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THE APPLIED SCIENTIFIC RESEARCHES DIRECTION “APPLICATIONS OF NANO-TECHNOLOGIES AND INFORMATION TECHNOLOGIES IN MEDICINE” (“APNANO-T AND INFT IN M”) OF “SEC "SFA CMT" OF "RA(M)S" N. A. ACAD. BURDENKO N.N.” (PART 2)

The developed “The applied scientific researches direction "Applications of nano-technologies and information technologies in medicine"” (“APNANO-T and INFT in M”) treats to the applied scientific researches divisions of “The scientific-educational centre "System and financial analysis based on cognitive modeling technology" of "RA(M)S" named after acad. Burdenko N.N.” (“SEC "SFA CMT" of "RA(M)S" n. a. acad. Burdenko N.N.” – SEC) as the first SEC in the structure of “SIO "Academy of cognitive natural sciences"” (“SIO "ACNS"”) as the add. component of the system of science and education of the modern country for the creation, distribution and use of the main and derivative scientific results of the cognitive modeling technology (CMT) (www.vetrovan.(spb.)ru) [see the applied scientific researches directions and departments of SEC]: 1) it is executed by the principle of “administrative-economy submission”; 2) works in the several main directions, which allow to provide the development of the applied main and derivative scientific results (my second report on SRW from 2006-2008(9) y. was submitted to “SPbSETU "LETI"” and “The Government of RF” for the translation, carrying out of int. action and receiving of “The Nobel prize”); 3) includes the several various main divisions: III. “The applied scientific researches department "Applications of nano-technologies for the mechanical-engineering, instrument-making, polygraphy, reprography and photo-cinema-technics, light and food industry, transport, architecture and construction in medicine"” (“APNANO-T for M-EI-MPRPH-S-TL and FITA and C in M”) (*) [***the applied scientific researches in area “Applications of nano-technologies for the mechanical-engineering in medicine”*** – usage of the theoretical bases of nano-technologies for the mechanical-engineering in medicine, usage of theory of medical nano-technologies for the machine-science and details of machines in medicine, for the machine-building materials in medicine, for the technologies of mechanical-engineering in medicine, for the foundry production in medicine, for the forging-stamping production in medicine, for the assembly production in medicine, for the cutting of materials in medicine, for the electrical-physical-chemical treatment in medicine, for the thermal and reinforcing powder materials in medicine, for the production of non-metallic products in medicine, for the machine-tool-engineering in medicine, for the robotics in medicine, for the instrumental production in medicine, for the mining mechanical-engineering in medicine, for the metallurgical mechanical-engineering in medicine, for the boiler-building in medicine, for the turbine-building in medicine, for the special power units in medicine, for the chemical and oil mechanical-engineering in medicine, for the locomotive-building and carriage-building in medicine, for the engine-building in medicine, for the automobile-building in medicine, for the ship-building in medicine, for the aircraft-building in medicine, for the space technics and rocket-building in medicine, for the lifting-transportational mechanical-engineering in medicine, for the construction and road mechanical-engineering in medicine, for the communal mechanical-engineering in medicine, for the tractor and agricultural mechanical-engineering in medicine, for the mechanical-engineering of light industry in medicine, for the polygraphic mechanical-engineering in medicine, for the mechanical-engineering of food industry in medicine, for the mechanical-engineering of trade and public catering in medicine, for the household machines and devices in medicine, for the production of weapons in medicine, for the other branches of mechanical-engineering in medicine and usage of the cognitive modeling technology in the applications of nano-technologies for the mechanical-engineering in medicine;

“The Nobel committee” (The Kingdom of Norway and The Kingdom of Sweden)
(it was submitted to “SIO "ACNS"” on the int. conf. “IQR and D in MO: CA” on the 01st-31st of October 2020 y.)

the applied scientific researches in area "Applications of nano-technologies for the instrument-making in medicine" – usage of the theoretical bases of nano-technologies for the instrument-making in medicine, usage of theory of medical nano-technologies for the theoretical bases of instrument-making in medicine, for the general technology of production and equipment in the medical instrument-making, for the designing and constructing of devices in medicine, for the devices of measuring of the electrical and magnetic values in medicine, for the devices of measuring of the mechanical values in medicine, for the devices of measuring of the time and frequency in medicine, for the devices of measuring of the composition and physical-chemical properties of the substances and materials in medicine, for the devices of thermal-technical and thermal-physical measurements in medicine, for the devices of measuring of the acoustic values and characteristics in medicine, for the devices of measuring of the optical and lighting-technical values and characteristics in medicine, for the devices of measuring of the ionizing radiations in medicine, for the devices of non-destructive control of the products and materials in medicine, for the general structural elements and units of measuring devices, systems and the means of office-equipment in medicine and usage of the cognitive modeling technology in the applications of nano-technologies for the instrument-making in medicine;
the applied scientific researches in area "Applications of nano-technologies for the polygraphy, reprography and photo-cinema-technics in medicine" – usage of the theoretical bases of nano-technologies for the polygraphy, reprography and photo-cinema-technics in medicine, usage of theory of medical nano-technologies for the polygraphy, reprography and photo-cinema-technics in medicine and usage of the cognitive modeling technology in the applications of nano-technologies for the polygraphy, reprography and photo-cinema-technics in medicine;
the applied scientific researches in area "Applications of nano-technologies for the light industry in medicine" – usage of the theoretical bases of nano-technologies for the light industry in medicine, usage of theory of medical nano-technologies for the textile industry in medicine, for the knitting industry in medicine, for the garment industry in medicine, for the leather industry in medicine, for the fur industry in medicine, for the industry of artificial leather and film materials in medicine, for the shoe industry in medicine, for the leather-haberdashery industry in medicine, for bristle-brush production in medicine, for the production of furniture in medicine and usage of the cognitive modeling technology in the applications of nano-technologies for the light industry in medicine;

the applied scientific researches in area "Applications of nano-technologies for the food industry in medicine" – usage of the theoretical bases of nano-technologies for the food industry in medicine, usage of theory of medical nano-technologies for the food raw materials and auxiliary materials in medicine, for the processes and apparatuses of food productions in medicine, for the elevator and flour-cereal industry in medicine, for the combi-feed industry in medicine, for the bread-baking and macaroni industry in medicine, for the confectionery industry in medicine, for the sugar industry in medicine, for the starch-molasses industry in medicine, for the barmy industry in medicine, for the beer-brewing industry in medicine, for the spirit industry in medicine, for the industry of high-alcoholic beverages in medicine, for the wine-making industry in medicine, for the industry of non-alcoholic beverage in medicine, for the canning, vegetable-drying and food-concentrate industry in medicine, for the food-taste industry in medicine, for tobacco industry in medicine, for the meat and poultry-processing industry in medicine, for the production of eggs and egg products in medicine, for the dairy industry in medicine, for the oil-fat industry in medicine and usage of the cognitive modeling technology in the applications of nano-technologies for the food industry in medicine;
the applied scientific researches in area "Applications of nano-technologies for the transport in medicine" – usage of the theoretical bases of nano-technologies for the transport in medicine, usage of theory of medical nano-technologies for the railway transport in medicine, for the automobile transport in medicine, for the water transport in medicine, for the air transport in medicine, for the pipeline transport in medicine, for the industrial transport in medicine, for the urban transport in medicine, for the interaction of the different kinds of transport in medicine, for the mixed transportations in medicine, for the other kinds of transport in medicine and usage of the cognitive modeling technology in the applications of nano-technologies for the transport in medicine;
the applied scientific researches in area "Applications of nano-technologies for the architecture and construction in medicine" (*) – usage of the theoretical bases of nano-technologies for the architecture and construction in medicine, usage of the engineering-theoretical bases of construction and architecture in medicine, usage of theory of building materials and products in medicine, usage of theory of building constructions in medicine, usage of theory of technology of construction-installation works in medicine, usage of theory of technology of production of building materials, products, machines, mechanisms, equipment and tools, used in the construction and industry of building-materials in medicine, usage of theory of engineering surveys in the medical construction, usage of theory of architectural-construction design in medicine, usage of theory of district planning in medicine, usage of theory of town-planning in medicine, usage of theory of the objects of construction and engineering support of the objects of construction in medicine, usage of theory of tendencies, dependencies and regularities in the medical architecture and construction, usage of theory of the cognitive modeling technology with the dynamic cloning, verification and subverification in the medical architecture and construction,

usage of theory of the iterative cycle of the cognitive modeling technology in the medical architecture and construction, usage of theory of the technique of use of the cognitive modeling technology in the medical architecture and construction, usage of theory of the parametrical cognitive models block for the architecture and construction in medicine (buildings and constructions based on the cognitive circle, cognitive disc, cognitive cylinder, cognitive cone and cognitive sphere), usage of the theoretical bases of formation of the parametrical cognitive models block in the medical architecture and construction, usage of theory of the structure of the cognitive model of the 0^{th}, 1^{st}, 2^{nd} and 3^{rd} generation in the medical architecture and construction, usage of theory of the ways of representation of the structure of the cognitive models and problem environments in the medical architecture and construction: the formal classical of the 0^{th} generation (the logical and production models), the non-formal classical of the 0^{th} generation (the semantic network, the frame network and ontology), the formal new of the 0^{th} generation (the calculus of theory of sets and corteges on domains and the innovative calculus of theory of sets and graphs), the non-formal new of the 0^{th} generation (the multi-level structural scheme and the multi-level encapsulated pyramids combining theory of graphs and theory of sets), the flat of the 1^{st} generation (the cognitive circle and the cognitive disc), the volumetric of the 1^{st} generation (the cognitive cylinder, the cognitive cone and the cognitive sphere), the flat and volumetric of the 2^{nd} generation (the one-, two-, three-, four-, five- and more cognitive circle, cognitive disc, cognitive cylinder, cognitive cone and cognitive sphere), the hybrid of the 3^{rd} generation (the combinations of the existing cognitive models), usage of theory of the algorithms of formation of the structure of the cognitive models of the 0^{th}, 1^{st}, 2^{nd} and 3^{rd} generations in the medical architecture and construction, usage of theory of the techniques of research of the parameters of the cognitive models of the 0^{th}, 1^{st}, 2^{nd} and 3^{rd} generations in the medical architecture and construction, usage of theory of the algorithms of the analysis of a posteriori results of research in the medical architecture and construction, usage of theory of the adaptive automation means of the architecture and construction in medicine (the automation means of formation and research of the cognitive circle, the automation means of formation and research of the cognitive disc, the automation means of formation and research of the cognitive cylinder, the automation means of formation and research of the cognitive cone, the automation means of formation and research of the cognitive sphere, the automation means of formation and research of the one-, two-, three-, four-, five- and more cognitive sphere and others), usage of theory of statistical justification of the practical use of the received results in medical architecture and construction, usage of theory of the factors affecting on the efficiency of architecture and construction of the buildings and constructions in medicine, usage of theory of the organization and plan of carrying out of the experiment in the medical architecture and construction, usage of theory of research of the parameters of the parametrical cognitive models block in the medical architecture and construction, usage of theory of preliminary processing of a posteriori results of the diagnostics in the medical architecture and construction, usage of theory of selection of the methods of the statistical analysis of the formed samples of data in the medical architecture and construction, usage of theory of the analysis of the dynamics of resultativity of the architecture and construction in medicine, usage of theory of the dispersion, regression, discriminant, cluster analysis, multidimensional scaling, factorial analysis and bibliographic lists in the medical architecture and construction and usage of the cognitive modeling technology in the applications of nano-technologies for the architecture and construction in medicine].

The applied scientific researches directions and departments of SEC allow to develop the main and derivative scientific results of CMT.