NOVEL FUNCTIONAL COATINGS

Introductory meeting

http://home.agh.edu.pl/~grzesik

CONTACT

Zbigniew Grzesik

Wednesday, $9^{\underline{00}}$ – $10^{\underline{00}}$; A-3, room 21

tel.: 617-2491

e-mail: grzesik@agh.edu.pl

ORGANIZATION OF MEETINGS

Lectures

26 February
5, 12, 19, 26 March

Seminars

2, 9, 16 April
7, 14, 21, 28 May
4, 11, 17 June

LECTURES

1. Methods of coating fabrication
2. Oxidation-resistant high temperature coatings
3. Sulphidation-resistant high temperature coatings
4. Prospects in designing new generation of functional coatings
5. New generation of thin coatings for protection against high-temperature corrosion

SEMINARS

1. Characterization techniques of coatings
2. Paint and lacquer coatings
3. Coatings from plastics
4. Galvanic coatings
5. Sol-gel coatings
6. Adhesive coatings
7. Optical coatings
8. Catalytic coatings
9. Anti-scratch coatings
10. Waterproof coatings
11. Anti-microbial coatings
12. Printed electronics
13. Magnetic coatings
14. Photo-sensitive coatings
15. Abrasive coatings
16. Functional coatings in medicine
17. Functional coatings in aircraft industry
18. Functional coatings in astronautics
19. Functional coatings in food industry
20. Functional coatings in motorization
21. Functional coatings in clothing industry
22. Functional coatings in armaments industry

LITERATURE

1. N. Birks, G.H. Meier and F.S Pettit, Introduction to the high temperature oxidation of metals, Cambridge, University Press, 2009.
2. W. Gao, Z. Li, High-temperature Corrosion and Protection of Materials, Woodhead Publishing in Materials, Cambridge, England, 2008.
3. ASM Handbook, Volume 13A, Corrosion: Fundamentals, Testing, and Protection. Materials Park, Ohio, USA, 2003.
4. Wendler B.G., Functional coatings by CVD and PVD methods. Wydawnictwo ITeE PIB w Radomiu. Łódź 2011. ISBN 978-83-7789-0001-1.
5. Nanodiam. New technologies for medical applications: studying and production of carbon surfaces allowing for controllable bioactivity. Praca zbiorowa. PWN, Warszawa 2006.
6. Pierson, H.O., Handbook of Chemical Vapor Deposition (CVD) - Principles, Technology and Applications (2nd Edition), William Andrew Publishing/Noyes 1999.
7. Mattox D. A., Handbook of Physical Vapor Deposition (PVD) Processing, Second Edition

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