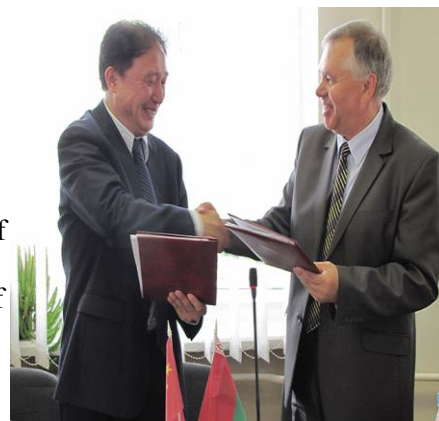


International Chinese-Belarusian Scientific Laboratory on Vacuum Plasma Technologies

International Chinese-Belarusian Scientific Laboratory on Vacuum Plasma Technologies was established in Francisk Skorina Gomel State University on June 13 and in Nanjing university of science and technology on September 28, 2012. The scientific supervisor of the laboratory is A.V. Rogachev

In 2011-2012 the joint projects “Development of methods of formation of nanocomposite, doped organic and non-organic films from active gas phase and study of its properties” and “Formation of carbon and metal nitrides coatings with complex structure by means of plasma and ion beam methods, study of its properties” which are included in the Belarusian-Chinese scientific and technical cooperation programme were carried out with the abovementioned Chinese university.



The following contracts were implemented/are still implemented in the laboratory:

- contract № 3 dated on 19.09.2012 with Ocean Basis Investments Limited, Ltd on the production and supply of equipment for coating deposition from active phase;
- contract № 12BL11NMKA0604119 dated on 26.07.2012 with Chinese scientific corporation of materials and tools on the production and supply of

equipment for coating deposition from active gas phase;

– agreement № 4 dated on 25.10.2012 with Chinese scientific corporation of materials and tools on the implementation of scientific research work «Development of plasma chemical method of organic composite coatings deposition on the basis of organic compounds, evaluation of its effectiveness while applied as active elements of mass-sensitive sensors on the basis of quartz resonators with different sorption activity».

The list of the principle publications of the laboratory staff members:

1. Zhubo Liu. Effects of Polyvinyl Chloride and Aluminum Trichloride on Structure and Property of Polyaniline Composite Films by Electron Beam Deposition / Liu Zhubo, A.A. Rogachev, Zhou Bing, M.A. Yarmolenko, A.V. Ragachev, D.L. Gorbachev, Jiang Xiaohong // Polymer Engineering & Science Journal. – 2012. – Vol. 53.– P. 502–506.
2. Rahachou, A.V. The features of synthesis, structure and mechanical properties of alloyed diamond-like coatings / A.V. Rahachou, Peng Zhu, D.G. Piliptsov, M.M. Fi-adosenka, R.V. Bekarevich // Physics Procedia. – 2012. – V. 32. – P. 561–565.
3. Bekarevich, R.V. Low Temperature Growth of Carbon Nanomaterials on the Polumer Substrate Using Ion Assisted Microwave Plasma CVD / R.V. Bekarevich, S. Miura, Di Lu, A. Ogino, A.V. Rogachev, M.

- Nagatsu // Journal of Photopolymer Science and Technology. – 2012. – V. 25. – № 4. – P. 545–549.
4. Bing Zhou. Synthesis of diamond-like carbon film on copper and titanium inter-layer by vacuum cathode arc evaporation / Bing Zhou, Xiaohong Jiang, Zhubo Liu, A.V. Rogachev, Ruiqi Shen, D.G. Pilipitsou // Applied Mechanics and Materials. – 2012. – Vol. 189. – P. 167–171.
5. Bing Zhou. Structure and mechanical properties of diamond-like carbon films with copper functional layer by cathode arc evaporation / Bing Zhou, Rogachev A.V., Zhubo Liu, Xiaohong Jiang, Ruiqi Shen, Rudenkov A.S. // Surface and Coatings Technology. – 2012. – № 208. – P. 101–108.
6. Yarmolenko, M.A. Formation of complex bis(?-mercaptobenzothiazole)–zinc(II) films by pulsed laser deposition / M.A. Yarmolenko, A.A. Rogachev, Bing Zhou, Xiaohong Jiang, Ruiqi Shen, Xiaoheng Liu // Applied Surface Science. – 2013. – № 273. – P. 836–840.
7. Bing Zhou, M.A. Preparation and characterization of TiO₂ thin film by thermal oxidation of sputtered Ti film / M.A. Bing Zhou, Xiaohong Jiang, Zhubo liu, RuiqiShen, Aleksandr V. Rogachev // Materials Science in Semiconductor Processing. – 2013. – № 16. – P. 513–519.