

SUNDAY 20th June

16:00 – 20:00 **Registration**

18:00 – 22:00 **Welcome party** (Wieniawa Restaurant)

MONDAY 21st June :: Piłsudski Room

8:30 – 8:40 **Welcome address**
B. Major *Chairman of AMT 2010*

Plenary session **Chairmen: M. Kleiber, T.W. Clyne**

8:40 – 9:20 **K. J. Kurzydłowski**
Modelling of the microstructure and properties in the length scales varying from nano- to macroscopic

9:20 – 10:00 **S. van der Zwaag**
Routes and mechanisms towards self healing behaviour in engineering materials

10:00 – 10:40 **W. Neumann**
Advanced microstructure diagnostics and interface analysis of modern materials by high-resolution analytical transmission electron microscopy

10:40 – 11:10 **Coffee break**

Plenary session **Chairmen: M. Kleiber, P.D. Portella**

11:10 – 11:50 **Y. Brechet**
Limits in scale refinement: strain rate sensitivity and work hardening of nanostructured materials

11:50 – 12:30 **Z. Nawrat**
Robin Heart Progress – Advances material and technology in surgical robots

Sponsor presentations

Chairmen: B. Major, P. Kula

12:30 – 13:30

FEI, Zeiss, Bruker, Comef, Leica, MTS, CSM, Polish Artificial Heart, Małopolskie Centre of Innovative Technologies and Materials

13:30 – 14:00

M. Porcu
High Resolution (S)TEM on thin films

14:00 – 15:30

Lunch (Wieniawa and Ziemianska Restaurants)

Plenary session

Chairmen: P. Kula, E. Ebner

15:30 – 16:10

F. Bruckert
Protein conformational changes induced by adsorption onto material surfaces: an important issue for biomedical applications of material science

16:10 – 16:40

M. Sanak
Assessment of hemocompatibility of materials with arterial blood flow by platelet functional tests

16:40 – 17:00

Coffee break

17:00 – 17:30

P. Wilczek
Heart valve bioprosthesis: effect of different acellularizations methods on the biomechanical and morphological properties of porcine aortic and pulmonary valve

17:30 – 18:00

R. Major
Polish Artificial Heart - new coatings, technology, diagnostics

19:00

Social event at Czarci Jar Restaurant

TUESDAY 22nd June :: Piłsudski Room

Plenary session **Chairmen: J. Lis, S. van der Zwaag**

8:30 – 9:10 **P. Goodhew**
Materials education: now and in the future

9:10 – 9:50 **T.W. Clyne**
Development of a ceramic matrix composite with metallic fibre reinforcement

9:50 – 10:30 **H. Bhadeshia**
Phase transformations contributing to the properties of modern steels

10:30 – 10:45 **Coffee break**

Parallel sessions

Piłsudski Room

Chairmen: J. Kazior, M. Zehetbauer

Grabski Room

Chairmen: J. Szawłowski, J. Lackner

10:45 – 11:00 **J. Dembinska** *New energy efficient magnesium technology for strip production and its potential*

J. Lis *Synthesis and properties of hot-pressed Ti-Al-C-N materials*

11:00 – 11:15 **J. R. Gavarri** *Electrical and catalytic properties of La₂O₃-La₂O₂CO₃-LaOHCO₃ systems: interactions with CO, CO₂ or CH₄*

J. Kusiński *Microstructure and properties of laser remelted iron base amorphous coatings*

11:15 – 11:30 **P. Scheller** *Austenitic cast steel with TRIP/TWIP effect*

E. Garcia Lecina *Structural and physical properties of chromium layers obtained by pulse plating techniques*

11:30 – 11:45 **H. Naoi** *Shape recovery characteristic of ferrous shape memory alloy by prestrain of biaxial stress*

E. Wołowiec *The application of artificial neural networks in designing single-segment processes of vacuum carburizing*

11:45 – 12:00	W. Wołczyński <i>Ultrasonic method applied to defects identification in the forging ingot</i>	S. Sobieszczyk <i>Improvement of Ti-based materials for alloplastic implants</i>
12:00 – 12:15	V. Leshchynsky <i>Manufacturing powder bearings modified with solid lubricant nanoparticles for high temperature applications</i>	Ch. Klever <i>Development of [FeCoTaN/TaN]_n multilayer films for the simultaneous provision of wear protection and soft magnetic properties</i>
12:15 – 12:30	M. Lewandowska <i>Nanomaterials: friends or foes?</i>	J. Dutkiewicz <i>Ball milling amorphisation and consolidation of NiTiZrNb and NiNbTiZrCo alloys</i>
12:30 – 12:45	B. Dubiel <i>Creep mechanisms of single crystalline nickel base superalloys</i>	B. Wendler <i>Low friction and wear resistant MoS₂-based nanocomposite coatings</i>
12:45 – 13:00	J. Morgiel <i>Microstructure and hardness of nanocomposite crystalline-amorphous (Cr,Si)N coatings</i>	K. Konopka <i>Nickel aluminate spinel NiAl₂O₄ in Al₂O₃-Ni composites</i>
13:00 – 13:15		T. Czujko <i>MgH₂ and intermetallic hydride nanocomposites synthesized by mechanical ball milling</i>
13:15 – 15:00	Lunch (Wieniawa and Ziemianska Restaurants)	
15:00 – 19:00	POSTER SESSION (Kwiatkowski Room) POSTER COMPETITION <i>Chairmen: J. Kusiński, P. Zięba, P. D. Portella, S. van der Zwaag</i>	
19:00 – 19:30	Scientific Committee Meeting (Billiards Room)	
20:00	Conference Dinner (Piłsudski Room)	

WEDNESDAY 23rd June :: Piłsudski room

Plenary session

Chairmen: J. Cwajna, P. Goodhew

9:00 – 9:40

R. Ebner

Fatigue damage mechanisms and damage evolution near cyclically loaded edges

9:40 – 10:20

M. Zehetbauer

Bulk nanomaterials getting functional: successes and problems

10:20 – 10:40

Coffee break

Plenary session

Chairmen: Z. Nitkiewicz, H. Bhadeshia

10:40 – 11:20

P.D. Portella

Physical metallurgy of single crystalline nickel base superalloys

11:20 – 12:00

J.M. Lackner

Mechanisms for self-assembling topography formation in low-temperature vacuum deposition of inorganic coatings on polymer surfaces

12:00 – 12:30

R. Lehmann

Recent advances in very high resolution imaging materials using novel FIB/SEM detection

12:30 – 13:00

Closing ceremony

B. Major Chairman of AMT 2010

13:00

Lunch (Wieniawa and Ziemianska Restaurants)