



Conference Program

Wednesday 18 Sept. - Morning - “Aula Cilento” – Campus of the University of Salerno

10.00 Registration

11.00 Welcoming addresses

R. Pasquino – Rector of the University of Salerno

V. Cardone – Dean of the Faculty of Engineering – Univ. of Salerno

L. Nicolais – Ass. Università e Ric. Scientifica, Regione Campania

R. Bassani – AIMETA Tribology Group

V. D’Agostino – Conference Co-Chair

S. della Valle – Conference Co-Chair, President of the Italian Group of Appl. Mech.

12.30 *Welcoming cocktail*

Wednesday 18 Sept. - Afternoon

Room A - Campus of the University of Salerno

SESSION I-1 : FRICTION AND WEAR

Chairman N. K. Myshkin

14.00 M. Babic, R. Ninkovic
Zn-Al alloys as tribomaterials

J. Iwanow, J. Senatorski , J. Tacikowski

Assessment of tribocorrosion properties of thin nitrided layers additionally impregnated with oily - type formulations

F. Caiazzo, R. Pasquino, V. Sergi

Surface morphology of low carbon steel oxygen assisted laser cutting

N.P.Belfiore, S.Natali

A contribution to the analysis of the transition mild to severe wear through morphological and chemical standpoint

V.G. Novytsky

Effect of nickel on wear rate of Fe-Cr-C-Ni steel under sliding friction

15.40 *Coffee break*

SESSION I-2 : FRICTION AND WEAR

Chairman R. Bassani

- 16.00 N.K.Myshkin L.V.Markova, M.S.Semenyuk, E.L.Pinchuk, H.Kong, E.S.Yoon
Condition monitoring of tribosystems by optomagnetic detector

P. Kral, S. Pausch

Comparison of empirical methods and measurements for determination of wear

V. Palade, L. Tomescu, S. Ciortan

Researches on the influence of some addition elements on ptfе behaviour used as bearing material

S.Ciortan, L.Palaghian, I.Birsan, V.Palade

The influence of braid design on the tribological behaviour of the gaskets

H. Nagasaka, T. Yamakawa, T. Kataoka, M. Kakutani, T. Takeuchi, K. Murakami, K. Fujita

The tribological characteristics of ticrn film prepared by the dynamic ion beam mixing method

J. Rocchi, Y. Berthier, L. Baillet

Tribological expertise and numerical modelling to determine the conditions acting on a conforming geometries contact and to reduce wear

A. I. Burya, V. Yr. Dudin, M. V. Burmistr

The investigation of counter-body nature influence on friction and wear of graphite-reinforced plastic on phenilon polyamide base

Wednesday 18 Sept. - Afternoon

Room B – Campus of the University of Salerno

SESSION II-1 : LUBRICATION AND TRIBOLOGY OF MACHINE ELEMENTS

Chairman M. Russo

- 14.00 Shengxue Hu, Xisheng Fu, Mei Zhang, Lei Guo, Weimin Liu
Investigation of the torque capacity of automatic transmission fluid (ATF) with various oil additives

S. Mauro, G. Mattiazzo, M. Velardocchia, G. Serra, F. Amisano, G. Ercole

The influence of the push-plate mechanical characteristic on torque transmissibility in diaphragm spring clutches

F. Sorge

Influence of viscoelasticity on rubber v-belt mechanics

G. Belforte, G. Mattiazzo, S. Mauro, L.R. Tokashiki

Friction forces in pneumatic cylinders

M. Rinchi, L. Pugi

A test rig for train brakes

15.40 *Coffee break*

SESSION II-2 : LUBRICATION AND TRIBOLOGY F MACHINE ELEMENTS

Chairman I. Etsion

16.00 G. Carbone, L. Mangialardi, L. Soria

Bearing load on slippers in swash plate axial piston pumps

L. Afferrante, M. Ciavarella, P. Decuzzi, G. Demelio

Transient analysis of thermoelastic contact in clutches and brakes

K. Simunovic, V. Ivusic, K. Grilec

Abrasion resistance improvement of vertical turbine pump parts

G. Colombo, E. Prati, T. Tripolini

Modelling and simulation of clearance in the revolute joints of linkages

Q. Henian

Cold-rolling and lubricating for hard alloy steels

A.T. Romanova, U.M. Luzhnov

The estimation of the influence of tribotechnologies on economical characteristics of macro- and micro- level

L. Andrade-Ferreira

Grease lubrication of elastohydrodynamic contacts: a critical review

Thursday 19 Sept. - Morning

Room A – Lloyd's Baia Hotel

SESSION I-3 : FRICTION AND WEAR

Chairman F. Franek

9.00 L.Ceschini, L.Berni, C.Martini, L.Tomesani

Wear behaviour of a bimetal leaded bronze - steel system dry sliding against carbonitrided steel

M.Grech, V.Imbeni, C.Martini, G.Palombarini

Microstructure and tribological behaviour of a duplex treated low-alloyed steel

C.Martini, D.Prandstraller, E.Lanzoni, G.Poli

Abrasive wear of dlc/pvd multilayer coatings: afm studies

I.I. Nachovny, A.I. Burya, M.V.Burmistr

To the calculation of air-tightness of self-packing seals from polymer materials of immovable compounds

I.I. Garbar

Tribochemical and microstructural causes of the mild wear phenomenon

10.40 *Coffee break*

SESSION I-4 : FRICTION AND WEAR

Chairman G. Sorge

11.00 F. Braghin, F. Cheli, F.Resta

Friction law identification for rubber compounds on rough surfaces at medium sliding speeds

F. Braghin, F. Cheli, S. Melzi, F.Resta

Tyre wear estimation through a physical 3d tyre model

Vežjak, Vizintin

Surface roughness influence on the performance of mechanical seals

M. Roy, A. Pauschitz, F. Franek

Elevated temperature wear of 253 ma alloy

F. Franek, A. Pauschitz

Austrian center of competence for tribology – a new approach to tribology r&d-services for the industry

12.40 *Lunch*

Thursday 19 Sept. - Morning

Room B – Lloyd's Baia Hotel

SESSION II-3 : LUBRICATION AND TRIBOLOGY OF MACHINE ELEMENTS

Chairman K. Iwamoto

9.00 G. Belforte, T. Raparelli, V. Viktorov, A. Trivella
Effects of supply hole dimensions and operating conditions on the hole discharge coefficient of an aerostatic bearing

S. Balakrishnan , H. Rahnejat
Transient elastohydrodynamic lubrication of piston skirt to cylinder liner under combined reciprocating and slapping motions

M.F. Al-Samieh, H. Rahnejat, D. Dowson
Boundary changes between rigid and elastic iso-viscous lubrication due to structural forces in ultra-thin conjunctions

S. Gupta, H. Rahnejat, D. Dowson
Thin shell engine bearings under transient elastohydrodynamic regime of lubrication

L. Ambrosoni, M. Poli
Theory and experimental tests on a free-floating journal bearing

10.40 *Coffee break*

SESSION II-4 : LUBRICATION AND TRIBOLOGY OF MACHINE ELEMENTS
Chairman L. Andrade-Ferreira

11.00 G.G.Lisini, P. Toni , M.C. Valigi
A model for rolling copper alloy sheets

S. Pagano, E. Rocca, M. Russo, R. Russo
A methodology for the identification of the dynamic parameters of rotor-bearing systems

M. Cavacece, P. P. Valentini
A comparison of rotor dynamics behaviour using different types of journal bearings

K.Iwamoto
A study on the characteristics of swing pad journal bearings

A. Francisco, A. Blouin, J. Frêne,
Parametrical elastohydrodynamic study of line contact application to sic lubricated with low viscosity fluid

12.40 *Lunch*

Thursday 19 Sept. - Afternoon Lloyd's Baia Hotel

SESSION II-5 : LUBRICATION AND TRIBOLOGY OF MACHINE ELEMENTS
Chairman H. Rahnejat

14.00 R. Bassani, E. Ciulli, S. Manconi, B. Piccigallo, G. Oddone
CRTM experimental apparatus and plant for plain journal bearings up to extreme working conditions

E. Ciulli, F. Di Puccio, R. Squarcini
Control and management of the crtm journal bearings test rig

R. Bassani, E. Ciulli, F. Di Puccio, B. Piccigallo, R. Squarcini, I. Moretto
Experimental and theoretical results on the crtm plain journal bearings up to extreme working conditions

A. Walicka, E. Walicki
Inertia effects in a curvilinear bearing lubricated by a generalized second grade fluid of power-law type

A. Walicka, E. Walicki, P. Jurczak, D. Michalski
Inertia effects in a curvilinear squeeze film bearing with one porous wall lubricated by a power-law fluid

15.40 *Coffee break*

SESSION II-6 : LUBRICATION AND TRIBOLOGY OF MACHINE ELEMENTS
Chairman E. Ciulli

16.00 R. Rubini, U. Meneghetti
On the source of vibrations in damaged rolling bearings

A. Walicka, E. Walicki, P. Jurczak, D. Michalski
Performance of a curvilinear bearing with one porous wall lubricated by a couple-stress fluid

A. Walicka, E. Walicki
Pressure distribution in a curvilinear hydrostatic bearing lubricated by a micropolar fluid in the presence of a cross magnetic field

R. Bassani, E. Ciulli, M. Lorenzetti
Investigation on the friction coefficient of some materials for advanced applications

R. Bassani, E. Ciulli, B. Piccigallo, R. Squarcini
Numerical multilevel investigation for evaluation of pressure distribution in EHL circular contacts from measured film thickness

V. D'Agostino, S. della Valle, A. Ruggiero, A. Senatore
A study on the piston top ring lubrication using the open-end boundary condition

F. Stefani, A. Rebori
EHD analysis of a connecting rod bearing for high performance engines: structural inertia effect

20.30 *Gala Dinner*

Lloyd's Baia Hotel

Friday 20 Sept. - Morning

Lloyd's Baia Hotel

SESSION III-1 : SURFACE CHARACTERISATIONS AND CONTACT PROBLEM

Chairman J. Senatorski

9.00 L. Kogut, I. Etsion

An improved elastic-plastic model for the contact of rough surfaces

D. Bortoluzzi, P. Bosetti, M. Da Lio

Tribology aspects in scientific experiment "lisa" (laser interferometer space antenna) for the detection of gravitational waves

M. D'Acunto

Characterization of residual stress and roughness of steel components

R. Lot

A motorcycle tire model for dynamic simulations: theoretical and experimental aspects

B. Allotta, M. Malvezzi

Methods for identification of wheel/rail adhesion

10.40 *Coffee break*

SESSION III-2 : SURFACE CHARACTERISATIONS AND CONTACT PROBLEM

Chairman G. Palombarini

11.00 E. N. Diaconescu, M. L. Glovnea

Evaluation of contact area by reflectivity

E. N. Diaconescu, M. L. Glovnea

The effect of normal load upon pressure distribution in an optimised circular surface contact

M. L. Glovnea, E. N. Diaconescu

New optimisation criterion for circular, conformal contacts

L. Tomescu, S. Ciortan, M. Rîpa, I. G. Bîrsan, N. Diaconu

Influence of surface topography on the bonded joints

S. St. Sekulic

Correlation between maximal roughness height and mean arithmetic deviation of the profile from mean line of the machined surface in finish turning

A. Igartua, G. Mendoza, J.A. Picas, A. Forn

Tribological behaviour of hvof thermal sprayed nanocrystalline CrC-NiCr coatings

12.40 Lunch

Friday 20 Sept. - Afternoon

Lloyd's Baia Hotel

SESSION III-3 : SURFACE CHARACTERISATIONS AND CONTACT PROBLEMS

Chairman K. Simunovic

14.00 M. Beato, R. Russo

Tire testing with a flat surface roadway simulator

G. Giubileo, G. S. Palazzo, R. Pasquino

Capacity sensor optimization by means of fuzzy logic for measuring the roughness

G. Tripaldi, L. Tinucci, G. Gallino, S. Giacobbe

Lubricity improvement of water based muds for oil & gas drilling applications

A. O. Tretyakoff, M. V. Burmistr

Application of natural fibre as reinforcing material in polymeric compositions

B. Pizzigoni, A. Collina, F. Resta, S. Melzi

On the wear of contact wire - collector strip pair in railway systems

15.40 Coffee break

SESSION II-7 : LUBRICATION AND TRIBOLOGY OF MACHINE ELEMENTS

Chairman D. Guida

16.00 V. D'Agostino, S. della Valle, A. Ruggiero, A. Senatore

An approximate analytical model for the analysis of finite turbulent journal bearings

M. Gafitanu, St. Grigoras, Cr. Stirbu

A new solution of threaded joint for pipes in extractive industry.

Theoretical and constructive aspects

V. D'Agostino, T. L. L. Lenza, A. Ruggiero, A. Senatore

A computer model for investigations on the piston motion

Notes for Speakers

Language

All contributions as well as text on transparencies, slides etc. must be in English.

Papers Presentations

Oral presentations are allocated 15 minutes with five additional minutes for discussion.

In each session an overhead projector for transparencies is available. A video/computer projector will also be available with Microsoft PowerPoint Software.