

13.00–15.00 lunch

Room 3

Chairman PhD Z. Rudnicki
Building B2, IV floor

15.00–18.30 Session *Lubrication and lubricants, additives and tribochemistry*

15.00–16.00 Chairman Dr M. GRADKOWSKI

O. Florea, M. Luca, D. Florescu: *Lubricating greases for high temperatures* (T)

L. Galda, W. Koszela, P. Pawlus: *Tribological properties improvement by oil pockets creation on co-acting surfaces* (T)

R. Rakić, Z. Rakić: *The influence of lubricating oil on the reliability of gears* (P)

Pause 16.00–16.20

16.20–17.20 Session

Chairman Prof. A.V. RADULESCU

E. Berezina, V. Godlevskiy, A. Manashov: *Neural-network modeling of lubrication action of cutting fluids* (P)

I. Radulescu, A.V. Radulescu, A. Chesnoiu: *Theoretic researches regarding the realization of an integrated informatic instrument for the evaluation of the lubricants' durability* (P)

H. Wistuba, G. Jasica, M. Heinrich: *Reliability aspects of tribological process in conditions of reduced lubrication* (P)

Pause 17.20–17.30

17.30–18.30 Session

Chairman Ing. E.V. ZARETSKY

A.V. Radulescu: *Non-newtonian squeeze films with slip boundary conditions* (T)

A.N. Karapetyan, K.V. Hovhannisyan, S.A. Chizhik: *Study of surface films at friction of self-lubricating polymer-based composite materials* (T)

M. Grądkowski, M. Makowska, P. Grądkowski: *Transformations of hydrocarbons under mixed friction conditions at different temperatures* (ZEM)



INSYCONT '06

PROGRAMME

14 September
THURSDAY



14. September 2006
THURSDAY

INSYCONT '06

Plenary Session – Aula A0

10.00 Opening and welcome address

10.20 Plenary Session Chairman Prof. S. PYTKO

10.20–10.50

M. Wiśniewski

Some aspects of tribology

10.50–11.00 Pause

11.00–12.30 Chairman Prof. M. SZCZEREK

N. Balabanava, S. Chizhik, Z. Rymuza

Adhesion and friction behavior in the contact of rough viscoelastic surfaces (ZEM)

S.A. Chizhik, K. Wierzcholski, A. Miszczak

The theoretical description of friction force in bio-joints as function of cartilage roughness (ZEM)

E.V. Zaretsky

Design of oil lubricated machine components for life and reliability (ZEM)

13.00–15.00 lunch

Room 1

Chairman PhD K. Furmanik –
Building B2, II floor

15.00–18.30 Session *Research of friction and wear*

Chairman Prof. M. MISHKIN

J. Suchánek, V. Kuklík, E. Zdravecká: *The influence of the thermal treatments on the abrasion resistance of chromium white cast irons (T)*

B. Krupicz, A. Patejuk: *Synergic influence of forces of inertia on erosion proces (T)*

I. Wilczewska, R. Kaczyński: *Investigation of industrial tribological couples using sigma-3 polymer strengthened with carbon fibres (T)*

Pause 16.00–16.20

16.20–17.20 Chairman Prof. J. SUCHANEK

R. George Ripeanu, J. Tudor, A. Tache: *Research regarding the influence of cutting parameters above drills durability (P)*

T.D. Kozhina, Ju.P. Zamyatin: *Theoretical estimate method for cylindrical gearing contact and wear behaviour (P)*

Ju.P. Zamyatin, T.D. Kozhina: *Main results of the cylindrical gearing contacting and wear characterisitic theoretical estimate (P)*

Pause 17.20–17.30

17.30–18.30 Session

Chairman Prof. S.A. CHIZHIK

M. Libera, W. Waligóra: *The application of the rough sets theory for the analysis of factors influencing the surface fatigue life (ZEM)*

R. Sorokatyi: *Modeling the wearing-out process of sliding bearing with thin antifriction covering using the method of triboelements (ZEM lub P)*

K. Voynov, Z. Dokuchaeva: *How to protect the end of rails from wear and impacts (P)*

M. Kheifetz, S. Klimenko, J. Gawlik: *Rotary cutting with plasma heating of the wear resistance coatings (P)*

13.00–15.00 lunch

Room 2

Chairman PhD S. Krawczyk –
Building B2, II floor

15.00–18.30 Session *Surface engineering and coatings*

Chairman Prof. J. SENATORSKI

J. Musiał: *Influence of operational external loads on changes in surface geometric structure of kinematic pair elements (T)*

M. Matuszewski, M. Styp-Rekowski: *Influence of texture direction of kinematic pair elements surfaces on course of service operated layer transformation (T)*

S. Krawczyk, T. Góral: *Badania własności tribologicznych napoin wielowarstwowych z brązu CnSn6 (P)*

Pause 16.00–16.20

16.20–17.20 Session

Chairman PhD R. MICHALCZEWSKI

L. Galda, J. Sęp, W. Koszela, P. Pawlus: *Creation of specified stereometric features on slide surfaces using technological methods (P)*

V.I. Sytar, R.I. Burya, O.V. Stowpnyk, A.P. Ransky, A.G. Panasyuk: *The development of antifriction coatings based on aromatic polyamide phenilon modified with the complex heterocyclic compounds of thioamides (P)*

E. Kasprzycka, J. Senatorski: *Structure and tribological properties of carbide layers produced in vacuum chromizing process (T)*

Pause 17.20–17.30

17.30–18.30 Session

Chairman Prof. M. GIERZYŃSKA-DOLNA

T. Wagner: *Nanomechanical and nanotribological testing - overview about instrumentation and applications at LOT*

A. Patejuk, M. Bielocerkowski, A. Bielyj, W. Kukareko: *Improvement on utilitarian properties of thermal sprayed coatings modified by method of plasma nitriding (T lub P)*

R. Michalczewski: *The tribological characteristics of DLC and MoS₂ low friction coatings in dry conditions (ZEM)*

M.V. Prozhega, N.I. Smirnov, N.N. Smirnov: *Tribological behaviour of nanostructured coating deposited by detonation gun spray process (P)*

15. September 2006
FRIDAY

INSYCONT '06

9⁰⁰–12⁰⁰ Excursion from Barbakan to Wawel *Meeting just by Barbakan near Floriańska Gate at 9⁰⁰ o'clock*

13.00–15.00 lunch

Room 1

Building B2, II floor

15.00–18.30 Session *Tribology of biomaterials*

Chairman Prof. A. RYNIOWICZ

S.A. Chizchik, H.M. Ghaemi: *A new concept of measuring the friction forces for cartilage and polymers with viscoelastic properties* (T)

K. Wierzcholski, A. Miszczak: *About nutrient liquid flow between potential flow and cartilage surface in bioreactor* (ZEM)

Pause 16.00–16.20

16.20–17.20 Session

Chairman PhD A. MISZCZAK

K. Wierzcholski, S. A. Chizchik: *Micro- and nano-level of bio-joint lubrication* (T)

A. Miszczak, K. Wierzcholski, S.A. Chizchik: *The influence of roughness and geometrical structure of tissue surface on friction forces during the tissue cultivation in bioreactor* (T)

K. Wierzcholski: *Equations of the tribological parameters for liquid flow in boundary layer on the tissue surface in bioreactor* (T)

Pause 17.20–17.30

17.30–18.30 Session

Chairman Prof. A. RYNIOWICZ

J. Cwanek, K. Wierzcholski: *Measurements of head surfaces of endoprotheses*

K. Wierzcholski: *Method of determining to the solving of friction forces on the tissue surface in bioreactor* (T)

O.A. Rozenberg, W.W. Woznyj, S.W. Sohań: *Vlijanie kachestva obrabotannoj povierhnosti na tribologicheskije charakteristiki kjeramicheskich izdelij medicinskovo naznachenija*

13.00–15.00 lunch

Room 2

Building B2, II floor

15.00–18.30 Session 1 *Bearing design and application*

Chairman Prof. K. WIERZCHOLSKI

V. Bella, S. Wolny, S. Dzik: *High frequency fatigue characteristics of Magnesium alloy AZ 64HP used in machinery as bearing housings* (MK)

M. Koproński V.k: *Hydrodynamics models of conical slide bearings lubrication in the magnetic field* (T)

M. Styp-Rekowski: *Special rolling kinematic pairs in machine tools building* (MK)

Pause 16.00–16.20

16.20–17.20 Session

Chairman Prof. M. STYP-REKOWSKI

M. Ratajczak, A. Walicka, E. Walicki, P. Ratajczak: *Reodynamics of lubricating curvilinear thrust bearings with Ellis pseudo-plastic fluid* (ZEM)

P. Jurczak, A. Walicka, E. Walicki, D. Michalski: *Mechanical parameters of a curvilinear bearing with one porous pad lubricated by a power-law fluid* (ZEM)

P. Jurczak, A. Walicka, E. Walicki, D. Michalski: *Flow of a couple-stress fluid in a curvilinear thrust bearing with one porous pad* (T)

Pause 17.20–17.30

17.30–18.30 Session

Chairman Dr S. STRZELECKI

K. Filipowicz, A. Kowal: *Measurements of the moment of friction in a cone bearing loaded with the axial force* (P)

M. Ratajczak, A. Walicka, E. Walicki, P. Ratajczak: *Inertia effects in the curvilinear thrust bearing lubricated by a pseudo-plastic fluid of rotem-shinnar* (ZEM)

H. Rodemund: *5 Floating ring bearings* (P)

13.00–15.00 lunch

Room 3

Building B2, IV floor

15.00–18.30 Session *Tribotesting*

Chairman Prof. V.F. BEZYAZICHNY

Z. Broniec, J. Daga, W. Figiel: *Roentgenography method implementation at intrinsic residual stress measurement in surface layer of drawing die eyelets* (T lub P)

R. Michalczewski, W. Piekoszewski, M. Szczerek, J. Wulczyński: *The new method for investigation of rolling contact fatigue of pvd/cvd coated elements* (T)

A. Kuzmienko, A. Dikha, V. Karazei: *The calculate-experimental approach to research of friction units with lubricant materials* (P)

Pause 16.00–16.20

16.20–18.30 Session

Chairman Prof. M. MISHKIN

Z. Rudnicki, W. Figiel: *Computer analysis and disturbance compensation of sliding friction surface images* (ZEM)

P. Lacki: *Theoretical and experimental analysis of the heat exchange in the Amsler machine* (P)

V. Ju. Zamyatin, S.S. Lebedeva, A. A. Zamyatina: *On system of knowledge and quality economics in triboproduction and rendering of triboservices* (P)

V.F. Bezyazichny, V. Ju. Zamyatin: *Managerial-organizing implications for triboobjects integrated quality and competitiveness maintenance* (P)

19³⁰ Evening Meeting – Canteen C



INSYCONT '06

PROGRAMME

15 September
FRIDAY



16. *September 2006*
SATURDAY

INSYCONT '06

9⁰⁰–10⁰⁰ POSTER SESSION *List of posters – Room 1*

10.00–11.00
Room 1

Session Chairman PhD J. CWANEK

K. Wierzcholski: *Human hip jointlubrication for permeable cartilage (ZEM)*
K. Wierzcholski: *Friction forces review for the nutrient liquid flow on the permeable Cartilage surface in bioreactor (T)*
A.M. Ryniewicz, A. Ryniewicz, M. Lekka: *Analysis of the cartilage surface layer with the use of modern microscope methods*

Pause 11.00–11.15

11.15–11.45 Session: *Micro- and nanotribology*
Chairman S.M. GHONEAM

T. Habdank-Wojewódzki, J. Habdank: *Mikrokompozyty jako materiały do elektrotribologii (P)*
A.A. Zamyatin: *Nanotechnology is forming the future of tribology or new growing market for nanotribology (P)*

10.15–11.30
Room 2

Session Chairman Prof. J. SALWIŃSKI

S.M. Ghoneam, S. Strzelecki: *Oil film temperature distribution of pressureized cylindrical 2-pockets journal bearing of variable axial profile (P)*
K. Voynov, K. Gennady: *Slider bearings with the improved term of operation (P)*
M. Bellantonio, S. Strzelecki: *Investigation into frictional characteristics of tribomaterials in rotational and oscillating motion (P)*
K. Voynov, G. Ketov: *Olympiad in tribology diciplines (P)*
I.A. Baygutlina, A.A. Zamyatina: *Virtual „triboservice” center: strategy technologies, marketing and business development*
K. Voynov, V. Belyh: *Covering for steel surfaces with Cu Al Pb-Sn-Babbit, bronze, ftoroplast (P)*
J. Shalapko, S. Kostogryz: *Stick-slip regime of fretting for nominally - fixed joints. Model, simulation, experiment*

10.00–10.45
Room 3

Session Chairman Prof. Z. HADUCH-SUSKI

M. Kandeve: *The contact approach and the model for sustainable development (P)*
M. Kandeve, P. Hristov, E. Assenova: *Ecological aspects of tribotechnology for air filters regeneration (P)*
M. Heinrich, G. Jasica, H. Wistuba: *The process of investigation and estimation of tribological pairs quality of strippers and Muckers (P)*

Pause 10.45-11.00

11.00–12.00
Chairman Prof. M. SZCZEREK

J. Glatki, O. Makovkin: *Powstawanie narostu przy tarcu i zużyciu stali narzędziowych o dużej trwałości (P)*
A. Galvan, D. Maldonado, M. Szczerek, Z. Haduch: *Wyzwania tribologii – Kierunki badań tribologicznych w najbliższej przyszłości na przykładzie Meksyku (P)*
K. Furmanik, P. Kasza: *Influence of selected parameters on resistances to motion of scraper pipe conveyor (ZEM)*

12.00 Closing of INSYCONT'06 – Room 1



INSYCONT '06

PROGRAMME

16 September
SATURDAY

3

16. *September 2006*
SATURDAY

INSYCONT '06

Poster Session 9.00–10.00

Room 1

R.-G. Ripeanu: *Establish the reliability of rod-pumps used at deep-drill pumping (P)*

A. Patejuk, M. Czech, B. Krupicz: *Empirical description of erosion wear dynamics of FeAl-Al₂O₃ (T)*

S. Krawczyk, K. Zagórski: *Zużywanie się ostrzy frezów nożowych przy obróbce tworzyw węglowych (P)*

A. Patejuk, M. Biłocerkowski, A. Bielyj, W. Kukareko: *Improvement on utilitarian properties of thermal sprayed coatings modified by method of plasma nitriding (T lub P)*

D. Kotnarowska: *Examination of dynamics of polymeric coating erosive wear process (T)*

W. Skoneczny: *Structure and chemical composition of anodic oxide layers obtained on aluminium alloys (T)*

W. Żornik, W. Kukareko, A. Patejuk: *The growth of resistance to wear of friction surface in modified (by diamond-graphite molecules) lubricant's environment (P)*

E. Siwiec, M. Grądkowski: *Antiwear efficiency of the chemically modified rapeseed oils (T)*

C. Dymarski, W. Litwin: *Research on heavily loaded water lubricated main shaft bearings of the ship (P)*

W. Litwin: *First tests of water lubricated propeller shaft bearings (P)*

A. Kotnarowski: *Modification of cutting oils tribological properties with metal nanoparticles addition (T)*

B. Florkowska, M. Florkowski, P. Zydrón: *Non-invasive methods in materials and mixed systems structure assessment (T)*

A. Kowal, K. Filipowicz: *A new construction of a flexible coupling (P)*

M. Koprowski: *Basic equations for non isothermal steady axial unsymmetrical case of lubrication of conical slide bearings in the magnetic field (P)*

M. Sulek, T. Wasilewski: *Changes in friction coefficient versus concentration of surface-active component in aqueous based lubricants (T)*

P. Krasowski: *Modeling of micropolar fluid flow in slide journal bearing gap by unsteady laminar lubrication (P)*

P. Krasowski: *Capacity forces and pressure in slide journal bearing by unsteady laminar lubrication (ZEM)*

J. Daca, W. Figiel, Z. Rudnicki: *Problems of cooling lubricant contamination in the multistage copper wire drawing process (T lub P)*

M. Wrona: *Quantitative analysis of wear particles texture using computer image analysis (T)*

Z. Broniec, J. Daca, W. Figiel: *Application methods of structural changes on drawing dies eyelet surface layer (ZEM)*

Yu. P. Sharkeev, Yu. R. Kolobov, E. V. Legostaeva, G. A. Shashkina, A. V. Karlov, I. A. Khlusov, A. D. Bratchikov, A. Yu. Eroshenko: *The "Ultrafine-grained titanium-calcium-phosphate coating" biocomposite material for traumatology and orthopaedics (P)*

M. Ekwińska, Z. Rymuza: *Of energy needed to wear of silicon and quartz on micro/estimation nanoscale*



INSYCONT '06

POSTER SESSION *PROGRAMME*

16 September
SATURDAY

