6TH INTERNATIONAL CONFERENCE ON FUNDAMENTALS AND APPLICATIONS OF HIPIMS

11th – 12th JUNE 2015 | BRAUNSCHWEIG, CIVIC ENTER | DE

Sponsors & Conference Supporting Organisations

Organisation:

Local organiser: Network of Competence INPLAS e.V. | Bienroder Weg 54 E | 38108 Braunschweig | www.inplas.de
Wednesday Morning, 10th June

8:00  Registration

8:30  Opening
Dr. R. Bandorf, Fraunhofer IST

Industrial Session

9:00  Development of nanostructured CrN/NbN coatings for medical prostheses using HiPIMS
Hovsepian P. Eh., Ehiasarian A. P., Purandare Y., Sugumaran A., Khan I.

9:20  HiPIMS in Full Face Erosion Circular Cathode Semiconductor Applications

9:40  Advanced coating architectures based on HiPIMS and Arc: High Ionization Triple
Vetter J., Mueller J., Krienke T., Willach M., Rudigier H.

10:00  Designing the HiPIMS Process for Cutting Tool Coatings
Schiffers C., Leyendecker T., Lemmer O., Kölker W., Bolz S.

10:20  High quality hard coatings produced by S3p™
Krassnitzer S., Kurapov D., Arndt M., Kalss W., Rudigier H.

10:40  HiPIMS power supplies - challenges and development
Gajewski W., Różański P., Baran M., Ozimek P., Zelechowski M., Zajac L., Jasinski M.

11:00  Coffee break | Exhibition & poster

Reactive HiPIMS of Oxides

11:20  Deposition of rutile TiO₂ films by pulsed and high power magnetron sputtering Coatings
Bartzsch H., Schönberger W., Schippel S., Bachmann T.

11:40  Pulse length and frequency control of target poisoning in reactive HiPIMS: application to amorphous HFO₂

12:00  Oxide semiconductor thin film deposition by HiPIMS reactive magnetron sputtering
Hubička Z., Brunciliková M., Kment Š., Olejníček J., Čada M.

12:20  Reactive HiPIMS pulse optimization strategies in fabrication of all-dielectric optical coatings
Hála M., Čapek J., Vernhes R., Zabeida O., Klemberg-Sapieha J. E., Martinu L.

12:40  Conference Photograph

13:00  Lunch | Exhibition & poster

Wednesday Afternoon, 10th June

Fundamental Aspects of HiPIMS

14:00  Exploring the structure zone transition in energetic deposition of Cu thin films by modulated pulsed power magnetron sputtering
Zheng B. C., Meng D., Che H. L., Lei M. K.

14:20  Ionized fraction and plasma parameters investigation in HiPIMS with Ti, Al and C target
Čada M., Lundin D., Hubička Z.

14:40  Cathode voltage and discharge current oscillations and spoke behavior during HiPIMS discharge
Klein P., Hnilica J., Vašina P., Hubička Z., Čada M.

15:00  Correlation between Ion Transport and Plasma Oscillations in DC and HiPIMS discharges
Hecimovic A., Maszl C., Schulz-von der Gathen V., Winter J., von Keudell A.

15:20  High-current impulse magnetron discharge with liquid target
Kaziev A. V., Tumarkin A. V., Khodachenko G. V.

16:00  Coffee break | Exhibition & poster

Guided Postersession

16:20  Guided postersession and coffee break
1 Slide per poster, max. time for poster introduction: 1 min

P 1  HiPIMS Deposition of Tungsten Trioxide Thin Films
Belajevs A., Purans J., Zubkins M., Kalendarev R.

P 2  Investigation of discharge structure inhomogeneities observed in high-current quasi-stationary magnetron discharge
Kaziev A. V., Kharkov M. M., Khodachenko G. V.

P 3  Industrial Scale Deposition of Diamond-like Carbon Thin Films using Ne-based HiPIMS Discharge

P 4  Highly Ionized Gas Flow Sputtering of Alumina Coatings
Bandorf R., Gerdes H., Ortner K., Bräuer G.
P 5 Tailoring the microstructure and properties of CrN thin films by HiPIMS in Deep Oscillations Magnetron Sputtering (DOMS) mode
Ferreira F., Oliveira J. C., Cavaleiro A.

P 6 HiPIMS ITO films from a rotatable target for applications in strain gauges
Carreri F. C., Schröder E., Bandorf R., Bräuer G.

P 7 Superconducting Cavities Nb coating with biased HiPIMS technology
Rosaz G.

P 8 Influence of HiPIMS on the morphology of chromium nitride (CrN) films
Decho H., Mehner A., Zoch H.-W., Stock H.-R.

P 9 Manipulating HiPIMS deposition rates using magnetic field strengths
Bradley J. W., Mishra A., Kelly P. J.

P 10 Deposition of TiSiN films by HiPIMS-DOMS: controlling the bombardment conditions by changing the Peak Power
Oliveira J. C., Fernandes F., Ferreira F., Cavaleiro A.

P 11 Mechanical Bending of the Indium Tin Oxide Films on Polyethylene Terephthalate Deposited by High Power Impulse Magnetron Sputtering
Chen Y.-H., Chen Y.-C., He J.-L.

P 12 TiO2 thin film deposition by reactive multi-pulse HiPIMS
Tiróv A., Demeter A., Samoila F., Vasilevici O., Sirghi L.

P 13 Corrosion and contact resistance characteristics of TaNx films deposited by HPPMS on AISI 316L metallic bipolar plates in polymer electrolyte membrane fuel cells
Mendizabal L., Kongstein O. E., Oedegaard A., Barriga, J.

P 14 Oxidation resistance properties of TiAlSiN nanocomposite coatings on titanium alloy prepared by modulated pulsed power magnetron sputtering
Li Y. G., Wu B., Lei M. K.

P 15 Preparation and characterization of high purity Ti thin films by high power impulse magnetron sputtering deposition
Meško M., Munnik F., Heller R., Grenzer J., Hübner R., Krause M.

P 16 Influence of pulse off time on temporal evolution of sputtered species densities in HiPIMS discharge
Fekete M., Hnilica J., Vašina P.

P 17 Nanomechanical properties of nanocomposite coatings developed by HiPIMS and unbalanced sputtering
Kassavetis S., Spiliots A., Karamanidis S., Logothetidis S.

P 18 Comparative study DCMS vs HiPIMS depositions of TiO2-flexible surfaces showing self-cleaning properties
Rtimi S., Pulgarin C., Kiwi J.

P 19 Laser scattering investigations of plasma turbulence in HiPIMS
Tsikata S.

P 20 Comparison of TiN and Ti(C,N) coatings produced by HiPIMS and d.c. magnetron sputtering in an industrial coating facility
Ulrich S., Ye J., Schweiger S., Stüber M., Leiste H., Mark G., Mark M.

P 21 Growth and mechanical properties of (Ti, Al) N films at inner wall of sub-millimeter scale small holes deposited by HiPIMS
Shimizu T., Teranishi Y., Morikawa K., Kondo Y., Nagasaka H., Yang M.

P 22 New Magnet Pack and Power Supply for High-Power Pulsed Magnetron Sputtering
Raman P., Shchelkanov I., Ruzic D., Jurczyk B., Stubbers R., Armstrong S.

P 23 Structure and wear mechanism of novel CraIBYCN/AlSiCN PVD coating deposited using a combined UBM and HiPIMS process in a reactive gas mix.
Morton T. J., Ehsasarian A. P., Carlström C.-F., Ahlgren M.

P 24 Plasma Pretreatment of Tungsten Carbide and Steels by High Power Impulse Magnetron Sputtering
Ehsasarian A. P., Oniszczuk A., Morton T. J., Carlstrom C.-F., Ahlgren M.

18:00 End of the scientific program

Evening Event

Special conference Dinner at football stadium (casual dress)

19:10 Departure at tram station «Leonhardtplatz» next to the civic center
Fixed departure time by special tram!

23:00 Return to the civic center by special tram
Thursday Morning, 11th June

8:00  Admittance

Modeling of HIPIMS

8:20  A Feedback Model of Magnetron Sputtering Plasmas in HIPIMS
     Ross A.E., Ganesan R., Bilek M.M.M., McKenzie D.R.

8:40  A Model of Reactive HIPIMS Applied to Bipolar Dual Magnetron HIPIMS. Deposition of Oxides and Nitrides of Ti
     Čapek J., Kadlec S.

9:00  A parametric model for reactive high-power impulse magnetron sputtering
     Kozak T., Vlcek J.

9:20  Reactive high-power impulse magnetron sputtering of films - a process control and modelling
     Vlcek J., Kozak T., Rezek J.

9:40  Coffee break | Exhibition & poster

Carbon based processes

10:00  Deposition carbon-based hemocompatible and biofunctionalisable coatings for cardiovascular applications using HIPIMS
      Bilek M., Hiobb M., Ganesan R., Kondyurin A., McCulloch D. G., McKenzie D.R.

10:20  Characterization of the mixed-mode carbon HIPIMS process
      Tucker M. D., Ganesan R., Marks N.A., Bilek M.M.M., McKenzie D.R.

10:40  W-DLC coatings for industrial application deposited by a combination of HIPIMS and unbalanced magnetron sputtering at low temperature
      Ballo V., Frkáň J., Drábik M., Truchlý M., Mikula M., Kůš P.

11:00  Synthesis of Tetrahedral Amorphous Carbon by Mixed Mode HIPIMS Deposition
      Ganesan R., McCulloch D.G., Tucker M.D., Marks N.A., Bilek M.M.M., McKenzie D.R.

11:20  Coffee break | Exhibition & poster

Nitride Coatings

11:40  TiCN(H) nano-composites deposited by two gases reactive HIPIMS
      Patelli A., Colasuonno M., Grigoletto S., Bazzan M.

12:00  HiPIMS AITiN Coatings
      Deambrosis S. M., Miorin E., Montagner F., Zin V., Fabrizio M. Sebastiani M., Bemporad E.

12:20  Influence of High Power Pulse Magnetron Sputtering pulse parameters on the reactive gas N2 in the deposition process of (Cr,Al)N coatings
      Bobzin K., Brögelmann T., Brugnara R.H., Kruppe N.C., Chromy S.

12:40  Highly Ionized Deposition of CrN
      Gerdes H., Täsch M., Bandorf R., Bräuer G.

13:00  Target Poisoning in Mixed Ar, N2 and CH4 Atmosphere, in Processes Using Different Target Materials for HIPIMS/DC and DC Cathode Modes.
      Oniszczuk A. W., Ehsiasarian A. P., Carlström C.-F., Ahlgren M.

13:20  Closing remarks
      R. Bandorf

13:30  Lunch

14:30  End of conference

INFORMATION FOR EXHIBITORS

Setup starts on tuesday 9th June 2015 from 3 p.m. to 5 p.m. | Dismantling starts on thursday 11th June 2015 from 2 p.m. (after lunch)

Time and contact information for delivery of exhibition material:
Stadthalle Braunschweig | Leonhardplatz | 38102 Braunschweig | Germany

Earliest date for arrivals of your exhibition material:
5th June 2015, keyword #HIPIMS 2015#