6th Symposium on Vacuum based Science and Technology
Koszalin - Kołobrzeg, September 19-22, 2011

MONDAY *September 19*

14.00 –	**Registration of participants**
18.00 –	**Welcome Reception**

TUESDAY *September 20*

7.30 – 9.00	Breakfast
Clausius Session **-** ***Conference room MONSOON (6th floor)***	
9.30	**Opening of the Session –** Symposium Chairman, Prof. Witold Gulbiński
9.35 – 9.50	**Welcome addresses**
9.50 –	**Clausius Tower Society Honorary Memberships** (Rector of the Koszalin University of Technology, Prof. Tomasz Krzyżyński)
10.15 – 10.25	*"**Art of physics**"* – a movie on R. Clausius, screenplay and realization by L. Orlewicz
10.25 – 10.55	**Lecture 1:** *Rudolph Clausius - a pioneer of the modern theory of heat* – Dr. Stefan Wolff
10.55 – 11.25	**Lecture 2:** *From Clausius entropy concept to bi-velocity method in linear irreversible thermodynamics* – Prof. Marek Danielewski
11.30 – 12.00	**Coffee break**
12.00 – 12.20	**DVG – Rudolf Jaeckel Award Ceremony:** Prof. Hans Oechsner **Laudation** – Prof. Juergen Kirschner
11.20 – 11.50	**Lecture of the laureate – Dr. Thomas Berghaus**: *Science, technology development, and commerce the circle of mutual benefit*
12.00	Closure of the ceremony
13.00 – 14.00	**Lunch**
Session A **-** ***Conference room ORKAN (ground floor)*** ***Session Chair: Prof. Jerzy Morgiel***	
15.00 – 15.30	INV1 – *Applications for plasma sources in medicine* – **K.-D. Weltmann**, Th. von Woedtke, R. Bussiahn
15.30 – 16.00	INV2 – *The effect of the PVD coatings structure on the sintered cutting edges durability* – **L.A. Dobrzański**, M. Staszuk
16.00 – 16.30	INV3 – *Advances and challenges in the tribological properties of nanostructured protective coatings* – **J. Klemberg-Sapieha**
16.30 – 16.50	O1 – *Comparative studies of surface morphology and surface chemistry of the differently prepared* SnO_2 *thin films* – K. Waczyński, M. Kwoka, P. Kościelniak, B. Adamowicz, M. Sitarz, N. Waczyńska, E. Papis, A. Piotrowska, V. Grossi, L. Ottaviano, P. de Marco, A. Grzeszczak, J. Szuber
16.50 – 17.10	O4 – *Effect of substrate temperature on ZnO thin film deposited using RF magnetron sputtering* – A. Panda, Ch.K. Routray, U.P. Singh
17.15 – 17.30	**Coffee break**
17.30 – 18.00	INV4 – *Tungsten-based nanocomposite coatings* – **A. Stanishevsky**
18.00 – 18.30	INV5 – *HIPIMS-processing of wear-resistant nitrides* – **G. Greczynski**, J. Jensen, L. Hultman, W. Kölker, O. Lemmer
18.30 – 18.50	O3 – *Synthesis of thick superhard nc-TiN/*Si_3N_4 *coating by a new high density plasma gas pulsed reactive magnetron sputtering* - B.G. Wendler, I.F. Progalskiy, T. Moskalewicz, W. Pawlak, P. Nolbrzak, M. Makówka, K. Włodarczyk, A. Rylski, J. Sielski, M. Kozanecki
18.50 – 19.10	O24 – *Plasma based SNMS - Recent results using ToF-Spectrometry* – J. Lösch, M. Kopnarski
19.15 –	**Dinner**

WEDNESDAY September 21

7.30 – 9.00	**Breakfast**
Session B	***Conference room ORKAN (ground floor)***
Session Chair: Prof. Bogdan Wendler	
9.00 – 9.30	INV6 – *Superhard nanocomposite coatings: Fundamentals and their industrial applications* – **S. Veprek**
9.30 – 10.00	INV7 – *New developments on magnetron sputtered hard Al-Cr-oxide and Al-Cr-oxinitride thin films* – **M. Stueber**
10.00 – 10.20	O5 – *Influence of the deposition parameters on physico-mechanical properties of Cr-C and Mo-C coatings* - E.A. Stepanova, I.L. Pobol
10.20 – 10.40	O6 – *Mid-frequency PECVD of a-SiCN:H films and their structural, mechanical and electrical properties* – S. Peter, M. Günther, F. Richter
10.40 – 11.00	O7 – *Hardness and microstructure of coatings deposited using reactiv magnetron spattering of CrSi compacts* - J. Morgiel, J. Grzonka, R. Mania, S. Zimowski, J. Labar
11.00 – 11.20	**Coffee break**
11.20 – 11.50	INV8 – *Deposition of functional thin films for bio-medical applications by means of high power impulse magnetron sputtering* – **V. Stranak**
11.50 – 12.20	INV13 – *Hard coatings for wood machining tools: dream or reality?* – **C. Nouveau**, H. Aknouche, B. Tlili, I. Rahil, Y. Benlatreche, L. Imhoff, B. Laganiere, V. Blanchard
12.20 – 12.40	O8 – *Time-resolved diagnostics of hybrid dual-HIPIMS discharges* – V. Stranak, S. Drache, A-P. Herrendorf, R. Bogdanowicz, Z. Hubicka, M. Cada, R. Hippler
12.40 – 13.00	O9 – *Plasma Optics, a new input into plasma technology* – H.Oechsner
13.00 – 13.20	O10 – *Full range XHV cold cathode gauge* - J. Iwicki, M. Simanowski, I. Pongrac, P. Gottschalk, R. Bauer
13.20 – 14.00	**Lunch**
Session C	***Conference room ORKAN (ground floor)***
Session Chair: Dr. Tomasz Suszko	
15.00 – 15.30	INV10 – *The Al-Si-N system: from solid solutions to nanomulti-layers* – **J. Patscheider**
15.30 – 16.00	INV11 – *Metal alloyed DLC coatings and their tribological behavior under lubricated contact* - **A. Cavaleiro**
16.00 – 16.20	O11 – *The PVD technologies development directions determined on the base of foresight research results* – A. Dobrzańska-Danikiewicz
16.20 – 16.40	O12 – *Characterization of MWCNT grown in the carbonaceous film* - E. Czerwosz, E. Kowalska, M. Kozłowski, J. Kęczkowska, M. Suchańska
16.40 – 17.00	O13 – *Measuring thin film mechanical parameters without substrate influence: possibilities and limitations* - A. Clausneré, K. Richter, F. Richter
17.00 – 17.20	Presentation of industry exhibitors
17.20 – 17.30	**Coffee break**
17.30 – 19.00	***Poster Session***
19.00 –	**Conference Dinner – *sponsored by TEPRO SA Koszalin***

THURSDAY September 22

7.30 – 9.00	**Breakfast**
Session D ***Conference room ORKAN (ground floor)*** ***Session Chair: Prof. Rainer Hippler***	
9.00 – 9.20	INV9 – *Thin film materials for LED lighting and display applications* – Z. Sun, **T. Feng**
9.20 – 9.40	O16 – *STM study of the adsorption of Pb on Mo(110). Comparison with the growth of Au, Ag and Sn on Mo(110)* – A. Krupski
9.40 – 10.00	O17 – *Detection of small protein surface coverages on plasma cleaned titanium by TOF-SIMS* – M. Wilhelmi
10.00 – 10.20	O18 – *HIPIMS+ Bringing the HIPIMS technology from laboratory to the industry* - I. Kolev, F. Papa, A. Campiche, R. Tietema, T. Krug
10.20 – 10.40	O25 – *Microstructure of laser textured PVD coatings on tool materials* - M. Adamiak
10.40 – 11.00	O20 – *Electronic structures of organic-inorganic interfaces studied by ac and dc conductance techniques* - P. Popielarski, K. Paprocki, W. Bała, K. Fabisiak
11.00 – 11.20	**Coffee break**
11.20 – 11.40	O21 – *Investigation of interface of diamond/N-Si structures by conductance techniques* - K. Paprocki, P. Popielarski, W. Bała, K. Fabisiak, E. Staryga
11.40 – 12.00	O22 – *Conductivity analysis of graded composite films* - S. Novak, R. Hrach, M. Svec
12.00 – 12.20	O15 – *Electrical properties of composite films with columnar inclusions* - M. Svec, S. Novak, R. Hrach, D. Maslo
12.20 – 12.40	O23– *Effect of bias voltage on the properties of CrCN and CrN coatings deposited by cathodic arc evaporation* – B. Warcholiński, A. Gilewicz
13.00 – 14.00	**Lunch**
	Departure of participants

List of posters

P1	A. Dobrzańska-Danikiewicz, K. Gołombek, D. Pakuła, J. Mikuła, M. Staszuk, L.W. Żukowska	*Assessment of PVD/CVD onto sintered tool materials according to foresight methodology*
P2	J. Baranowska, S. Fryska	*The influence of temperature on s-phase coatings deposition by reactive magnetron sputtering*
P3	A. Twardowska, B. Rajchel, L. Jaworska, S. Kąc	*Ti-B/ Ti-Si-C coatings formed by IBAD and PLD techniques on steel substrates*
P4	W. Pawlak, B.G. Wendler, M. Makówka, J. Sielski, M. Kozanecki	*Tribological properties of magnetron sputtered MoO_3-Ag coatings at high temperatures*
P5	S. Kąc	*Influence of Mo concentration on structure and properties of Mo-dopped Bi_2O_3 thin films obtained by PLD technique*
P6	M. Borysiewicz, E. Kamińska, A. Piotrowska	*Influence of gas mixture composition and pressure on the properties of Ar-O_2-Zn plasma during ZnO sputter deposition in DC and RF modes*
P7	Yu. Zorenko, V. Savchyn, T. Voznyak, W. Bała, K. Paprocki, P. Popielarski	*Optical and electrical properties of ZnO thin films grown by sol-gel method*
P8	M. Kozłowski, E. Czerwosz, J. Radomska, K. Sobczak, P. Dłużewski	*Fractionation and characterization of Pd nanoparticles in the Pd-C composite films obtained by PVD method*
P9	Á. Nemcsics, B. Bődör, L. Tóth, J. Balázs, L. Dobos, J. Makai, A. Stemmann	*Investigation of MBE grown inverted GaAs quantum dots*
P10	R. Chodun, K. Nowakowska-Langier, K. Zdunek	*The elimination of current oscillations in the coaxial plasma accelerator during the synthesis by impulse plasma deposition method (IPD)*
P12	T. Ibehej, R. Hrach	*Particle simulation of sheath and presheath dynamics in multicomponent plasma*
P13	A. Markowski, L. Wójcik, E. Szot	*Influence of repeller electric field in high–pressure ion source on ion–molecule reactions in argon/propane mixtures*
P14	E. Szot, L. Wójcik, K. Głuch	*Fragmentation and kientic energy release distribution of ions produced from methanol CH_3OH*
P15	V. Baglin, G. Bregliozzi, G. Lanza, G. Schneider, R. Veness	*LHC Experimental Beam Vacuum System*
P16	L. Prušáková, O. Hégr, R. Bařinka, P. Šutta	*Electronical and optical properties of the Y_2O_3 films deposited by reactive magnetron sputtering from yttrium target in Ar/O_2 atmosphere*
P18	A. Pelc, S. Hałas	*Negative ions formation from SF_6 gas by means of thermoemission ion source*
P19	V. Hruby, R. Hrach	*Computational simulation of metal ion propagation from plasma to substrates with uneven surfaces*
P20	T. Tański, K. Lukaszkowicz	*The effect of PVD coatings on the structure behaviour of non-ferrous alloys*
P21	A. Kopia, Ch. Leroux, K. Kowalski, M. Arab, F. Guinneton, J.R. Gavarri	*Characterization of lanthanum lutetium oxide thin films grow by pulsed laser deposition*
P22	K. Sobczak, P. Dłużewski, B. Kurowska, M. T. Klepka, J. Radomska, E. Czerwosz	*The cross sectional investigations of porous carbon films containing palladium nanocrystallites*
P23	W. Biedunkiewicz, D. Grzesiak	*Manufacturing and FEM modelling of the nc-TiC/steel composites prepared by selective laser melting*
P24	A. Wiatrowski	*Time-resolved optical emission spectroscopy studies of medium frequency magnetron sputtering plasma*
P25	M. Kaddeche, A. Telia, A. Soltani	*AlGaN/GaN based field plated heterostructure – hight electron mobility transistors: numerical analysis*

P26	A. Goltsev, I. Rossokha, T. Dubrava, N. Donkov J. Walkowicz, V. Zavaleyev, A. Zykova, V. Safonov	*The directed modification of structural and functional parameters of mesenchymal stem cells by means of nanostructural oxide coatings deposition on glass and plastic substrates*
P27	M. J. Morávek, L. Schmiedt, A. Kaňka, A. Nikiforov, Ch. Leys, V. Hrachová	*Comparison of low pressure glow discharge and dielectric barrier discharge in CO_2-laser mixture by optical emission spectroscopy*
P28	D. Novotny, R. Hrach, V. Hruby	*Study of initial stages of thin film growth by means of computer simulation and image analysis: advanced atomistic modelling*
P29	J. Soukup, R. Hrach	*Sensitivity analysis of morphological methods in thin film physics*
P30	K. Miśków, A. KrupskI, K. Wandelt	*Growth of Pb on $Ni_3Al(111)$ and $Al_2O_3/Ni_3Al(111)$ studied by STM*
P31	K. Tadaszak, W. Posadowski, A. Wiatrowski	*Control of titanium oxide thin films deposition during reactive pulsed magnetron sputtering process*
P32	C.H. Nee, W.O. Siew, S.S. Yap, T.W. Reenaas, T.Y. Tou	*Optical emission spectroscopy in Pulsed Laser Deposition of Silicon*
P33	M. Fijalkowski, A. Karczemska, V. Ralchenko, A. Stanishevsky, M. Walock	*Surface characterization of diamond layer by XPS method*
P34	A. Biedunkiewicz, P. Figiel, D. Grzesiak, W. Biedunkiewicz	*Properties of the nc-TiC/steel composites manufactured by SLS/M method*
P35	A. Sagalovych, A. Kononyhin, V. Popov, A. Grigorev, V. Sagalovych	*The experimental investigations of Mo-C multilayered CVD coatings*
P36	I.P. Smyaglikov, I.P. Akula, I.L. Pobal, J. Rajczyk	*Spectroscopic study of a pulse arc plasma flows in presence of acetylene*
P37	M. Pancielejko , A. Czyżniewski, A. Gilewicz, V. Zavaleyev, Z. Galocz, A. Pander, W. Szymański	*The cutting property and wear of DLC coated high-speed steel planar knives*
P38	B. Rajchel, A. Twardowska, J. Kwiatkowska, L. Jaworska	*Raman spectroscopy of amorphous Ti_XSiC_Y coatings formed on polyurethane and 316L steel by selected ion methods*