanta
7. Lubricating reaction products on TiN coatings during sliding wear in phosphoric acid,  
Surface and Coatings Technology, Vol. 135 (2000)  
E.de Wit, D. Drees, P.-Q. Wu, J.P. Celis.
8. Hybrid processes – a versatile technique to match process requirements and coating needs,  
Surface and Coatings Technology, Vol.113, (1999) Pages 165-181,  
J.P. Celis, D.Drees, M.Z. Huq, P.Q. Wu, M. De Bonte.
9. Quantitative determination of through-coatings porosity in thin ceramic physically vapor-deposited coatings,  
Thin Solid Films, Vol. 224 (1993) Pages 58-62,  
J.P. Celis, D. Drees, E. Maesen, J.R. Roos

## ***Micro-/nano- Tribology (Small scale Tribology)***

10. On the scale dependence of Coefficient of Friction in unlubricated sliding contacts, to be published in *Wear* (2010),  
S.Achanta, J.-P.Celis.
11. Microtribology: new tools to fill the measurement gap, to be published in *Tribology: Materials, surface, and interfaces* (2010),  
B.D.Beake, S. Achanta, T. Liskiewicz.
12. Application of nanoscale measurement principles at microscale: adhesion and indentation experiments on viscoelastic materials  
Proceeding. Viennano, Austria, 2009  
S.Achanta, D.Drees
13. Friction mechanisms at the micro-scale  
*Tribology International*, Vol. 42 (2009) Pages 1792-1799 (ranked as 7<sup>th</sup> most downloaded article)  
S.Achanta, T Liskiewicz, D Drees, JP Celis
14. Friction from nano to macro force scales analyzed by single and multiple asperity contact approaches  
*Surface Coatings and Technology*, Vol. 202 (2008) Pages 6127-6135  
S.Achanta, D.Drees, J.-P.Celis
15. Nanotribology of MEMS/NEMS, Fundamentals of friction and wear on the nanoscale,  
E. Gnecco, E. Meyer, 2007, ISBN: 978-3-540-36806-9, Publisher: Springer, Series: NanoScience and Technology  
S. Achanta, J.-P.Celis.
16. Investigation of friction on hard homogeneous coatings during reciprocating tests at micro-Newton normal forces,  
*Wear*, Vol. 263 (2007) Pages 1390-1396  
S.Achanta, D. Drees, J.-P.Celis.
17. Investigation of friction in the meso normal force range on DLC and TiN coatings,  
*Journal of ASTM International*, Vol. 4 (2007), Pages 1-12  
S.Achanta, D.Drees, J.-P.Celis
18. Friction and nanowear of hard coatings in reciprocating sliding under milli-Newton loads,  
*Wear*, Vol. 259, (2005) Pages 719-729  
S. Achanta, Dirk Drees, J.-P.Celis.
19. A new tool for industrial tribology, filling the gap between macro and nanotribology  
*Lubrication science* Vol. 11-2, (2004) Page 137  
S.Achanta, D.Drees, J.-P.Celis

## ***Tribocorrosion***

20. Electrochemical techniques for studying tribocorrosion processes  
*Wear*, Vol. 256 (2004) Pages 459-468  
P. Ponthiaux, F. Wenger, D. Drees, J.P. Celis
21. Corrosion-wear of passivating materials in sliding contacts based on a concept of active wear track area  
*Wear*, Vol. 249 (2001) Pages 452-460  
García, D. Drees, J.P. Celis

22. Comparison of wear and corrosion wear of TiN coatings under uni- and bidirectional sliding, Surface and Coatings Technology, Vol. 113 (1999) Pages 251-258  
P.Q. Wu, D. Drees, L. Stals, J.P. Celis

23. The electrochemical and wear behavior of amorphous diamond-like carbon coatings and multilayered coatings in aqueous environments, Surface and Coatings Technology, Vol. 86-87 (1996) Pages 575-580.  
D. Drees, J.P. Celis, E. Dekempeneer, J. Meneve

### ***Lubrication***

24. D. Drees Effect of iron micro-/nano- particle additives on tribological behavior of lubricating oils. Proceedings Blattrib 2009 & STLE 2010 – submitted to Wear journal  
T. Maliar, S. Achanta, H. Cesiulis.

25. Effect of lubrication on fretting wear and durability of gold coated electrical contacts under high frequency vibrations  
Tribology: Materials, surfaces and Interfaces, Vol. 2, (2008) Pages. 57- 63(7) (Invited paper)  
S. Achanta, D. Drees

26. Grease tackiness/adhesion Characterisation of greases used in metal-metal and metal-polymer contacts, Eurogrease, 2008 – also submitted to Tribology International  
M Jungk, D Drees, S Achanta.

27. Adhesion and Tribological characterization of greases used in metal-metal and metal-polymer contacts  
Proc. 16<sup>th</sup> International colloquium tribology, Germany, Jan 2008  
S. Achanta, D. Drees, M. Jungk.

28. Steps to efficient laboratory simulation of wear and lubrication issues in industrial components, Proceedings of i-sup 2007, Belgium  
D. Drees, S. Achanta.

### ***Biomaterials***

29. Travan, I. Donati, E. Marsich, F. Bellomo, S. Achanta, M. Toppazzini, S. Semeraro, T. Scarpa, V. Spreafico, S. Paoletti,  
Surface Modification and Polysaccharide Deposition on BisGMA/TEGDMA Thermoset, Biomacromolecules, Vol. 11 (3), (2010) pp 583–592

30. S. Achanta, J. Juhasz, D. Drees, Rushton, S. Best, Fretting behavior of fiber-reinforced composite materials, Proc. STLE 2010, Las Vegas, USA