



МИНИСТЕРСТВО ВЫСШЕГО ОБРАЗОВАНИЯ, НАУКИ И ИННОВАЦИЙ
РЕСПУБЛИКИ УЗБЕКИСТАН

БУХАРСКИЙ ГОСУДАРСТВЕННЫЙ УНИВЕРСИТЕТ

Прикладная физика для промышленных технологий и инжиниринга - APITECH-VIII

ПРОГРАММА



APITECH

Applied Physics for Industrial
Technologies and Engineering

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Программа конференции

VIII Международная конференция
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Бухарский государственный университет, Бухара, Узбекистан

День 1. Торжественное открытие и пленарное заседание

- Регистрация участников
 - Торжественное открытие конференции
 - Приветственные слова организаторов и партнеров
 - Пленарные доклады:
 - Интеллектуальные технологии Smart Dust в глобальных кибер-физических системах, Ковалёв Игорь Владимирович, Сибирский федеральный университет, Красноярск, Россия
 - Доменная структура и магнитооптические свойства редкоземельных феррит – гранатов, Шарипов Мирзо Зокирович, заведующий кафедрой физика Бухарского Государственного Университете, доктор физико-математических наук, профессор, Узбекистан
 - Spectral relations for a matrix model in fermionic Fock space, Ismoilova Dildora Erkinovna, Bukhara State University, Uzbekistan
 - Исследование внешних воздействий на магнитооптические свойства кристалла $\text{Fe}_5\text{Ga}_6\text{Gd}_2\text{YZr}$, Насирова Наргиза Гайратовна, Бухарский государственный университет, Узбекистан
 - Кубическая числовая область значения операторной матрицы 3×3 и ее применения, Шарипова Мубина Шодмоновна, Бухарский государственный университет, Узбекистан
 - Сравнительный анализ технологий получения биотоплива в климатических условиях Туркменистана, Бегмырадова Говхер Рахатовна, Директор научно-образовательного центра «ИТ-Нурлы Шохле» Государственного энергетического института Туркменистана, Туркменистан
 - Основные направления исследований в области математики в Бухарском государственном университете, Расулов Тулкин Хусенович, доктор физико-математических наук, профессор, Бухарский государственный университет, Узбекистан
 - Общее фото участников
 - Заключительное слово председателя пленарного заседания
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День 2. Секционные заседания

Секция 1. Прикладная, инженерная и промышленная физика (*Applied, Engineering and Industrial Physics*)

- Justification of Selection of Components for Analogue Current Comparison Device — Isaicheva A., Basharkin M., Sablin V. и др. — Volga State Transport University, Russia; Invent Technology LLP, Kazakhstan
- Research of Traction Current Monitoring Device Operation Under Conditions of Rail Line Resistance Variation — Basharkin M., Isaicheva A., Zolkin A. и др. — Volga State Transport University, Russia
- Automated synthesis of work plans for machining production systems — Burdo G.B., Tver State Technical University, Russia
- Crack Resistance of Welded Joints Made of 15Cr5Mo Steel after Vibration Treatment — Sugonyako I.S., Fayrushin A.M., Abdullin T.Z. — Ufa State Petroleum Technological University, Rosatom, Russia
- Improving Durability of Cylindrical Parts With Non-Parallel Axes — Yunuskhodjayev S.T., Abdumajidov R.B. — Tashkent State Technical University, Uzbekistan
- Improving Control Over the State of Technospheric Safety During the Implementation of Technological Processes at Enterprises — Khamidullina N., Molev M. и др. — Don State Technical University, Russia
- Causes of brickwork destruction and problems of its restoration — Burykina A., Zakrevskaya L., Karamova K. и др. — Vladimir State University, Russia
- Vortex ejector as a means of reducing harmful emissions in the transport industry — Kuznetsova I., Nesterenko I. и др. — Siberian Institute of Business and IT, Russia
- Cost-benefit Assessment of Bituminous Terminals — Timokhovets V.D., Sannikov S.P., Industrial University of Tyumen, Russia
- Implementation Of Innovative Solutions In The Mining Industry — Starykh S.A., Southwest State University, Russia
- Competitive advantages/disadvantages of wood composites and biofuels — Dolmatov S., Tsubiks V. и др. — Reshetnev SU, Russia, Uzbekistan
- Innovative Technologies for Industrial Production — Starykh S., Minakova I. и др. — Southwest State University, Russia
- Development of an Air Start System For Diesel Engines — Mamarakhimov H., Juraev L. и др. — Academy of Armed Forces, Uzbekistan
- Theoretical analysis of cottonseed husks separation — Juraev D., Kadirov H., Normurodov A. и др. — Navoi State Mining University, Uzbekistan
- Improving railway wagon regulation methodology — Butunov D., Abkdukodirov S. — Tashkent State Transport University, Uzbekistan
- Evaluation of Stress-Strain State of Tank Shell with Corrosion Wear — Zakirnichnaya M., Rubtsov A., Ilyasov V. и др. — Ufa Petroleum Technical University, Russia

- Optimization of Turning Tool Parameters — Toshtemirov K.Q., Toshtemirova G.A. — Almalik State Technical University, Uzbekistan
- Ag alloying effect on biodegradable alloys — Bryzgalov V.A., Korznikova E.A. — Ufa University of Science and Technology, Russia
- Physico-Mechanical Aspects of Bulldozer Dumping Improvement — Solodukhina O., Derevyashkin I. и др. — Southwest State University, Russia
- Integration of Mechanics and Digital Technologies in Gearboxes Design — Evseev E., Dikova T.V. и др. — Southwest State University, Russia
- Optimization of telemetry data flow in underground mining — Kozyrev I., Khabarov K. и др. — Krasnoyarsk Scientific Center, Russia
- UHF Modem Performance for Mining Conditions — Maikov O., Burlakov I. и др. — Krasnoyarsk Scientific Center, Russia

Секция 2. Физика материалов, авиационно-космическая техника и науки о Земле
(Materials Physics, Aerospace Engineering and Earth Science)

- Determining Load Distribution of Wheel Propulsion Unit — Azizov A., Ibragimov B., Jatkanbayeva E. — Tashkent Transport University, Kazakhstan Institute
- Results of research of metrological support — Masharipov Sh.M., Tashkent Technical University, Uzbekistan
- Theoretical analysis of cone crushers — Olimov J.S., Shirinov S.G. — Navoi University of Mining, Uzbekistan
- Exhaust gases in urban conditions — Davlyatov U.R., Dresviannikov S.Yu. и др. — Kyrgyz State Technical University, Kyrgyzstan
- Reliability of photovoltaics with DC optimizers — Lastochkin D.M., Ostashenkov A.P. и др. — Volga State University of Technology, Russia
- Welding electrode selection — Tyusenkov A.S., Latypov O.R. — Ufa Petroleum University, Russia
- Oil field medium impact on corrosion resistance — Tyusenkov A.S., Latypov O.R. — Ufa Petroleum University, Russia
- Vehicle reliability maps — Tajibayev A., Ibragimov B., Kaipova A. — Tashkent State Transport University, Kazakhstan
- Surface treatment of working parts in abrasive environment — Brusentsov A.S., Tumanova M.I. и др. — Kuban Agrarian University, Russia
- Energy efficiency of expander-generator plants — Mukolyants A., Ergasheva D. и др. — Tashkent State Technical University, Uzbekistan
- 3D printing modes with glass thermoplastics — Goncharov E.S., Firsin A.O. и др. — Samara University, Russia
- Seismic waves impact on pipelines — Akhmedov S., Salimova D. и др. — Bukhara Technical University, Uzbekistan
- Rock mass sub-block boundary displacement — Shigin A.O., Kokhonkova E.A. и др. — Krasnoyarsk Scientific Center, Russia

- Rock mass displacement sensor detection — Shigin A.O., Kokhonkova E.A. и др. — Siberian Federal University, Russia
- Maintenance technology for open pit air conditioning engines — Abdirashidov A., Abdivoidov R. и др. — Termez State University, Uzbekistan
- Tire manufacturing quality control — Togaev A., Shermukhamedov A. и др. — Tashkent State Transport University, Uzbekistan
- Cleaner testing at enterprises — Yangiboyev I., Berdanov E. и др. — Gulistan State University, Uzbekistan
- Reducing electricity losses in 6–10 kV substations — Mavlonov J.A., Sayidov M.K. и др. — Navoi University, Uzbekistan
- Insolative media protecting pipelines — Urinov A., Kadir Khanov Z. — Namangan Technical University, Uzbekistan
- High-current cable X-ray machine for industrial control — Potrakhov N., Kostrin D. и др. — Saint Petersburg Electrotechnical University, Russia
- Electroplasticity in aluminum alloys — Morkina A., Murashkin M. и др. — UFRC RAS, Russia

День 3. Секционные заседания

Секция 3. Ядерная, плазменная и радиационная физика для промышленных приложений (*Nuclear, Plasma, and Radiation Physics for Industrial Applications*)

- Simulation of bolted joint fatigue — Lyuminarsky S.E., Alekseev A.D. — Bauman MSTU, Russia
- Impact of diesel fuel changes on pumping process — Ikhsanova F., Yenikeev D. и др. — Ufa Petroleum Univ., Russia
- Reliability of measurements in chemical engineering — Masharipov Sh.M. — Uzbek National Institute of Metrology, Uzbekistan
- Heat and moisture in porous media simulation — Adizova Z., Achilova R., Mamatkulov A. и др. — Bukhara State University, Uzbekistan
- Robotic complex for ecological object monitoring — Kovalenko Yu.F., Shulaeva E. — Ufa Petroleum Univ. Sterlitamak Branch, Russia
- Sesame threshing device development — Ravshanov Sh., Sherov D. и др. — Agricultural Mechanization Research Inst., Uzbekistan
- Grouping methods for deposits — Kuleshova L.S., Mukhametshin V.V. и др. — Ufa Petroleum Univ., Russia
- Demulsification of water-oil emulsions — Nafikova R., Garifullina G. и др. — Ufa Petroleum Univ., Russia
- Gas hydrate formation in snow massif — Stolpovsky M.V., Gimaltdinov I.K. и др. — Ufa Petroleum Univ., Russia
- Wastewater chemical analysis from industries — Oljayev D., Farmanova M. и др. — Navoi State University, Uzbekistan

- Logging modernization for less environmental impact — Rukomojnikov K.P., Tsarev E.M. и др. — Volga State Univ., Russia
- Optimization of information collection in oil fields — Yusifov S., Bayramov I., Mayilov R. — Azerbaijan State Oil University, Azerbaijan
- Frequency dependencies of AFC for resonant circuits — Gall I.R., Kuanashiv V.T. и др. — Institute of Analytical Instrumentation RAS, Russia
- ARGONICUS-2 isotope mass spectrometer — Trusov A.A., Dyachenko A.S. и др. — Ioffe Institute, St. Petersburg
- Reducing material consumption in additive manufacturing — Leonov Y.A., Terekhov M. и др. — Bryansk Technical University, Russia
- ErgoMS porosity analysis module — Kirichek A.V., Kuzmenko A.A. и др. — Bryansk Technical University, Russia
- Aviation wing noise calculation — Moshkov P.A., Moscow Aviation Institute, Russia
- OpenFOAM GUI capabilities — Chitalov D.I. — South Urals FRC RAS, Russia
- Aviation air conditioning systems computer graphics — Chichindaev A., Khromova I. — Novosibirsk State Technical Univ., Russia
- Physics of cotton loosening in soils — Bibutov N.S., Khasanov S.M. и др. — Bukhara State Technical University, Uzbekistan
- Avocado lipid analysis — Barzola M.A.S., Nugmanov A.Kh. и др. — Universidad Estatal Península de Santa Elena, Ecuador
- Swarm intelligence for multi-robot coordination — Dilova N., Nematov A. и др. — Bukhara State University, Uzbekistan

Секция 4. Вычислительная и теоретическая физика, моделирование и Data Science в промышленности

(Computational and Theoretical Physics, Modeling, and Data Science in Industry)

- Microscopic Studies of Erythrocytes Deformability — Valiev H., Vlasov A., Karnet Yu. и др. — Institute of Applied Mechanics RAS, Moscow, Russia
- Salt stress tolerance in halophytes — Saitkulov F., Mirvaliev Z. и др. — Tashkent State Agrarian Univ., Uzbekistan
- Condition of vessel shells, mounting deviations — Zakirnichnaya M., Rubtsov A. и др. — Ufa Petroleum Univ., Russia
- Multi-step mathematical model of equipment distribution — Malafeyev O., Zaitseva I. и др. — Saint-Petersburg State Univ., Russia
- Analysis of squeezing module interaction — Khurramov Sh., Kholturaev F. и др. — Tashkent Univ. of Architecture and Civil Engineering, Uzbekistan
- Kelvin-Voigt Model for contact problems — Khurramov Sh., Kurbanova F. и др.
- AI in groundwater level prediction in irrigation zones — Abdullaev Khurshid — Tashkent Transport Univ., Uzbekistan

- Digital twin-driven predictive maintenance — Karimova D., Naimova M. и др. — Bukhara institutions group, Uzbekistan
- Eigenvalues of Weyl function in quantum mechanics — Dilmurodov E., Juraeva N. и др. — Bukhara State University, Uzbekistan
- Generalized Friedrichs Model eigenvalues in nuclear physics — Tosheva N., Abjalilov S. и др., Uzbekistan
- Finite Element Modeling for Optimizing the Network Infrastructure of a Multimodal Transport Hub —Mamedova N., Urintsov A., Russia
- Edge-Cloud DRL Framework for Industrial IoT — Baratov Sh., Makhmudova Z. и др., Uzbekistan
- Quantum-inspired optimization algorithms — Juraev K., Zokirov B. и др., Uzbekistan
- Eigenvalues of Friedrichs Models on lattice — Umirkulova G., Hakimov A. и др., Uzbekistan
- Spectral properties of operator matrices in physics — Rasulov T., Tosheva N. и др. — Bukhara State University, Uzbekistan
- Hybrid Autoencoder–TCN for cyber anomalies — Najmetdinova N., Khakimova N. и др. — Bukhara State Medical Institute, Uzbekistan
- Real-time facial expression recognition YOLOv8 — Kholmurodov B., Shukurova M. и др. — Bukhara State University, Uzbekistan
- Random Graph Kernel algorithms efficiency — Ostanov Sh., Muxtorov E. и др., Uzbekistan
- AI methods for textile dyeing — Amirova N., Safaeva S. и др. — Tashkent Textile Inst., Uzbekistan
- Digital modeling of soil horizons — Karimova N.S., Khasanov S. и др. — Bukhara Tech. Univ., Uzbekistan
- Data science in educational robotics (A-Algorithm) — Buronova G., Tulayeva M. — Bukhara State Univ., Uzbekistan
- Features of Measurements of Thermal Radiation of Surface Objects Using UAVs — Bordonskiy G., Gurulev, A., Kazantsev V., Kozlov A.