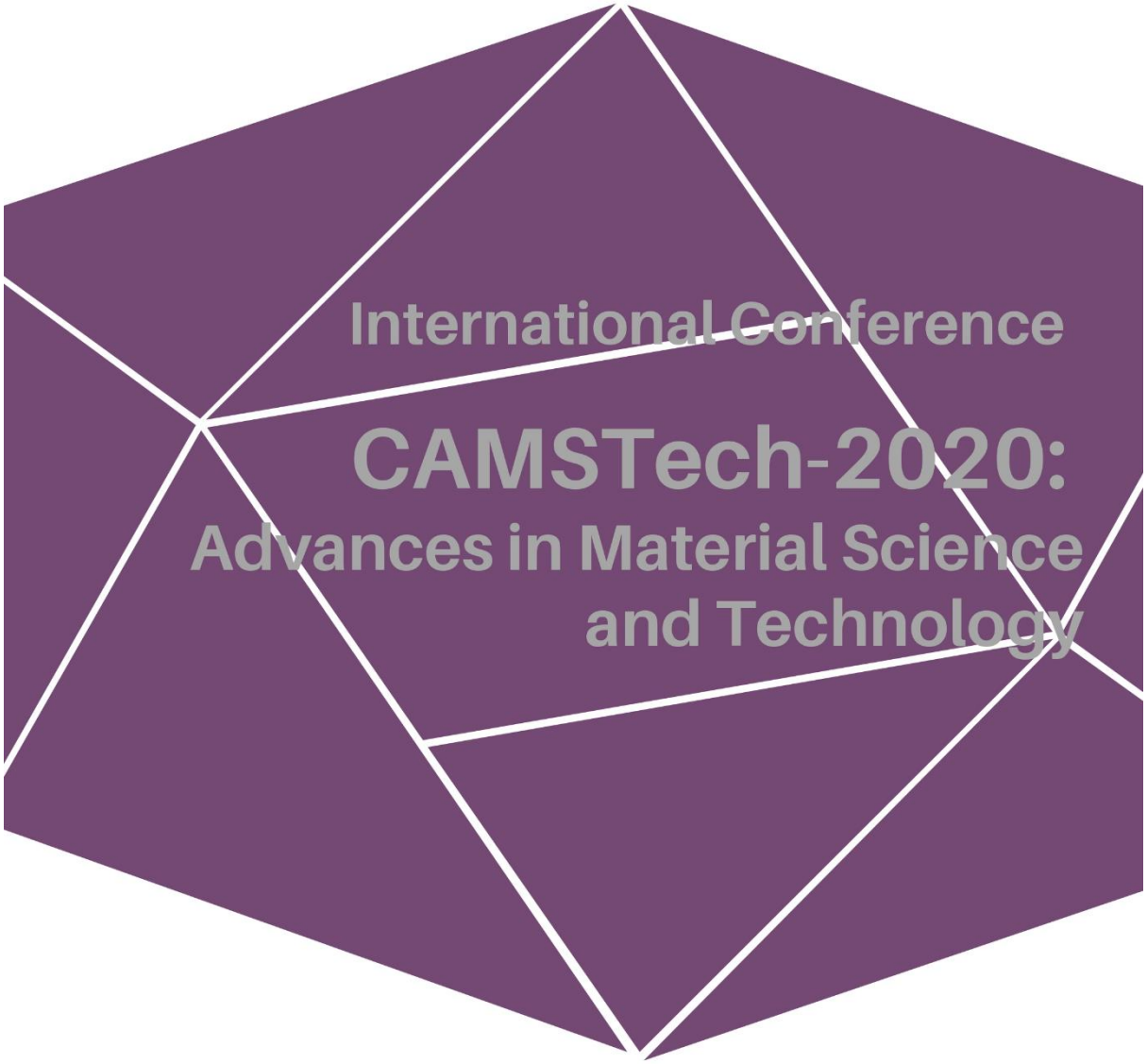
CAMSTECH
International Conference on Advances in Material Science and Technology

Science and Technology City Hall
KRASNOYARSK, RUSSIA



July 31, 2020 | Krasnoyarsk, Russia

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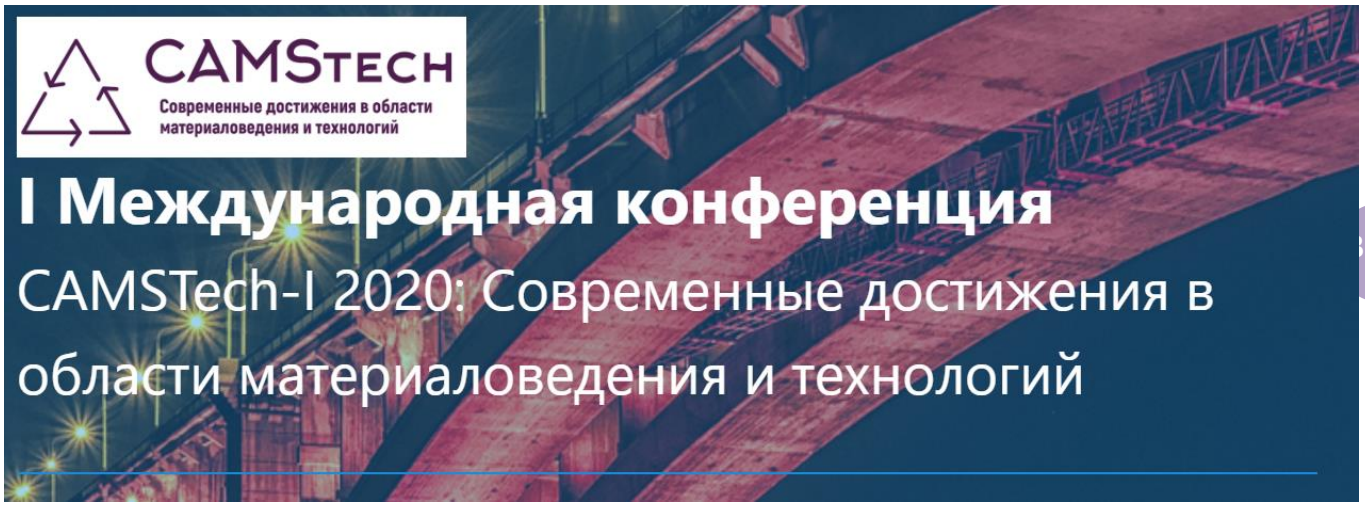
Programme Book

http://conf.domnit.ru/ru/conferences/camstech-2020/

Conference Programme

I Международная конференция CAMSTech-I 2020: Современные достижения в области материаловедения и технологий - I International Conference on Advances in Material Science and Technology

(Krasnoyarsk, July 31, 2020)



Международный Союз научных и инженерных общественных объединений, Красноярский краевой Союз НИО, Красноярский краевой Дом науки и техники Российского Союза НИО проводят 31 июля 2020 года в г. Красноярске Международную конференцию «CAMSTech-2020: Современные достижения в области материаловедения и технологий».

К участию приглашаются **ученые и специалисты** российских и зарубежных вузов, академических институтов, предприятий, проектных и исследовательских центров.

Цель конференции - обмен опытом ведущих специалистов в области применения инновационных технологий, математических методов и информационных систем управления в промышленном производстве, в отраслях аэрокосмического, энергетического и химического машиностроения, в области материаловедения и дизайна новых материалов, а также инжиниринга и автоматизации технологических процессов.

Основные направления научной программы конференции:

- Материаловедение и инновационные технологии / Material science and innovative technology;
- Машиностроение и автоматизация технологических процессов и производств / Mechanical engineering and automation of technological processes for Industry 4.0
- Кибернетика, экономика и организация машиностроительного производства / Cybernetics, economics and organization of mechanical engineering production;
- Надежность и защита данных в промышленных АСУ / Reliability and data protection in automated technological systems;
- Математические методы в технике и технологиях / Mathematical methods in engineering and technology;
- Энергетика, химические технологии и экологический инжиниринг / Energy, chemical technologies and ecological engineering.

Публикация трудов конференции

Материалы конференции в виде статей на английском языке публикуются в журнале *IOP Conference Series: Materials Science and Engineering (MSE)*, индексируемом международными

базами WoS/Scopus (оформляются в соответствии с шаблоном, все требования даны на сайте конференции). Объём представляемого материала должен быть не менее 4-х полных страниц и не более 6 страниц в формате MSWord.

Место и даты проведения
Конференция пройдет 31 июля 2020 года в Красноярском Доме науки и техники РосСНИО: город Красноярск, улица Урицкого, 61.

Для иногородних участников, аспирантов и молодых ученых предусмотрена форма участия с он-лайн презентацией на сайте (дистанционная Е-презентация – от 3 до 5 слайдов на русском и/или английском языке – оформляются в свободной форме в формате pdf, шаблон можно скачать на сайте конференции). Цифровые презентации участников будут выставлены на сайте конференции в разделе "Материалы конференции", будут транслироваться во время конференции на мультимедийных экранах в холле и в зале в режиме нон-стоп.

Контакты
Подробную информацию об условиях участия и программе конференции можно найти на сайте **http://domnit.ru/** в разделе **«Конференции».** 660049, Красноярск, ул. Урицкого, д. 61, ОУ «ККДНиТ», кабинет 101, ответственный секретарь международной конференции Ворошилова А. А. Телефон: +7-391-227-84-84, +7 999 318 33 34, E-mail: krasnio@bk.ru

CAMSTECH Современные достижения в области материаловедения и технологий CAMSTECH International Conference on Advances in Material Science and Technology

http://conf.domnit.ru/ru/conferences/camstech-2020/

Организаторы конференции

Красноярский краевой Дом науки и техники Российского Союза научных и инженерных общественных объединений (Красноярск, Россия)

Российский Союз научных и инженерных общественных объединений (Москва, Россия)

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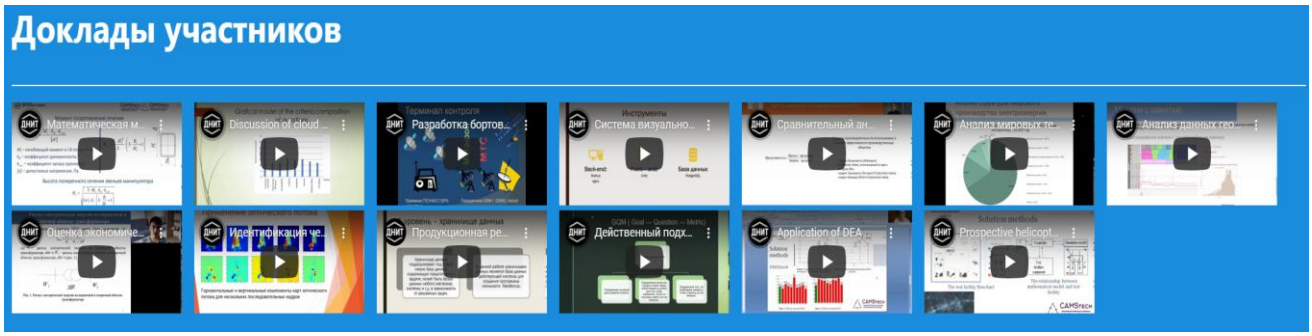
Избранные видеодоклады и презентации участников на сайте материалов конференции: http://conf.domnit.ru/ru/materialy/camstech-materials/



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Section 1. Material science and innovative technology

CAMSTech-1001	Improving the distribution uniformity of surface hardness of the cured CFRP molniezaschita coating during processing in a microwave field elektromagnitnom	I V Zlobina	Yuri Gagarin State Technical University of Saratov, Saratov, Russia
CAMSTech-1002	A probabilistic verification application of random value distribution of defects in rail tracks of industrial facilities	V P Sychev, P V Sychev and I E Voronkov	Department "Transport construction", Moscow State University of Railway Engineering Emperor Nicholas II; LLC Vagonputmash group of companies; Moscow State University of Civil Engineering (National Research University), Moscow, Russian Federation
CAMSTech-1003	The identification of internal defects in integrated circuits with the use of acoustic microscopy	O N Bolebruh, V A Arslanov, T A Ekimova and M A Belyaev	Petrozavodsk State University, Petrozavodsk, Russia; GS Nanotech, Gusev, Russia
CAMSTech-1004	Simulation of drawing-forming by magnetic-pulse deformation	N V Kurlaev, N A Ryngach and M E Ahmed Soliman	Novosibirsk State Technical University, Novosibirsk, Russia

CAMSTech-1005	A physical model of the interaction of microwave electromagnetic fields with the cured polymeric composite materials with distributed in volume of metal structures	I V Zlobina	Yuri Gagarin State Technical University of Saratov, Saratov, Russia
CAMSTech-1006	Comparison of parameters of heteroepitaxial structures	A K Tashatov, R X Beytullayeva, T U Toshev, A P Umirov , Y O Ochilov	Karshi Engineering and Economics Institute (Uzbekistan)
CAMSTech-1007	On the features of production, design and reliability assessment of enclosing composite structures with effective thermal insulation	Victor M Bobryashov and Nikolay Bushuev	TSNIISK Named After Koucherenko V.A. Research Center of Construction Joint Stock Company, Moscow National Research Moscow State University of Civil Engineering, Moscow, Russia
CAMSTech-1008	CdAs2 – MnAs system investigation	A Ril and S Marenkin	Kurnakov Institute of General and Inorganic Chemistry, Russian Academy of Sciences, Moscow, Russian Federation; National university of science and technology “MISiS”, Moscow, Russian Federation
1009-CAMSTech	Phenomenon of the percolation in composite materials based on a polymer binder with a dispersed filler phase	V Sh Sulaberidze, E A Skorniakova	Saint-Petersburg State University of Aerospace Instrumentation, Saint-Petersburg, Russia

1010-CAMSTech	Fluorine coatings influence on the performance characteristics of flexible bellows	E I Amirkhanov, V Y Bazhin, I A Novikov and V V Logunov	OOO "Center of diagnostics, examination, certification», Saint-Petersburg, Saint-Petersburg, Mining University, St. Petersburg, Baltic State University “VOENMEH” titled D.F. Ustinov, Saint-Petersburg, JSC "NPP "Compensator", Petersburg, Russia
1011-CAMSTech	Simulation of rift element forming by magnetic-pulse deformation	N V Kurlaev and M E Ahmed Soliman	Novosibirsk State Technical University, Novosibirsk, Russia
1012-CAMSTech	Abnormal behavior of the torque in the system of magnetite-maghemite γ – Fe2O3 – Fe3O4.	Kh O Urinov, A K Amonov, Kh A Jumanov, I Sh Mujdibaev and N M Mamasadikova	Samarkand branch of Tashkent University of information technologies named after Mukhammad al-Khwarizmi, Samarkand, Uzbekistan
1013-CAMSTech	Siloxane based lubricating oils	G B Burdo and A N Bolotov	Tver State Technical University
1014-CAMSTech	Large values of transverse magnetic reduction of nickel single crystal films	Kh O Urinov, M K Kadirov, A K Amonov, Kh A Jumanov, and G Gulamov	Samarkand branch of Tashkent University of information technologies named after Mukhammad al-Khwarizmi, Samarkand, Uzbekistan
1015-CAMSTech	The study of the force parameters of complex loading during thermal-force processing	K O Semenov and D A Rastorguev	Togliatti State University, Togliatti City, Russian Federation

1016-CAMSTech	Simulation of expansion a branch-pipe with «blinds» by the pressure of magnetic field	N V Kurlaev, N A Ryngach, F M Tagoev and M E Ahmed Soliman	Novosibirsk State Technical University, Novosibirsk, Russia
1017-CAMSTech	Industry 4.0 - new challenges for production	A M Alekseev and A I Borisov	Federal State Autonomous Educational Institution of Higher Education "M. K. Ammosov North-Eastern Federal University", Yakutsk, Republic of Sakha (Yakutia), Russia
CAMSTech-1018	A study of strength fluctuations of Portland cement by FTIR spectroscopy	E V Tararushkin, T N Shchelokova and V D Kudryavtseva	Federal State Institution of Higher Education «Russian University of Transport» (RUT - MIIT), Moscow, National Research Moscow State University of Civil Engineering, Moscow, Russia
CAMSTech-1019	OES diagnostic of SF6/Ar gas mixture of ICP discharges for LiNbO3 etching	Artem A. Osipov, Armenak. A. Osipov, Vladimir I. Berezenko , Sergey E. Alexandrov	Academic University, Russian Academy of Sciences, St. Petersburg, Institute if Mineralogy of Southern-Urals Federal Research Center of Mineralogy and Geoecology of Ural Branch of RAS, Miass, Chelyabinsk Region, Peter the Great St. Petersburg Polytechnic University, St. Petersburg, Russian Federation

CAMSTech-1020	Crystallization and rheological properties of alloys	V F Korostelev and M S Denisov	Vladimir State University, Vladimir, Russia
CAMSTech-1021	Improvement of abrasive machining performance in mining machinery manufacturing based on the use of innovative structures of tumbling bodies	D B Shatko, V S Lyukshin and P A Strelnikov	T.F. Gorbachev Kuzbass State Technical University, Kemerovo, Russia
CAMSTech-1022	Structural studies of additive hard magnetic alloy Alnico24	A S Zhukov, B K Barakhtin, V V Bobyr and A D Titova	NRC "Kurchatov Institute" – CRISM "Prometey", Saint-Petersburg, Russia
CAMSTech-1023	Development of organic poultry farming based on environmental engineering	L M Roiter, N A Eremeeva and Y S Roiter	Federal State Budget Scientific Institution Federal Scientific Center “All-Russian Research and Technological Poultry Institute” of Russian Academy of Sciences Sergiev Posad; Russian State Agrarian University - Moscow Timiryazev Agricultural Academy, Moscow, Russia
CAMSTech-1024	Steam coal engineering solutions	S E Terentyev, I K Zakharenko, P S Shcherbachenko, A A Gibadullin and D E Morkovkin	Smolensk agricultural Academy, Smolensk, Russia; Financial University under the Government of the Russian Federation, Moscow, Russia; State University of Management, Moscow, Russia

CAMSTech-1025	Plasma electrolytic treatment of Ti6Al4V alloy in electrolytes with boron-containing compounds	S A Kusmanov, I V Tambovskiy, I A Kusmanova and P N Belkin	Kostroma State University, Kostroma, Russia
CAMSTech-1026	Analysis of crack formation of an Al-Mg-Li (1420) system alloy under the influence of thermal energies	D V Agafonova, V A Mikheev	Samara National Research University, Samara, Russia
CAMSTech-1027	CVD diamond structures for fast neutron detection	N Polushin, A Laptev, S Chernykh and S Didenko	National university of science and technology “MISiS”, Moscow, Russia
CAMSTech-1028	Method of estimating the Pareto-optimal solutions based on the usefulness	E.V. Zargaryan, Y.A. Zargaryan, O.N. Sakharova, I.V. Kapc, I.M. Kalyakina and I.A. Dmitrieva	Southern Federal University, Don State Technical University, Rostov-on-Don, Russia
CAMSTech-1029	The effect of plasma electrolytic polishing on the surface properties of titanium alloy after plasma electrolytic chemical-thermal treatment	S A Kusmanov, I V Tambovskiy, S A Silkin, R V Nikiforov and P N Belkin	Kostroma State University, Kostroma, Russia
CAMSTech-1030	Construction and operation of linear constructions at the polygonal land relief, in the conditions of	Z Fazilova	Russian University of Transport (RUT MIIT)

	distribution of permafrost soil		
CAMSTech-1031	Rank analysis of energy efficiency of diesel power plants of the Krasnoyarsk region	V I Panteleev, E Yu Sizganova, R A Petukhov, G A Pilyugin and S M Zilberman	Siberian Federal University, Krasnoyarsk, Russian Federation
CAMSTech-1032	Tribological properties of a plain bearing with a sleeve made of a nanostructured zirconia crystal	V V Alisin, M A Borik, A V Kulebyakin, E E Lomonova	Blagonravov Institute of Engineering Science, Russian Academy of Sciences; Prokhorov General Physics Institute, Russian Academy of Sciences, Moscow, Russia
CAMSTech-1033	Lubricants to reduce wear of wheels and rails high-speed rail transport	V Alisin, B Pokidko, M Roshchin and G Simakova	Mechanical Engineering Research Institute of the Russian Academy of Sciences; Russian Technical University, Colloid chemistry department, Russia, Moscow.
CAMSTech-1034	The study of variations in refractive indices of ZnSe single crystals in the range of 1.5-27 microns	E N Kotlikov ,Yu A Novikova and G V Tereshchenko	Saint Petersburg State University of Aerospace Instrumentation (SUAI), Saint Petersburg, Russia
CAMSTech-1035	The role of bound water in the process of low-temperature oxidation of aluminum powders	A V Mostovshchikov, A P Ilyin and A V Korshunov	Tomsk State University of Control Systems and Radioelectronics, National Research Tomsk Polytechnic University, Tomsk, Moscow State University of Civil Engineering, Moscow, Russia

CAMSTech-1036	Dynamic plastic deformation of metal-matrix composites	A S Kaygorodov and S V Zayats	Institute of Electrophysics UB RAS, Ekaterinburg, Russia
CAMSTech-1037	Transformations in aluminum oxyhydroxide under powerful short-pulse microwave radiation	A V Mostovshchikov, A P Ilyin and A V Korshunov	Tomsk State University of Control Systems and Radioelectronics, National Research Tomsk Polytechnic University, Tomsk, Moscow State University of Civil Engineering, Moscow, Russia
CAMSTech-1038	Theoretical evaluation of the performance of greases with additives	V V Ostrikov, S N Sazonov, M V Vigdorowitsch, A V Koshelev and V V Khatuntsev	Michurinsk state agrarian university, Michurinsk, Russia; All-Russian Scientific Research Institute for the Use of Machinery and Oil Products in Agriculture, Tambov, Russia; Angara GmbH, Dusseldorf, Germany
CAMSTech-1039	Electrical properties and fire resistance of LDPE/EVA/FLY ASH composite materials	Vu Minh Trong and Bui Dinh Hoan	Institute of Environment, Vietnam Maritime University, Le Chan district, Hai Phong, Viet Nam
CAMSTech-1040	Stability evaluation of cutting edges during operation of composite materials for instrumental purposes based on a metal matrix	A A Fedotov, M N Safonova, A S Syromyatnikova	North-Eastern Federal University, Yakutsk, Russian Federation; V.P. Larionov Institute of the Physical-Technical Problems of the North of the Siberian Branch of the RAS, Yakutsk, Russian Federation

CAMSTech-1041	Wireless Holter monitoring system with a dual-core processor	V P Ivel, Y V Gerasimova, S S Moldakhmetov, P A Petrov and I A Gerasimov	M. Kozybayev North-Kazakhstan State University, Petropavlovsk, Kazakhstan
CAMSTech-1042	Influence of temperature conditions on the shrinkage of wax patterns for investment casting	K V Nikitin, V N D'yachkov, V I Nikitin, A Yu Barinov and V B Deev	Samara State Technical University, Samara, Russia; Wuhan Textile University, Wuhan, China; National University of Science and Technology "MISIS", Moscow, Russia
CAMSTech-1043	The fractal approach and the effect of nanoadhesive in polymer nanocomposites	R I Lee, Y N Rizaeva, K A Manaenkov, D N Psarev, M R Kiba	Lipetsk state technical university, Lipetsk; Michurinsky state agrarian university, Michurinsk; Saint Petersburg state University of architecture and civil engineering, Saint Petersburg, Russia
CAMSTech-1044	The main factors influencing the processes in the microwave field	R R Daminev	Ufa State Petroleum Technological University, Ufa, Russia
CAMSTech-1045	The influence of the Friction Stir Welding process on the non-heat-hardenable aluminum alloy AA5056 structure formation depending on the sheet workpiece rolling direction	T A Kalashnikova and L L Zhukov	Institute of Strength Physics and Materials Sciences, SB RAS, Tomsk, Russia

CAMSTech-1046	Interaction of Sn-Cu-Co powder materials with diamond in liquid-phase sintering	E G Sokolov, A V Ozolin, S A Gaponenko and S A Arefieva	Kuban State Technological University, Krasnodar, Russia
CAMSTech-1047	Amphiphilic polymers of N-vinylpyrrolidone and their protective properties during the formation of metal nanoparticles	G Yu Ostaeva, I V Morenko, I Yu Isaeva, E A Eliseeva and A N Kuskov	Moscow Automobile and Road Construction State Technical University (MADI), Moscow, Russia; Mendeleev University of Chemical Technology of Russia, Moscow, Russia
CAMSTech-1048	Influence of structural form of elements on corrosion of metal structures	S N Gushchin	Vyatka State Agricultural Academy, Kirov, Russia
CAMSTech-1049	Polycrystalline diamond CVD-synthesis on modified silicon substrates from methane-hydrogen plasma	A L Maslov, N I Polushin, A I Laptev, E A Vysotina, T V Martynova	National University of Science and Technology “MISIS”, Moscow, Russia
CAMSTech-1050	Express-analysis of nitrogen content in CVD-diamonds by FTIR-spectrometry	T V Martynova, N I Polushin, A I Laptev and A L Maslov	National University of Science and Technology “MISIS”, Moscow, Russia
CAMSTech-1051	Growth of polycrystalline CVD-diamond and its defective structure	A L Maslov, N I Polushin, A I Laptev, E A Vysotina and T V Martynova	National University of Science and Technology “MISIS”, Moscow, Russia

CAMSTech-1052	Influence of polymer pseudo-matrix on the formation of copper nanoparticles on the steel surface	G Yu Ostaeva, I V Morenko, I Yu Isaeva and E A Eliseeva	Moscow Automobile and Road Construction State Technical University (MADI), Moscow, Russia
CAMSTech-1053	Study of the stability of the geometric dimensions of wax models of GTE blades using rapid prototyping technology	R A Vdovin	Samara University, Samara, Russia
CAMSTech-1054	Technological basis for the synthesis of polymer composite on the basis of highly filled with tungsten oxide polyimide matrix	R N Yastrebinsky, Z V Pavlenko and A V Yastrebinskaya	Belgorod State Technological University named after V.G. Shukhov
CAMSTech-1055	Specific surface defects arising from diamond CVD-synthesis from methane-hydrogen plasma	T V Martynova, N I Polushin, A I Laptev, E S Zakharova and A L Maslov	National University of Science and Technology “MISIS”, Moscow, Russia
CAMSTech-1056	Accumulated reliability of information hardware and software systems	E K Titov and V Ya Tsvetkov	Russian Technological University (RTU MIREA), Moscow, Russia; Research and Design Institute of design information, automation and communication on railway transport, Moscow, Russia

CAMSTech-1057	Study of the identification model of tribological interaction of friction couples	G M Ismailov,A E Tyurin, A N Gavrilin, V S Nevinitsyna , S A Lomovskaya	Tomsk State Pedagogical University, Tomsk, Russia Saint Petersburg National Research University of Information Technologies, Mechanics and Optics, St. Petersburg, Russia,Tomsk Polytechnic University, Tomsk, Russia
CAMSTech-1058	High-resolution lightweight dual-frequency aircraft synthesized aperture radar a for remote sensing of the Earth: implementation experience and development prospects	M E Rovkin, M S Samuleev, R V Ermakov, I V Djakov, M Yu Dostovalov and N D Malyutin	Tomsk State University of Control Systems and Radioelectronics, Tomsk, Russia; Research Institute of Precision Instruments, Moscow, Russia
CAMSTech-1059	Corrosion chemical mechanism in aggressive liquid of MAO coatings based on OT-4 titanium alloys	V A Mironova, M V Chizhevskaya, A V Girn, D V Ravodina, A E Mikheev and E V Khodenkova	Reshetnev Siberian State University of Science and Technology, Krasnoyarsk, Russia
CAMSTech-1060	Features of the effects of oriented plastic deformation in rectangular bars	S N Gushchin	Vyatka State Agricultural Academy, Kirov, Russia
CAMSTech-1061	Technological aspects of the use of fire-prevention roller shutters in places of permanent residence and	V A Yakovlev, A N Semenova	North-Eastern Federal University, Yakutsk; North-Eastern Federal University, Yakutsk, Russia

	temporary stay of people		
CAMSTech-1062	Prospective helicopter crash-resistance fuel systems testing	S V Grachev, D I Smagin, R S Savelev and K S Napreenko	Moscow Aviation Institute (National Research University)
CAMSTech-1063	Automatic control of structural parts main parameters during mechanical testing of aircraft	V L Simonov, D Yu Eliseeva, O L Mnatsakanyan and T V Karyagina	Russian State Social University, Moscow, Russia
CAMSTech-1064	Optical fluorescent memory with a recording media based on 3-(thiophene-2-carbonyl) -2- (furan-2-yl) -4n-chromen-4-one	G E Adamov, V R Kurbangaleev, N O Poroshin, P B Malyshev, K S Levchenko, P S Shmelin and E P Grebennikov	JSC «Technomash», Enikolopov Institute of Synthetic Polymeric Materials of the Russian Academy of Sciences, Moscow, Russia.

Section 2. Mechanical engineering and automation of technological processes for Industry 4.0

CAMSTech-2001	Empirical data processing technique for studying the influence of technological parameters on tool feed during the final processing of steel and cast-iron workpieces	M G Galkin and A S Smagin	Ural Federal University, Ekaterinburg, Russia

CAMSTech-2002	Etermination of factors affecting the stability of cutting edge of thin lamellate knives	N R Barakaev, N F Urinov, M Kh Saidova and I A Sohibov	Bukhara engineering-technological institute, Bukhara, Uzbekistan
CAMSTech-2003	Modeling of the influence of technological parameters on surface quality, when processing a polymer material, according to a numerical experiment	M G Galkin, A S Smagin and A S Poupyreva	Ural Federal University, Ekaterinburg, Russia
CAMSTech-2004	Complementary industrial cyber-production	A V Shukalov, I O Zharinov, O O Zharinov	ITMO University, Saint Petersburg; Saint Petersburg State University of Aerospace Instrumentation, Saint Petersburg, Russia
CAMSTech-2005	Models for dispatching machine-building divisions	A N Bolotov and G B Burdo	Tver State Technical University
CAMSTech-2006	Approaches to standardization in the automatic control of water quality for water supply and wastewater systems	G A Sambursky	Russian Water and Wastewater Association; MIREA – Russian Technological University; Technical Committee for standardization TC 343 «Water Quality» Rosstandart

CAMSTech-2007	Development of a methodology for evaluating the operational properties of elastic elements for various purposes by acoustic emission	E Yu Remshev, S A Voinash, G E Kokieva, I A Teterina, V A Sokolova, A S Krivonogova and Yu L Pushkov	PRO FERRUM Limited Liability Company, St. Petersburg, Russian Federation, Federal State Budgetary Educational Institution of Higher Education "Novosibirsk State Agrarian University", Novosibirsk, Russian Federation, Federal State Budgetary Educational Institution of Higher Education "Yakutsk State Agricultural Academy", Yakutsk, Russian Federation, Federal State Budgetary Educational Institution of Higher Education "Siberian State Automobile and Highway University (SibADI)", Omsk, Russian Federation, Federal State Budgetary Educational Institution of Higher Education "Saint Petersburg State Forest Technical University named after S.M. Kirov", St. Petersburg, Russian Federation
CAMSTech-2008	Analysis of the uniform distribution of herbicides in the interstitial zone with a rod with a deviating section	K A Manaenkov, V V Khatuntsev, A S Gordeev, A A Korotkov, V I Gorshenin	Michurinsk State Agrarian University, Michurinsk, Russia
CAMSTech-2009	Determination of the energy efficiency of drying hawthorn fruit in a drum dryer with a paddle mixing device	S Yu Shcherbakov, V A Babushkin, I P Krivolapov, P S Lazin end A A Korotkov	Michurinsk State Agrarian University, Michurinsk, Russia

CAMSTech-2010	Results of research on determining the coefficient of rolling resistance of the wheel by the rollback method	K V Novikov	Vyatka State Agricultural Academy, Kirov, Russia
CAMSTech-2011	Methodology of research and testing of internal combustion engines	V A Likhanov and O P Lopatin	Vyatka State Agricultural Academy, Kirov, Russia
CAMSTech-2012	Automatic cold edit control system of non-rigid shafts	O I Drachev, B M Gorshkov and N S Samokhina	Togliatti State University, Togliatti, Russia; Volga State University of Service, Togliatti, Russia
CAMSTech-2013	Model and calculation development of productivity of cotton harvesters	A. A. Rizaev, A. T. Yuldashev, D. A. Kuldashev	Institute of Mechanics and Seismic Stability of Structures of the Academy of Sciences of the Republic of Uzbekistan
CAMSTech-2014	Assessment of the level of digital transformation of fields of activity and industries	A A Yurieva, D E Morkovkin, A A Gibadullin, I V Osipova, O V Karamova and I I Hutarava	Institute of market problems of the Russian Academy of Sciences, Moscow, Russia; Financial University under the Government of the Russian Federation, Moscow, Russia; State University of Management, Moscow, Russia; Belarusian State University, Minsk, Belarus
CAMSTech-2015	Status and prospects of technical equipment of small forms of	V. B. Dzuganov, Y A Shekikhachev, A Sh Teshev , M M	Kabardino-Balkarian state agricultural university named after V.M. Kokov; North Caucasus Research Institute of Mountain and Pre-mountain Horticulture, Nalchik, Russia

	farming in agriculture	Chehenov , V H Mishkhozhev	
CAMSTech-2016	Research of the transient processes for discrete control systems	B R Kassimova, A U Sadvakassova, L Zh Sansyzbay	L.N.Gumilyov Eurasian National University, Nur-Sultan, Kazakhstan
CAMSTech-2017	Friction coefficient research at refining of fibrous semi-finished products	Vikharev S N	Department of technical mechanics and the equipment of pulp and paper industry, Ural State Forest Engineering University
CAMSTech-2018	Cyberphisical adaptive manufacturing control systems	V D Chertovskoy and V V Tsehanovsky	Department of Information Technology, State Electrotechnical University "LETI" of V.I. Ulyanov (Lenin), St. Petersburg, Russia
CAMSTech-2019	Universal MHD device for automation of casting control of aluminum	E S Kinev, A A Tyapin, E A Golovenko, A A Avdulov and S N Efimov	Thermal Electrical Systems LLC, Siberian Federal University, MHD Engineering LLC, Siberian Aerospace University, Krasnoyarsk, Russia
CAMSTech-2020	Technology for forming a multi-layer polymer coating when restoring worn-out landing holes in the body parts of equipment	R I Lee, Y N Rizaeva, D N Psarev, M R Kiba	Lipetsk state technical university, Lipetsk; Michurinsky state agrarian university, Michurinsk; Saint Petersburg state University of architecture and civil engineering, Saint Petersburg, Russia
CAMSTech-2021	Study of profilograph features for determining the geometric characteristics of	S A Vasilyev, A A Fedorova and M A Vasiliev	Chuvash State University named after I.N. Ulyanov, Cheboksary, Russia

	products by laser scanning		
CAMSTech-2022	Algorithm for automatic classification of images of the processed surface by quality	D A Rastorguev and A A Sevastyanov	Togliatti State University, Togliatti City, Russian Federation
CAMSTech-2023	Simulation of layout schemes of soil-throwing machine-tractor units based on articulated load-bearing machines	M A Gnusov, M V Drapalyuk, M N Lysych, D Yu Druchinin and A F Petkov	Department Forest Industry, Metrology, Standardization and Certification, Voronezh State University of Forestry and Technologies named after G.F. Morozov, Voronezh, Russian Federation
CAMSTech-2024	Russian projects in tractor engineering intended for increasing the efficiency of agricultural production	T E Marinchenko	Rosinformagrotekh FSBSI, Pravdinsky township, Russia
CAMSTech-2025	Improving the efficiency of forest fire prevention and suppression with of forest fire machine	M A Gnusov, P I Popikov, S V Malyukov, N A Sherstyukov, A K Pozdnyakov	Department Forest Industry, Metrology, Standardization and Certification, Voronezh, State University of Forestry and Technologies named after G.F. Morozov, Voronezh, Russian Federation
CAMSTech-2026	New technologies to succeed the rooting process of rootstocks in agriculture engineering in Vitro	Ibragim M Bamatov, Zelimkhan V Kimaev and Dzhabrail M Bamatov	Chechen State University, Ltd "Scientific production firm "Sady Chechni", Grozny State Oil Technical University named after Academician M. D. Millionshchikov, Grozny: Russia

CAMSTech-2027	Influence of the natural gas composition and flue gas recirculation in a reverberatory furnace for nickel alloys	V E Quiroz Cabascango and V Yu Bazhin	Saint Petersburg Mining University
CAMSTech-2028	Selecting the shape of centroids of round and non-round gears	D A Kurasov	Kurgan State University, Kurgan region, Kurgan, Russia
CAMSTech-2029	Study of the possibility of upgrading the mechatronic system of an isotopic thickness gauge in a cold rolling mill	A Belyi	Moscow State University of Civil Engineering, Moscow, Russia; Financial University under the Government of the Russian Federation, Moscow, Russia
CAMSTech-2030	Control and remote monitoring of the vertical machining center by using the OPC UA protocol	G M Martinov, P A Nikishechkin, A Al Khoury and A Issa	Moscow State University of Technology "STANKIN", Moscow, Russia
CAMSTech-2031	Engineering methods and technologies of remote sensing in an economic entity for the transition to a highly productive agricultural sector	Ibragim M Bamatov and Ismail L Daudov	FGBNU FIC “V. V. Dokuchaev Soil Science Institute, Moscow; FGBOU VO "Chechen State University", 32, Sheripova str., Grozny, 364024.

CAMSTech-2032	Stabilization of the axisymmetric parts dimensions and shapes by the method of complex axial vibro-impacts	A V Bobrowskii, O I Drachev and L A Ugarova	Togliatti State University, Togliatti

Section 3. Cybernetics, economics and organization of mechanical engineering production

CAMSTech-3001	Improvement of the material and production resources control in the construction industry	M. Kh. Saidova, Sh. I. Xodjimuxamedova and M. A. Dadarbaev	Tashkent Institute of Irrigation and Agricultural Mechanization Engineers
CAMSTech-3002	Industrial business strategies towards a knowledge economy	A V Gurjanov, A V Shukalov, I O Zharinov	Stock Company «Experimental Design Bureau «Electroavtomatika» named after P A Yefimov, Saint Petersburg; ITMO University, Saint Petersburg, Russia
CAMSTech-3003	Monitoring of parameters of functional and cost analysis of personnel processes of the enterprise quality management system	O N Fedonin, A Z Simkin, T P Mozhaeva and A S Proskurin	Bryansk State Technical University, Bryansk, Russia
CAMSTech-3004	Methodology of determining benchmarks and indicators	A V Kirov	MIREA - Russian Technological University (RTU MIREA), Moscow, Russia Federation

	characterizing the functioning of the enterprise quality management system		
CAMSTech-3005	Sharing model of industrial factories	A V Shukalov, I O Zharinov, O O Zharinov	ITMO University, Saint Petersburg; Saint Petersburg State University of Aerospace Instrumentation, Saint Petersburg, Russia
CAMSTech-3006	Assessment of the competitiveness of agricultural production enterprises	A J Toshboyev, N M. Mardiyev, I N Ziyadullayev, R B Azimov and A M Zakimov	Tashkent State Agrarian University, Karakalpak State University named after Berdakh, Uzbekistan
CAMSTech-3007	Optimizing supplier reserve stocks in the supply chain	O.V.MIlekhina, V.I.Mamonov	Novosibirsk State Technical University
CAMSTech-3008	Sustainability of public-private partnerships in the knowledge economy	A V Gurjanov, M O Kostishin, I O Zharinov	Stock Company «Experimental Design Bureau «Electroavtomatika» named after P A Yefimov, Saint Petersburg; ITMO University, Saint Petersburg, Russia
CAMSTech-3009	The choice of informative features based on heterogeneous functionals	N Mamatov, N A Niyozmatova, A Samijonov, B M Abdullayeva, Sh Juraev	Tashkent University Information Technologies named after Al-Kharezmi, Tashkent, Uzbekistan, Namangan State University, Namangan, Uzbekistan
CAMSTech-3010	Analysis of leasing efficiency for the lessor	Yuri V Kirillov	Novosibirsk State Technical University, Novosibirsk, Russia

CAMSTech-3011	Gradient method for determining non-informative features on the basis of a homogeneous criterion with a positive degree	A Samijonov, N Mamatov, N A Niyozmatova, Yu Yuldoshev, M Asraev	Tashkent University Information Technologies named after Al-Kharezmi, Tashkent, Uzbekistan, Namangan State University, Namangan, Uzbekistan
CAMSTech-3012	Satellite radio channels simulation methodology	A G Samoylov, S A X Nasir	Vladimir State University named after Alexander and Nikolay Stoletovs, Vladimir, Russian Federation
CAMSTech-3013	Method for selecting informative and non-informative features	N A Niyozmatova, N Mamatov, A Samijonov, E Rahmonov, Sh Juraev	Tashkent University Information Technologies named after Al-Kharezmi, Tashkent, Uzbekistan, Namangan State University, Namangan, Uzbekistan
CAMSTech-3014	An algorithm for determining the state of a non-stationary dynamic system for assessing fire safety control in an enterprise by the method of integrated indicators	S N Masaev, A N Minkin and D A Edimichev	Siberian Federal University, Krasnoyarsk, Russia
CAMSTech-3015	Training of quartering in digital control of overhaul	V V Tsyganov	V.A. Trapeznikov Institute of Control Sciences, Moscow, Russia
CAMSTech-3016	Method for assessing the economic sustainability of a	E A Nesterov, A E Tuylin, A I Boginskiy and A A Chursin	JSC «Russian space system», JSC «Russian helicopters», Moscow, Russia

	high-tech corporation		
CAMSTech-3017	Fuzzy control in the simulation model of airport baggage handling systems	V A Romanenko, M A Skorokhod and E D Guzha	Samara National Research University, Samara, Russia
CAMSTech-3018	Additional features implementation in the heart disease classification problem	D A Petrusevich	Russian Technological University
CAMSTech-3019	Intelligent analysis of complex innovative project prospects	M I Dli, O V Bulygina, A A Emelyanov and Yu V Selyavskiy	Branch of the National Research University “MPEI” in Smolensk; Smolensk institute of Plekhanov Russian University of Economics, Smolensk, Russia
CAMSTech-3020	The innovative development of the mechanical engineering	A S Tazetdinova and T A Bayaskalanova	Corporate Property and Transaction Department, Joint Stock Company “Verkhnechonskneftegaz”; Management Department, Federal State Budget Educational Institution of Higher Education “Irkutsk National Research Technical University”, Irkutsk, Russia
CAMSTech-3021	Efficiency of implementing the matrix management model in the enterprises of military-industrial complex	M A Ragozina, Yu A Anikina, Yu N Malanina, V A Yushmanova and N K Novoselsky	Reshetnev Siberian State University of Science and Technology, Krasnoyarsk; Siberian Federal University, Krasnoyarsk; Irkutsk State Transport University, Irkutsk, Russia

CAMSTech-3022	Electronic engineering resources in charts and comments	A I Galkina and I A Grishan	A. K. Aylamazyan IPS RAS, Veskovo village, Russia
CAMSTech-3023	Structural transformation in management of the enterprises of military-industrial complex	M A Ragozina, Yu A Anikina, Yu N Malanina, V A Yushmanova and N K Novoselsky	Reshetnev Siberian State University of Science and Technology, Krasnoyarsk; Siberian Federal University, Krasnoyarsk; Irkutsk State Transport University, Irkutsk, Russia
CAMSTech-3024	Development of a management system for the creation of radically new products	A V Yudin	RUDN University
CAMSTech-3025	Consensus achievement method for a robotic swarm about the most frequently feature of an environment	V I Petrenko, F B Tebueva, S S Ryabtsev, M M Gurchinsky and I V Struchkov	North-Caucasus Federal University, Stavropol, Russia
CAMSTech-3026	Interval regression models of a machine-building enterprise	S I Noskov, A S Vergasov , V O Zayanchukovskaya and N I Gluhov	Irkutsk State Transport University, Irkutsk, Russia
CAMSTech-3027	Problems of development of mechanical engineering production in state companies	A Yakovlev	State University of Management, Moscow, Russia; Diplomatic Academy of the Ministry of Foreign Affairs of the Russian Federation, Moscow, Russia

CAMSTech-3028	Control intellectualization of the induction soldering process for creating permanent joints	V S Tynchenko, A V Milov, A V Murygin and S O Kurashkin	Reshetnev Siberian State University of Science and Technology, Krasnoyarsk, Russian Federation

Section 4. Reliability and data protection in automated technological systems

CAMSTech-4001	A robust soft demapper algorithm for OFDM communication systems	K S Mityagin and A S Levchenko	Moscow Institute of Physics and Technology (National Research University), Dolgoprudny, Russia
CAMSTech-4002	Precising the evaluation of radio information system reliability characteristics based on the empirical failure distribution	I N Kartsan, A O Zhukov, A V Timoshenko, A Yu Perlov and D V Ryabchenko	Reshetnev Siberian State University of Science and Technology, Krasnoyarsk, Marine Hydrophysical Institute, Russian Academy of Sciences, Sevastopol, Institute of Astronomy of the Russian Academy of Sciences, Moscow, Shternberg State Astronomical Institute of Lomonosov Moscow State University, Moscow, Russian Technological University, Moscow, RTI company, Moscow, Russia
CAMSTech-4003	Digital media inventory algorithm for long-term digital keeping problem	A V Solovyev	Institute for Systems Analysis Federal Research Center “Computer Science and Control” of Russian Academy of Sciences, Moscow, Russia
CAMSTech-4004	The effectiveness of integer splitting cipher over the traditional	Amanie Hasn Alhussain	Information Technology Department, Peoples' Friendship University of Russia, Moscow, Russia.

	substitution ciphers.		
CAMSTech-4005	Regeneration of information control systems	V T Matchin, A I Rogov and V Ya Tsvetkov	Russian Technological University (RTU MIREA), Moscow, Russia; Research and Design Institute of design information, automation and communication on railway transport, Moscow, Russia
CAMSTech-4006	Method of determining the danger coefficient of actions of the information security offender of APCs	D Chernov and A Sychugov	Department of Information Security Tula State University Tula, Russia
CAMSTech-4007	New iteration parallel-based method for solving graph NP-complete problems with reconfigurable computing systems	A V Kasarkin, I I Levin and D A Sorokin	Southern Federal University, Taganrog, Russian Federation; Supercomputers and Neurocomputers Research Centre, LLC, Taganrog, Russian Federation
CAMSTech-4008	Operation algorithms and application of functional converters modulating voltage for generation of precision radio signals with	S A Sherstukov, A N Buravtsova, D S Tolstykh and S S Pechnikov	Voronezh Institute of the Russian Ministry of the Interior, Voronezh, Russian Federation

	angular modulation		
CAMSTech-4009	On improving indicators for assessing the decision support systems' software quality	O V Tikhanychev	Company group "Technoserv", Moscow, Russia
CAMSTech-4010	Building a model of information signal propagation in a real satellite communication channel	V N Pichugin and A A Soldatov	Chuvash state university is named after Ilya Nikolayevich Ulyanov, Cheboksary, Russia; PAO “MRSK of Volga”-“Chuvashenergo”,Cheboksary, Russia
CAMSTech-4011	Bio-inspired information technology for multi-version design of highly reliable software systems	I V Kovalev, D I Kovalev, N A Testoyedov, A A Voroshilova, A S Kuznetsov and A A Koltashev	Siberian Federal University, Krasnoyarsk State Agrarian University, Reshetnev Siberian State University of Science and Technology, Krasnoyarsk, Russia, China Aviation Industry General Aircraft Zhejiang Institute Co., Ltd, China, JSC “Academician M F Reshetnev Information satellite systems”, Zheleznogorsk, Krasnoyarsk region, Krasnoyarsk Science and Technology City Hall, Russia
CAMSTech-4012	The application of relational interactive logic to build logical triggers in event-driven systems	D V Zakharov, D A Naumov and O V Kuzmin	Irkutsk State University, Irkutsk, Russia; Irkutsk National Technical Research University, Irkutsk, Russia

CAMSTech-4013	An ontology-based knowledge representation in the field of cognitive function assessments	M S Murtazina and T V Avdeenko	Novosibirsk State Technical University, Novosibirsk, Russia
CAMSTech-4014	Client-server application framework based on an object-oriented network model	E L Romanov, G V Troshina and S A Menzhulin	Novosibirsk State Technical University, Novosibirsk, Russia
CAMSTech-4015	Self-organizing technology for substantiating the properties of strength reliability of complex mechanical systems	A F Berman and O A Nikolaichuk	Matrosov Institute for System Dynamics and Control Theory SB RAS (ISDCT SB RAS), Irkutsk, Russia
CAMSTech-4016	Influence of different components of data error on the result of solving identification and approximation problems	V P Zhitnikov, R R Muksimova, N M Sherykhalina and N I Zhitnikova	Ufa State Aviation Technical University, Ufa, Russia; Saint Petersburg State University of Civil Aviation, Saint Petersburg, Russia
CAMSTech-4017	An experimental research of the ultra-wideband pulse propagation in a transdirectional coupler based on coupled striplines	N D Malyutin, E I Trenkal and A N Sychev	Tomsk State University of Control System and Radioelectronics, Tomsk, Russian Federation

CAMSTech-4018	The antenna system with signal polarization separation	M O Konovalenko, V V Sokolov, E I Trenkal and N D Malyutin	Tomsk State University of Control System and Radioelectronics (TUSUR), Tomsk, Russia; Micran JSC, Tomsk, Russia
CAMSTech-4019	The micro-architectures co-design of neuroprocessing CPS	V Ruchkin, B Kostro and E Ruchkina	Ryazan State University, Ryazan, Russia; Ryazan State Radio-Engineering University, Ryazan, Russia
CAMSTech-4020	Technological aspects of the communication channels development for data transmission in the aircraft monitoring system	I V Kovalev, A S Andronov, N A Testoyedov, M V Karaseva, A K Shatrov and V A Bartenev	Siberian Federal University, Krasnoyarsk State Agrarian University, Krasnoyarsk, Russia, China Aviation Industry General Aircraft Zhejiang Institute Co., Ltd, China, Reshetnev Siberian State University of Science and Technology, Krasnoyarsk complex aviation rescue center EMERCOM of Russia, Krasnoyarsk, JSC “Academician M F Reshetnev Information satellite systems”, Zheleznogorsk, Krasnoyarsk region, Russia
CAMSTech-4021	Innovation technologies and practical engineering solutions for smart city development	Sergey D. Proskurnin, Galina Y. Belyakova	Administration CATF Zheleznogorsk, Siberian Federal University, Krasnoyarsk,Russia,
CAMSTech-4022	Studying the switching order for a three-wire structure with modal reservation after failures	A V Medvedev	Tomsk State University of Control Systems and Radioelectronics, Tomsk Russian Federation

CAMSTech-4023	Use of a progressive web application for working with Earth remote sensing, topographic and cadastral data layers	I Ginzburg and S Padalko	Moscow Aviation Institute (National Research University), Moscow, Russia
CAMSTech-4024	Software and algorithmic support of the electron-beam welding system	V S Tynchenko, V E Petrenko, A V Murygin and S O Kurashkin	Reshetnev Siberian State University of Science and Technology, Krasnoyarsk, Russian Federation
CAMSTech-5001	Mathematical simulation of the process of forecasting the fire hazard properties of substances	D S Korolev, A V Vytovtov, D V Kargashilov, A A Odnolko and I V Sitnikov	Voronezh State Technical University, Voronezh institute of increasing the qualifications of staff of the state fire-fighting service of the ministry of the Russian Federation
CAMSTech-5002	Mathematical modeling of the impulse bubbling process of bulk mass by the coolant flow	I L Rogovskii, I P Palamarchuk, S V Kiurchev, V O Verkholantseva, S A Voinash, V A Sokolova and A S Gogolevski	National University of Life and Environmental Sciences of Ukraine, Kyiv, Ukraine Tavria State Agrotechnological University named after Dmytro Motornyi, Melitopol, Ukraine Novosibirsk State Agrarian University, Novosibirsk, Russian Federation St. Petersburg State Forestry University named after S.M. Kirov, Saint-Petersburg, Russian Federation Federal State Budgetary Military Educational Institution of Higher Education «The Mozhaisky Military Space Academy» of the Ministry of Defence of the Russian Federation, Saint-Petersburg, Russian Federation

CAMSTech-5003	Fuzzy quality evaluation of the information system	V A Smirnov, V M Milova, G V Getmanova and V V Kurlov	Saint Petersburg State University of Aerospace Instrumentation, Saint Petersburg State University of Industrial Technology and Design, St.Petersburg, Russia
CAMSTech-5004	Bayesian model for evaluating the pragmatic efficiency of an information system of technological control	V A Smirnov, V M Milova, N V Milova and M S Smirnova	Saint Petersburg State University of Aerospace Instrumentation, Saint Petersburg, Russia
CAMSTech-5005	Simulating of the heat conduction processes and their impact on the stress-strain state of the continuously welded rail structure	Z Fazilova, A Loktev and V Shapran	Russian University of Transport (MIIT) ; Vorkuta permanent way division of the Northern Infrastructure Directorate of JSC «RZD»
CAMSTech-5006	Practical application of variance analysis of four-factor experience data as a technology of scientific research	N V Kartechina, L V Bobrovich, L I Nikonorova, N V Pchelinceva, R N Abaluev	Michurinsk State Agrarian University, Michurinsk, Russia
CAMSTech-5007	Super diffraction resolution of coherent signals in angular coordinates in antenna arrays	L A Litvinchuk T P Mishura and O L Kozlova	St-Petersburg State University of Aerospace Instrumentation St-Petersburg, Russia

CAMSTech-5008	Mathematical model for an identifying flaming combustions and accidents by an unmanned aerial vehicle at oil and gas industry facilities	A V Vytovtov, D S Korolev, R V Barankevich, I V Sitnikov and D V Russkikh	Voronezh State Technical University, Voronezh, Russia; Voronezh institute of Advanced Training of Employees of the EMERCOM of Russia, Voronezh, Russia; General Directorate of EMERCOM of Russia in the Voronezh region, Voronezh, Russia; SFA of EMERCOM of Russia, Moscow, Russia
CAMSTech-5009	Mathematical problem in the construction of kinetic equations of alternative fuel oxidation in an internal combustion engine	O P Lopatin	Vyatka State Agricultural Academy, Kirov, Russia
CAMSTech-5010	Discussion of cloud CAD software testing approach	E Y Galimova	Octavian.SPb company, Saint-Petersburg, Russian Federation; Saint-Petersburg State University of Industrial Technologies and Design, Saint-Petersburg, Russian Federation
CAMSTech-5011	The results of mathematical modeling of the operating modes of the feller machine	D V Chernik, A A Karelina, R V Kazancev and M M Litvinova	Reshetnev Siberian State University of Science and Technology, Krasnoyarsk, Russia
CAMSTech-5012	Production technology and mathematical method for modeling the formulation of fruit and jelly	O M Blinnikova, V A Babushkin, V V Akindinov, O V Perfilova and I M Novikova	Michurinsk State Agrarian University, Michurinsk, Russia

	candies enriched with collagen		
CAMSTech-5013	Mathematical model of a combined manipulator of a forest machine	D V Chernik and K N Chernik	Reshetnev Siberian State University of Science and Technology, Krasnoyarsk, Russia
CAMSTech-5014	Modeling of nitrogen oxides formation in a diesel	V N Kopchikov and A V Fominykh	Vyatka State Agricultural Academy
CAMSTech-5015	Theoretical research on electromagnetic wave propagation in plasma	I V Kudinov, A V Eremin, V A Kudinov, G V Mikheeva	Samara State Technical University, Russia
CAMSTech-5016	Chaotic modes of a non-linear fractional oscillator	R I Parovik	Institute of Cosmophysical Research and Radio Wave Propagation FEB RAS, Paratunka, Russia
CAMSTech-5017	Fuzzy regression model with input and output Z-numbers	O M Poleshchuk	Bauman Moscow State Technical University, Moscow, Russia
CAMSTech-5018	Modeling of transient operating modes in low-power boilers with high-temperature fluidized bed	A V Bondarev, S V Sarkisov, V N Tarasov, V A Vakunenko, N A Biryukov	Military Institute (engineering) of the Military Academy logistics support named after Army General A. V Hrulev, Saint Petersburg Mining University, St. Petersburg, Russia

CAMSTech-5019	Parametric method for evaluation the state of self-government	Kh J Rakhimboev, M A Ismailov, O U Khalmurotov.	Urgench branch of Tashkent University of Information Technologies named after Muhammad al-Khwarizmi, Urgench, Uzbekistan; Research and innovation centre of information and communication technologies at Tashkent University of Information Technologies, Tashkent, Uzbekistan
CAMSTech-5020	Modeling of a strategy for developing a lean organizational structure for managing a petrochemical enterprise	N V Barsegyan, S S Kudryavtseva and L N Ivanova	Kazan National Research Technological University, Kazan, Russia
CAMSTech-5021	Dissipative mathematical model of heat transfer in channels with process intensifiers	A. G. Laptev, T. M. Farakhov, E. A. Lapteva	Kazan state power engineering University
CAMSTech-5022	Mathematical justification of the mechanism of dust deposition by electrofilters for improving working conditions of poultry farm workers	N IChepelev; N G Cherkasova	Krasnoyarsk State Agrarian University, Krasnoyarsk,Russia; Reshetnev Siberian State University of Science and Technology, Krasnoyarsk,Russia

CAMSTech-5023	A method for data analysis in algebraic structures	A.A. Shlepkin I.V. Sabodakh K.A. Filippov	Siberian federal university
CAMSTech-5024	Laser shock processing of metal surfaces with cracks	G Zh Sakhvadze and M S Pugachev	Institute of Machine Science named by A.A.Blagonravov Russian Academy of Sciences, Moscow, Russia
CAMSTech-5025	Subsidiary computations	V Ya Tsvetkov and A V Kozlov	Research and Design Institute of design information, automation and communication on railway transport, Moscow, Russia; Russian Technological University (RTU MIREA), Moscow, Russia
CAMSTech-5026	Scheduling of the independent projects	A V Kalach, L V Rossihina, A A Melnik, S V Sharapov and N M Loran	Voronezh Institute of the Federal Penitentiary Service of Russia, Voronezh, Russia; Ural Institute of State Fire Service of EMERCOM of Russia, Ekaterinburg, Russia; Saint-Petersburg University of EMERCOM of Russia, Saint-Petersburg, Russia
CAMSTech-5027	The spectral curve method for the Kaup-Newell hierarchy	A O Smirnov, E G Filimonova and V B Matveev	Sankt-Petersburg State University of Aerospace Instrumentation; Sankt-Petersburg Department of Steklov Mathematical Institute Russian Academy of Sciences, St-Petersburg, Russia; Institut de Mathematiques de Bourgogne (IMB), Universite de Bourgogne - Franche Comte, Dijon, France
CAMSTech-5028	Derivation of transport equations for dissipation and vorticity from modified equations for	A M Balonishnikov, J A Balonishnikova and J V Kruchkova	Saint-Petersburg State University of Aerospace Instrumentation, St. Petersburg, Russia; State Hydrological Institute< St. Petersburg, Russia; University of the Ministry of Internal

	small-scale velocity		Affairs of St.Petersburg, St.Petersburg, Russia
CAMSTech-5029	Modular-geometric approach to modeling a complex shape surface	E A Belkin, V N Poyarkov and O I Marko	Bolhov Plant of semiconductor devices Bolhov, Bolkhov, Russia; Oryol State University, Orel, Russia
CAMSTech-5030	Brachistochrone of weakly connected graphs	R Dzerzhinsky and O Mitina	MIREA – Russian Technological University, Moscow, Russia
CAMSTech-5031	Mathematical methods for planning energy-efficient motion path of the manipulator anthropomorphic robot for the typical obstacles	V I Petrenko, F B Tebueva, V O Antonov and M M Gurchinsky	North Caucasus Federal University, Stavropol, Russia
CAMSTech-5032	Application of DEA models in efficiency evaluation of the KAMAZ vehicle robotic system	S V Susarev and S P Orlov	Samara State Technical University
CAMSTech-5033	The effective algorithms for estimating the signal and image shift	A V Terekhov, A A Makarov and K A Melnikov	Department of Electronics and Nanoelectronics, National Research University “MPEI”, Moscow, Russia; International Laboratory of Statistics of Stochastic Processes and Quantitative Finance, National Research Tomsk State University, Tomsk, Russia

CAMSTech-5034	Mazes creation for further study of swarm intelligence	A V Dagaev, A A Sorokin, R A Kovalenko and E A Yakovleva	Ivangorods branch of SUAI, Ivangorod, Russia
CAMSTech-5035	Modeling of ultrasonic drilling of hard formation in the conditions on the Moon surface	V N Khmelev, R N Golykh, E A Es'kov, S Jiang, J Liu and Q Quan	Biysk Technological Institute (branch) of Altai State Technical University named after I.I. Polzunov, Biysk, Russian Federation; Harbin Institute of Technology, Harbin, China
CAMSTech-5036	A long period quasi-random sequences false synchronization probability estimation under organized interference conditions	E V Melnikov, I M Azhmukhamedov and F G Hisamov	Astrakhan State Technical University, Astrakhan, Russian Federation; Kuban Institute of Information Protection, Krasnodar, Russian Federation
CAMSTech-5037	The problem of equality in the class of bracketed languages and its use in automation systems for building compilers	B F Melnikov and A A Melnikova	Shenzhen MSU – BIT University, Shenzhen, China; Dimitrovgrad Engineering and Technology Institute – Branch of National Research Nuclear University "MEPhI", Dimitrovgrad, Russia
CAMSTech-5038	Mathematical modeling of management processes in agricultural engineering systems	S O Siptits and N E Evdokimova	Nikonov All-Russian Institute of Agrarian Problems and Informatics, Federal Scientific Center of Agrarian Economics and Social Development of Rural Territories, All-Russian Research Institute of Agricultural Economics

CAMSTech-5039	Mathematical model of fire load type identification by electromagnetic radiation of the optical range using an unmanned aerial vehicle at oil and gas industry facilities	A V Vytovtov, D S Korolev, A A Odnolko, S D Nikolenko and V A Vytovtov	Voronezh State Technical University, Voronezh, Russia; Voronezh institute of Advanced Training of Employees of the EMERCOM of Russia, Voronezh, Russia; Federal Agricultural Kursk Center, Kursk, Russia
CAMSTech-6001	Detonation combustion in a dual-circuit ejector pulsating jet engine	K. V. Migalin, A.G. Egorov, K. A. Sidenko	Scientific and Production Firm "Rotor:Togliatti State University,Tolyatti, Russia
CAMSTech-6002	Environmental engineering approach for ecologization of plant protection systems	A K Apazhev, V N Berbekov, Y A Shekikhachev, L M Hazhmetov, G H Bakuev and L Z Shekikhacheva	Kabardino-Balkarian state agricultural university named after V.M. Kokov; North Caucasus Research Institute of Mountain and Pre-mountain Horticulture, Nalchik, Russia
CAMSTech-6003	The cyber-production syndinical situation	A V Gurjanov, A V Shukalov, I O Zharinov	Stock Company «Experimental Design Bureau «Electroavtomatika» named after P A Yefimov, Saint Petersburg; ITMO University, Saint Petersburg, Russia
CAMSTech-6004	Features of the development of fuel flares when running diesel on alcohol	V A Likhanov and O P Lopatin	Vyatka State Agricultural Academy, Kirov, Russia
CAMSTech-6005	Investigation of alternative fuel oxidation kinetics in an internal	O P Lopatin	Vyatka State Agricultural Academy, Kirov, Russia

	combustion engine		
CAMSTech-6006	Analysis of electric power technologies in industrial production	N A Testoyedov, I A Potapenko, N M Lugovaya, V V Kukartsev and M V Karaseva	Reshetnev Siberian State University of Science and Technology, Krasnoyarsk, JSC “Academician M F Reshetnev Information satellite systems”, Zheleznogorsk, Krasnoyarsk region, Siberian Federal University, Krasnoyarsk, Russia
CAMSTech-6007	Estimation of economic damage in the difference of the transformer loading factor	A S Lukovenko, T V Radionov, V V Kukartsev, N A Testoyedov and M V Karaseva	Reshetnev Siberian State University of Science and Technology, Siberian Federal University, Krasnoyarsk, JSC “Academician M F Reshetnev Information satellite systems”, Zheleznogorsk, Krasnoyarsk region, Russia
CAMSTech-6008	Method of calculating the working process of the engine when working on methanol	V A Likhanov and O P Lopatin	Vyatka State Agricultural Academy, Kirov, Russia
CAMSTech-6009	Determination the capacity of low volume mixers for processing liquid environment	E V Boev, V G Afanasenko and M S Luzina	Ufa State Petroleum Technological University
CAMSTech-6010	Efficiency of diesel operation on biofuels	V A Likhanov, A V Fominykh and V N Kopchikov	Vyatka State Agricultural Academy

CAMSTech-6011	Calculation of the process of nitrogen oxides formation during combustion of methanol in the engine	O P Lopatin	Vyatka State Agricultural Academy, Kirov, Russia
CAMSTech-6012	Environmental performance of biofuel engine	V A Likhanov, V N Kopchikov and A V Fominykh	Vyatka State Agricultural Academy
CAMSTech-6013	Methods for evaluating the performance of industrial cooling tower sprinklers	E V Boev	Ufa State Petroleum Technological University
CAMSTech-6014	Improvement of fire retardant properties of wood materials	A M Gazizov, O V Kuzntsova, A A Sharafutdinov and K M Shaimuhametova	Ufa State Petroleum Technological University, Ufa, Russia; Ural State Forest Engineering University, Ekaterinburg, Russia; Ufa State Petroleum Technological University, Ufa, Russia; Ufa State Petroleum Technological University, Ufa, Russia
CAMSTech-6015	Alternative fuels and assessment of their applicability in internal combustion engines	V N Kopchikov	Vyatka State Agricultural Academy, Kirov, Russia
CAMSTech-6016	Research of heat and mass transfer characteristics of industrial cooling tower sprinklers	E V Boev	Ufa State Petroleum Technological University

CAMSTech-6017	Methanol as the main substitute for petroleum fuels	A V Fominykh	Vyatka State Agricultural Academy, Kirov, Russia
CAMSTech-6018	Monitoring the reliability and efficiency of the electricity industry	A A Gibadullin, A A Yurieva, D E Morkovkin and N I Isaichykova	State University of Management, Moscow, Russia; Institute of market problems of the Russian Academy of Sciences, Moscow, Russia; Financial University under the Government of the Russian Federation, Moscow, Russian Federation; Gomel State Technical University named after P.O. Sukhoi, Gomel, Republic of Belarus
CAMSTech-6019	Aeroecology of audience with split systems	I N Lykov, S A Kusacheva and M E Safronova	Institute of Natural Kaluga State University named after K.E. Tsiolkovsky, Kaluga, Russia; Moscow State Technical University named after N.E. Bauman, Kaluga branch, Kaluga, Russia
CAMSTech-6020	Alternative fuel engine duty cycle	A A Anfilatov	Vyatka State Agricultural Academy, Kirov, Russia
CAMSTech-6021	Speed characteristics of a diesel running on biofuel	A V Fominykh and V N Kopchikov	Vyatka State Agricultural Academy
CAMSTech-6022	Influence of emulsion fuel on the composition of dispersed particles	V A Likhanov and A A Anfilatov	Vyatka State Agricultural Academy, Kirov, Russia
CAMSTech-6023	Russian oil company productive and economic activity	K V Ketova	Kalashnikov Izhevsk State Technical University, Izhevsk, Russia

	optimal control mathematical modeling		
CAMSTech-6024	Calculated studies of the influence of the composition of biofuels on the formation of indicator efficiency	V A Likhanov and A A Anfilatov	Vyatka State Agricultural Academy, Kirov, Russia
CAMSTech-6025	Stimulating tariff formation models for reactive power flows and electricity quality control	A V Kuznetsov and V V Chikin	Ulyanovsk State Technical University, Ulyanovsk, Russia
CAMSTech-6026	Analysis of the operation of the diesel engine on rapeseed oil	A A Anfilatov	Vyatka State Agricultural Academy, Kirov, Russia
CAMSTech-6027	Beneficial use of thermal secondary energy resources in the rectification cycle at ethylene glycol production unit	D S Balzamov, E Yu Balzamova, V V Bronskaya, E A Rybkina and O S Kharitonova	Kazan State Power Engineering University, Kazan National Research Technological University, Kazan Federal University, Kazan, Russia
CAMSTech-6028	Environmental indicators of harmful emissions when working on mixed biofuels	V A Likhanov and A A Anfilatov	Vyatka State Agricultural Academy, Kirov, Russia

CAMSTech-6029	Organization of the fuel heating reserve system on the basis of associated petroleum gas	D S Balzamov, E Yu Balzamova, V V Bronskaya and O S Kharitonova	Kazan State Power Engineering University, Kazan National Research Technological University, Kazan, Russia
CAMSTech-6030	Analysis of the key design features of low-power turbines for electricity generation	A A Kishkin, Yu N Shevchenko and A V Delkov	Reshetnev Siberian State University of Science and Technology
CAMSTech-6031	Features of the stages of heterogeneous catalytic processes under the influence of microwave radiation	R R Daminev	Ufa State Petroleum Technological University, Ufa, Russia
CAMSTech-6032	Directions of development of digitalization of the oil industry in the Russian Federation	N S Kulyasov, O T Shipkova, A E Zavialov and G D Charyyarova	State University of Management, Moscow; National University of Science and Technology MISIS, Moscow; Peoples' Friendship University of Russia (RUDN University), Moscow, Russian Federation
CAMSTech-6033	Studying of properties of low-viscous fuel oil for the purpose of its utilization	R R Daminev, A A Islamutdinova, I V Ovsyannikova	Ufa State Petroleum Technological University, Ufa, Russia
CAMSTech-6034	Environmental measures to reduce air pollution at the site	A V Zvyagintseva, S A Sazonova and V V Kulneva	Voronezh State Technical University, Voronezh, Russia

CAMSTech-6035	Utilization of the vat residues of butyl alcohols with receiving phthalate softener	R F Nafikova, A A Islamutdinova, I V Ovsyannikova	Ufa State Petroleum Technological University, Ufa, Russia
CAMSTech-6036	Modeling of metalwork and welding technological processes	A V Zvyagintseva, S A Sazonova and V V Kulneva	Voronezh State Technical University, Voronezh, Russia
CAMSTech-6037	Recycling of polymer materials for foundry patterns	D V Sukhorukov, A A Kreshchik, V N Sharshin and E V Sukhorukova	Vladimir State University named after Alexander and Nikolay Stoletovs, Vladimir, Russian Federation
CAMSTech-6038	Microbiological diagnosis of chernozem leached in agrocenoses of the Krasnoyarsk forest-steppe	N V Fomina	Krasnoyarsk State Agrarian University, Krasnoyarsk, Russia
CAMSTech-6039	About the interchangeability of iron-manganese nodules of the Pacific And The Baltic Sea	Mariia Alexeevna Sulimova	Saint Petersburg Mining University
CAMSTech-6040	Determination of heat- and mass transfer coefficients in small-size apparatuses of recycled water cooling	K E Bondar, N S Shulaev, S V Laponov and D F Suleymanov	Ufa State Petroleum Technological University, Branch in the Sterlitamak

CAMSTech-6041	Structure of electric power generation from different resources in Russia	V.N. Kernitskii, V V Kukartsev, D S Shalaeva, E I Semenova, K A Bashmur and S V Apanasenko	Reshetnev Siberian State University of Science and Technology; Siberian Federal University, Krasnoyarsk, Russian Federation
CAMSTech-6042	Development of the decision support system for ecological safety of Arctic communications	V V Bystrov and D N Khaliullina	Institute for Informatics And Mathematical Modeling Kola Science Centre of the Russian Academy of Sciences, Apatity, Russia
CAMSTech-6043	Pulse voltage stabilizer controlled by a microcontroller	S N Titovskii, T S Titovskaya and N V Titovskaya	Krasnoyarsk State Agrarian University; Siberian Federal University, Krasnoyarsk, Russia
CAMSTech-6044	Ecological and economic evaluation of development of Kumuhsky deposit of thermal waters	D K Dzhavatov and A A Azizov	Institute of Geothermy and renewable energy-branch of the Federal state budgetary institution of science of the joint Institute of high temperatures of the Russian Academy of Sciences, Makhachkala, Russia; Dagestan state University, Makhachkala, Russia
CAMSTech-6045	Method vertical seismic profiling and evaluation of producibility of Miocene deposits in Hovsan oilfield	T R Ahmadov and A M Amirov	Azerbaijan State Oil and Industry University, Baku, Republic of Azerbaijan
CAMSTech-6046	Algomonitoring of chernozem leached in agrocenoses of the forest-steppe of the	Natalya V Fomina	Krasnoyarsk State Agrarian University, Krasnoyarsk, Russia

	Krasnoyarsk Territory		
CAMSTech-6047	The mechanical mounder technological parameters justification	A M Tsypouk, A V Rodionov and L P Pekki	Petrozavodsk State University, Petrozavodsk, Russian Federation
CAMSTech-6048	Using electrodes with high active electrical resistance as a way to increase the productivity of an ozone generator based on dielectric barrier discharge	V V Andreev, G A Kravchenko, A N Matyunin and Yu P Pichugin	Chuvash State University, Cheboksary, Russia
CAMSTech-6049	Environmental assessment of the quality of the elek and or rivers in the zone of influence of enrichment waste and metallurgical production	A K Kairakbaev, V Z Abdrakhimov and E S Abdrakhimova	Zerek Technopark, Baishev University, Aktobe, Kazakhstan; Samara State Space University, Samara, Russia; Samara State University of Economics, Samara, Russia
CAMSTech-6050	Formation of greenbelts as an environmental protection tool	V V Oznamets and G V Belokonev	Federal State Budgetary Institution of Higher Education Moscow State University of Geodesy and Cartography (MIIGAiK), Moscow, Russia
CAMSTech-6051	About functioning of radioelectronic equipment in the arctic and far	P S Budyakov, A I Gawlicky, L V Cherckesova and I V Pakhomov	JSC “NPP” Pulsar”, Moscow, Russia; Don State Technical University, Rostov-on-Don, Russia

	north climatic conditions		
CAMSTech-6052	To the forecast of residual resource installation of electric centrifugal pump for oil production	A S Topolnikov, I K Gimaltdinov, A A Gimaltdinova and E Y Kochanova	LLC RN-BashNIPIneft, Ufa, Russia; Ufa State Petroleum Technological University, Ufa, Russia
CAMSTech-6053	Analytical calculations of the parameters of pollutant emissions and the justification of methods for reducing surface gas pollution from working aircraft engines	A V Zvyagintseva, V V Kulneva and S A Sazonova	Voronezh State Technical University, Voronezh, Russia
CAMSTech-6054	Potential possibilities of hydrogen accumulation in Nickel-based solid-state materials	A V Zvyagintseva	Voronezh State Technical University, Voronezh, Russia
CAMSTech-6055	Reflection of acoustic waves from a bubble screen in water with hydrate bubbles	I K Gimaltdinov, I G Khusainov, G Y Khusainova and A A Gimaltdinova	Ufa State Petroleum Technological University, Ufa, Russia; Sterlitamak Branch Bashkir State University, Sterlitamak, Russia

CAMSTech-6056	Application of polyurethane, rubber and aluminum as materials for the production of the dome separator	A S Chiglintseva, A A Nasyrov and I A Chiglintsev	Ufa State Petroleum Technological University, Ufa, Russia; Birsk branch of Bashkir State University, Birsk, Russia
CAMSTech-6057	On the decomposition of gas hydrate at a positive temperature	B I Tazetdinov, A S Chiglintseva, I K Gimaltdinov and E Y Kochanova	Ufa State Petroleum Technological University, Ufa, Russia
CAMSTech-6058	Environmental assessment of the impact of the meteorological conditions on technogenic formaldehyde and carbon black pollution of the air in Voronezh	S A Kurolap, O V Klepikov and S A Yeprintsev	Voronezh State University, Voronezh, Russia
CAMSTech-6059	The use of ash and slag material from the Aktobe thermal power plant in the production of porous aggregates based on liquid glass compositions contributes to the development of a green economy	A K Kairakbaev, V Z Abdrakhimov and E S Abdrakhimova	Zerek Technopark, Baishev University, Aktobe, Kazakhstan; Samara State Space University, Samara, Russia; Samara State University of Economics, Samara, Russia

CAMSTech-6060	On the issue of initiation of bubble detonation by small-amplitude waves	I K Gimaltdinov, A A Gizzatullina and A A Gimaltdinova	Ufa State Petroleum Technological University, Ufa, Russia
CAMSTech-6061	Revising the effectiveness of thermal method application for unconventional bitumen oil production stimulation	A A Gizzatullina and Yu A Tazetdinova	Ufa State Petroleum Technological University, Ufa, Russia; Birsk branch of the Bashkir State University, Birsk, Russia
CAMSTech-6062	The dynamics of sound waves in a tube with elastic walls filled with gas-liquid mixture	I K Gimaltdinov, A A Gizzatullina and A A Gimaltdinova	Ufa State Petroleum Technological University, Ufa, Russia
CAMSTech-6063	Mathematical modelling of pump station	K D Semenova, N V Savosteenko, N M Maksimov and N A Belov	South Ural State University, Chelyabinsk, Russia
CAMSTech-6064	Analysis of anthropogenic contamination of soils by petroleum products	L N Zhichkina, V V Nosov, K A Zhichkin, L P Bespamjatnova, O A Grunina and A A Grunina	Samara State Agrarian University, Samara, Russia; K.G. Razumovsky Moscow State University of technologies and management, Moscow, Russia; Samara State Agrarian University, Samara, Russia; K.G. Razumovsky Moscow State University of technologies and management; K.G. Razumovsky Moscow State University of technologies and management; K.G. Razumovsky Moscow State

			University of technologies and management, Moscow, Russia
CAMSTech-6065	Optimization of flywheel for starter-generator base on the differential electric drive	N M Maksimov, N V Savosteenko, K D Semenova and N A Belov	South Ural State University
CAMSTech-6066	Geodetic support for the landscape environmental studies	V V Oznamets	Moscow State University of Geodesy and Cartography (MIIGAiK), Moscow, Russia
CAMSTech-6067	Mathematical modeling of the temperature regime in a ventilated pile of sugar beet	A I Zavrazhnov, N V Zuglenok, A A Zavrazhnov, S S Tolstoshein, SM Koltsov	Michurinsk State Agrarian University, Michurinsk, Krasnoyarsk State Agrarian University, Krasnoyarsk, Tambov State Technical University, Tambov, Russia
CAMSTech-6068	To the question of modeling processes in oil-producing a well during short periodic operation by electric centrifugal pump installations	A S Topolnikov, I K Gimaltdinov, A A Gimaltdinova and E Y Kochanova	LLC RN-BashNIPIneft, Ufa, Russia; Ufa State Petroleum Technological University, Ufa, Russia
CAMSTech-6069	Investigation of the influence of medium and microwave radiation parameters on the dynamics of	M R Davletshina, M V Stolpovsky, A S Chiglintseva and I K Gimaltdinov	Ufa State Petroleum Technological University, Ufa, Russia

	decomposition of gas hydrate		
CAMSTech-6070	Technologies for methane production from hydrogen using a heated liquid	M R Davletshina, M V Stolpovsky and A S Chiglintseva	Ufa State Petroleum Technological University, Ufa, Russia
CAMSTech-6071	Features of decomposition of gas hydrate when exposed to microwave radiation	M R Davletshina, M V Stolpovsky, A S Chiglintseva and I K Gimaltdinov	Ufa State Petroleum Technological University, Ufa, Russia

Overview of I International Conference on Advances in Material Science and Technology - CAMSTech-2020

We are pleased to present this issue of IOP Conference Series: Materials Science and Engineering (MSE) for the selected revised papers presented in the I International Conference on Advances in Material Science and Technology - CAMSTech-2020, held on July 31, 2020, at the Krasnoyarsk Science and Technology City Hall (Russia). The purpose of the Conference is to share the experience of leading experts in the application of innovative technologies, mathematical methods and information management systems in industrial production, in the fields of aerospace, energy and chemical engineering, materials science and design of new materials, as well as engineering and automation of technological processes, etc.

CAMSTech-2020 Conference was jointly organised by the International and Russian Union of Scientific and Engineering Associations (Moscow, Russia), Krasnoyarsk Regional Union of Scientific and Engineering Associations and Krasnoyarsk Science and Technology City Hall.

The main partner organisations in preparing and organising the Conference in Krasnoyarsk as well as of the previous scientific events [1-8] were: Siberian Federal University, JSC “Academician M F Reshetnev Information satellite systems” and Krasnoyarsk Scientific Centre of the Siberian Branch of the Russian Academy of Sciences.

The papers are related to the following themes:

- Material science and innovative technology;
- Mechanical engineering and automation of technological processes for Industry 4.0;

• Cybernetics, economics and organization of mechanical engineering production;
• Reliability and data protection in automated technological systems;
• Mathematical methods in engineering and technology;
• Energy, chemical technologies and ecological engineering.

The Program Committee and Editorial Board included prominent professors and scientists from the Russian Academy of Sciences, University of Maribor (Slovenia), Liaoning Normal University (China), Ruhr University in Bochum (Germany), Siberian Federal University (Russia), Tashkent University of Information Technologies (Uzbekistan), Voronezh State Technical University (Russia), Baku State University (Azerbaijan) as well as specialists from Russian and foreign leading industrial enterprises.

The international scope of the Conference was confirmed by the participation of representatives from 9 countries besides Russia (Germany, Azerbaijan, Belarus, France, Ukraine, Kazakhstan, Vietnam, China, Uzbekistan):

- Tashkent State Agrarian University, Uzbekistan
- Karakalpak State University named after Berdakh, Uzbekistan
- Angara GmbH, Dusseldorf, Germany
- Azerbaijan State Oil and Industry University, Baku, Republic of Azerbaijan
- Belarusian State University, Minsk, Belarus
- Bukhara engineering-technological institute, Uzbekistan
- China Aviation Industry General Aircraft Zhejiang Institute Co., Ltd
- Gomel State Technical University named after P.O. Sukhoi, Republic of Belarus
- Harbin Institute of Technology, China
- Institut de Mathematiques de Bourgogne (IMB), Universite de Bourgogne - Franche Comte, Dijon, France
- Institute of Environment, Vietnam Maritime University, Le Chan district, Hai Phong
- Institute of Mechanics and Seismic Stability of Structures of the Academy of Sciences of the Republic of Uzbekistan
- Karshi Engineering and Economics Institute, Uzbekistan
- L. N. Gumilyov Eurasian National University, Nur-Sultan, Kazakhstan
- M. Kozybayev North-Kazakhstan State University, Petropavlovsk
- Namangan State University, Uzbekistan
- National University of Life and Environmental Sciences of Ukraine, Kyiv
- Research and innovation centre of information and communication technologies at Tashkent University of Information Technologies, Uzbekistan
- Samarkand branch of Tashkent University of information technologies named after Mukhammad al-Khwarizmi, Uzbekistan
- Shenzhen MSU – BIT University, China
- Tashkent Institute of Irrigation and Agricultural Mechanization Engineers
- Tashkent University Information Technologies named after Al-Kharezmi, Uzbekistan
- Tavria State Agrotechnological University named after Dmytro Motornyi, Melitopol, Ukraine
- Urgench branch of Tashkent University of Information Technologies named after Muhammad al-Khwarizmi, Uzbekistan;
- Wuhan Textile University, China
- Zerek Technopark, Baishev University, Aktobe, Kazakhstan

The participants from Russia represented more than 180 universities, scientific institutes and organisations, industrial enterprises:

- Academic University, Russian Academy of Sciences, St. Petersburg
- K. Aylamazyan IPS RAS, Veskovo village
- Administration CATF Zheleznogorsk
- All-Russian Research Institute of Agricultural Economics
- All-Russian Scientific Research Institute for the Use of Machinery and Oil Products in Agriculture, Tambov
- Astrakhan State Technical University
- Bauman Moscow State Technical University, Moscow

- Belgorod State Technological University named after V.G. Shukhov
- Birsk branch of the Bashkir State University
- Biysk Technological Institute (branch) of Altai State Technical University named after I.I. Polzunov
- Blagonravov Institute of Engineering Science, Russian Academy of Sciences
- Bolhov Plant of semiconductor devices Bolhov
- Branch of the National Research University “MPEI” in Smolensk
- Bryansk State Technical University
- Chechen State University, Ltd "Scientific production firm "Sady Chechni"
- Chuvash State University named after I.N. Ulyanov, Cheboksary
- Company group "Technoserv", Moscow
- Corporate Property and Transaction Department, Joint Stock Company “Verkhnechonskneftegaz”
- Dagestan state University, Makhachkala, Russia
- Department "Transport construction", Moscow State University of Railway Engineering Emperor Nicholas II
- Department Forest Industry, Metrology, Standardization and Certification, Voronezh, State University of Forestry and Technologies named after G.F. Morozov
- Department of Electronics and Nanoelectronics, National Research University “MPEI”, Moscow
- Department of Information Security Tula State University Tula
- Department of Information Technology, State Electrotechnical University "LETI" of V.I. Ulyanov (Lenin), St. Petersburg
- Department of technical mechanics and the equipment of pulp and paper industry, Ural State Forest Engineering University
- Dimitrovgrad Engineering and Technology Institute – Branch of National Research Nuclear University “MEPhI”
- Diplomatic Academy of the Ministry of Foreign Affairs of the Russian Federation, Moscow
- Don State Technical University, Rostov-on-Don
- Federal Agricultural Kursk Center
- Federal Scientific Center of Agrarian Economics and Social Development of Rural Territories
- Federal State Autonomous Educational Institution of Higher Education "M. K. Ammosov North-Eastern Federal University", Yakutsk
- Federal State Budget Scientific Institution Federal Scientific Center “All-Russian Research and Technological Poultry Institute” of Russian Academy of Sciences Sergiev Posad
- Federal State Budgetary Educational Institution of Higher Education "Novosibirsk State Agrarian University"
- Federal State Budgetary Educational Institution of Higher Education "Yakutsk State Agricultural Academy"
- Federal State Budgetary Educational Institution of Higher Education "Siberian State Automobile and Highway University (SibADI)", Omsk
- Federal State Budgetary Educational Institution of Higher Education "Saint Petersburg State Forest Technical University named after S.M. Kirov"
- Federal State Budgetary Institution of Higher Education Moscow State University of Geodesy and Cartography (MIIGAiK)
- Federal State Budgetary Military Educational Institution of Higher Education «The Mozhaisky Military Space Academy» of the Ministry of Defence of the Russian Federation, Saint-Petersburg
- FGBNU FIC “V. V. Dokuchaev Soil Science Institute, Moscow
- FGBOU VO "Chechen State University", Grozny
- Financial University under the Government of the Russian Federation
- General Directorate of EMERCOM of Russia in the Voronezh region
- Grozny State Oil Technical University named after Academician M. D. Millionshchikov
- GS Nanotech, Gusev, Russia
- Information Technology Department, Peoples' Friendship University of Russia, Moscow
- Institute for Informatics and Mathematical Modeling Kola Science Centre of the Russian Academy of Sciences, Apatity
- Institute for Systems Analysis Federal Research Center “Computer Science and Control” of Russian Academy of Sciences
- Institute if Mineralogy of Southern-Urals Federal Research Center of Mineralogy and

Geoecology of Ural Branch of RAS, Miass, Chelyabinsk Region
- Institute of Astronomy of the Russian Academy of Sciences, Moscow
- Institute of Cosmophysical Research and Radio Wave Propagation FEB RAS, Paratunka
- Institute of Electrophysics UB RAS, Ekaterinburg
- Institute of geothermy and renewable energy-branch of the Federal state budgetary institution of science of the joint Institute of high temperatures of the Russian Academy of Sciences, Makhachkala
- Institute of Machine Science named by A.A. Blagonravov of Russian Academy of Sciences, Moscow
- Institute of market problems of the Russian Academy of Sciences
- Institute of Natural of Kaluga State University named after K.E. Tsiolkovsky
- Institute of Strength Physics and Materials Sciences, SB RAS, Tomsk
- International Laboratory of Statistics of Stochastic Processes and Quantitative Finance of National Research Tomsk State University
- Irkutsk National Technical Research University
- Irkutsk State Transport University
- Irkutsk State University
- Ivangorods branch of SUAI, Ivangorod
- JSC “Academician M F Reshetnev Information satellite systems”, Zheleznogorsk
- JSC “NPP” Pulsar”, Moscow,
- JSC «Russian space system», Moscow
- JSC «Russian helicopters», Moscow
- JSC «Technomash», Moscow
- Enikolopov Institute of Synthetic Polymeric Materials of the Russian Academy of Sciences, Moscow
- K.G. Razumovsky Moscow State University of technologies and management
- Kabardino-Balkarian state agricultural university named after V.M. Kokov
- Kalashnikov Izhevsk State Technical University, Izhevsk
- Kazan Federal University
- Kazan National Research Technological University
- Kazan state power engineering University
- Kostroma State University
- Krasnoyarsk complex aviation rescue center EMERCOM of Russia
- Krasnoyarsk Science and Technology City Hall
- Krasnoyarsk State Agrarian University
- Kuban Institute of Information Protection, Krasnodar
- Kuban State Technological University, Krasnodar
- Kurgan State University
- Kurnakov Institute of General and Inorganic Chemistry, Russian Academy of Sciences
- Lipetsk state technical university
- LLC RN-BashNIPIneft, Ufa
- LLC Vagonputmash group of companies
- Management Department, Federal State Budget Educational Institution of Higher Education “Irkutsk National Research Technical University”
- Marine Hydrophysical Institute, Russian Academy of Sciences, Sevastopol
- Matrosov Institute for System Dynamics and Control Theory SB RAS, Irkutsk
- Mechanical Engineering Research Institute of the Russian Academy of Sciences
- Mendeleev University of Chemical Technology of Russia
- Michurinsk state agrarian university
- Military Institute (engineering) of the Military Academy logistics support named after Army General A. V Hrulev
- Mining University, St. Petersburg
- Baltic State University “VOENMEH” titled D.F. Ustinov, Saint-Petersburg
- JSC "NPP "Compensator"
- MIREA – Russian Technological University
- Moscow Automobile and Road Construction State Technical University (MADI)
- Moscow Aviation Institute (National Research University)
- Moscow Institute of Physics and Technology (National Research University), Dolgoprudny
- Moscow National Research Moscow State University of Civil Engineering
- Moscow State University of Geodesy and Cartography (MIIGAiK)
- Moscow State University of Technology "STANKIN"
- National Research Moscow State University of Civil Engineering

- National university of science and technology “MISiS”
- Nikonov All-Russian Institute of Agrarian Problems and Informatics
- North Caucasus Federal University, Stavropol
- North Caucasus Research Institute of Mountain and Pre-mountain Horticulture, Nalchik
- North-Caucasus Federal University, Stavropol
- North-Eastern Federal University, Yakutsk
- Novosibirsk State Agrarian University
- NRC "Kurchatov Institute" – CRISM "Prometey", Saint-Petersburg
- Octavian.SPb company, Saint-Petersburg
- OOO "Center of diagnostics, examination, certification», Saint-Petersburg
- Oryol State University
- PAO “MRSK of Volga”-“Chuvashenergo”, Cheboksary
- Peoples’ Friendship University of Russia (RUDN University)
- Peter the Great St. Petersburg Polytechnic University
- Petrozavodsk State University
- PRO FERRUM Limited Liability Company, St. Petersburg
- Prokhorov General Physics Institute, Russian Academy of Sciences
- Research and Design Institute of design information, automation and communication on railway transport, Moscow
- Research Institute of Precision Instruments, Moscow
- Reshetnev Siberian State University of Science and Technology, Krasnoyarsk
- Rosinformagrotekh FSBSI, Pravdinsky township
- RUDN University
- Russian State Agrarian University - Moscow Timiryazev Agricultural Academy
- Russian State Social University
- Colloid chemistry department of Russian Technical University
- Russian Technological University
- Russian University of Transport (MIIT)
- Russian Water and Wastewater Association
- Ryazan State Radio-Engineering University
- Ryazan State University
- Saint Petersburg Mining University
- Saint Petersburg National Research University of Information Technologies, Mechanics and Optics
- Saint Petersburg State University of Aerospace Instrumentation
- Saint Petersburg state University of architecture and civil engineering
- Saint Petersburg State University of Civil Aviation
- Saint Petersburg State University of Industrial Technology and Design
- Saint-Petersburg University of EMERCOM of Russia
- Samara National Research University
- Samara State Agrarian University
- Samara State Technical University
- Samara State University of Economics
- Sankt-Petersburg Department of Steklov Mathematical Institute Russian Academy of Sciences
- Scientific and Production Firm "Rotor”
- SFA of EMERCOM of Russia, Moscow
- Shternberg State Astronomical Institute of Lomonosov Moscow State University, Moscow
- Siberian Federal University, Krasnoyarsk
- Smolensk agricultural Academy
- Smolensk institute of Plekhanov Russian University of Economics
- South Ural State University, Chelyabinsk
- Southern Federal University, Don State Technical University, Rostov-on-Don
- Southern Federal University, Taganrog
- St. Petersburg State Forestry University named after S.M. Kirov
- State Hydrological Institute St. Petersburg
- State University of Management, Moscow
- Sterlitamak Branch Bashkir State University
- Stock Company «Experimental Design Bureau «Electroavtomatika» named after P A Yefimov, Saint Petersburg
- Supercomputers and Neurocomputers Research Centre, LLC, Taganrog
- T.F. Gorbachev Kuzbass State Technical University, Kemerovo
- Tambov State Technical University
- Technical Committee for standardization TC 343 «Water Quality» Rosstandart
- Thermal Electrical Systems LLC
- MHD Engineering LLC
- Togliatti State University
- Tomsk Polytechnic University
- Tomsk State Pedagogical University

- Tomsk State University of Control System and Radioelectronics
- TSNIISK Named After Koucherenko V.A. Research Center of Construction Joint Stock Company
- Tver State Technical University
- Ufa State Aviation Technical University
- Ufa State Petroleum Technological University
- Ulyanovsk State Technical University
- University of the Ministry of Internal Affairs of St.Petersburg
- Ural Federal University, Ekaterinburg
- Ural Institute of State Fire Service of EMERCOM of Russia
- Ural State Forest Engineering University, Ekaterinburg
- V.A. Trapeznikov Institute of Control Sciences, Moscow
- V.P. Larionov Institute of the Physical-Technical Problems of the North of the Siberian Branch of the RAS, Yakutsk
- Vladimir State University named after Alexander and Nikolay Stoletovs
- Volga State University of Service, Togliatti
- Vorkuta permanent way division of the Northern Infrastructure Directorate of JSC «RZD»
- Voronezh institute of Advanced Training of Employees of the EMERCOM of Russia
- Voronezh Institute of the Federal Penitentiary Service of Russia
- Voronezh Institute of the Russian Ministry of the Interior
- Voronezh State Technical University
- Voronezh institute of increasing the qualifications of staff of the state fire-fighting service of the ministry of the Russian Federation
- Voronezh State University
- Vyatka State Agricultural Academy
- Yuri Gagarin State Technical University of Saratov

The event has offered a platform for bringing together students, postdocs, innovative academics and industrial experts to exchange their ideas and contribute new engineering approaches to research technological and automation processes in various production systems. Great interest was aroused by the section about material science and innovative technology and the section about energy, chemical technologies and ecological engineering.

The Conference provided the premier interdisciplinary and multidisciplinary forum for researchers, practitioners and educators to present and discuss the most recent innovations, mathematical methods, practical challenges encountered and the solutions adopted in the fields of materials sciences, mechanical, chemical, ecological and power engineering, aerospace technologies, cybernetics, reliability and data protection in automation systems, etc.

All participants were invited to present their papers in this Volume and all submitted manuscripts went through the independent peer review process. We are very grateful to all reviewers from Russia, China, USA, Slovenia, Germany, Azerbaijan and Uzbekistan for their time and highly professional comments. We deeply believe that their reviews gave opportunity to improve the scientific quality of the presented papers which may be useful for academic, scientific and industrial partners.

A total of 415 papers have been submitted to the conference. Each paper has been peer reviewed by the reviewers specialized in the related field. At the end of the review process, a total of 258 high quality papers were selected and accepted for this publication. These papers reflect modern engineering approaches in all Conference directions, broaden the researches of the previous Conferences [1-8]. We hope that you enjoy the reading of the papers.

We chose the IOP Conference Series: Materials Science and Engineering to provide all contributors with the opportunity to publish their papers in an international, peer-reviewed journal. This is understood and appreciated by all the participants of our Conference, and therefore this Volume provides an excellent overview of the main topics of our Conference.

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We express gratitude to IOP Publishing for an opportunity to publish the Proceedings of the Conference to provide open access and to make them available for worldwide recognition.

Conference Programme

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(Krasnoyarsk, July 31, 2020)