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| УДК 665.75.035:629.5  **N.P. Demidova1, A.A. Marchenko2, O.A Onishchenko1**  *1Odessa National Maritime Academy, Ukraina, Odessa, 65029; 2Kamchatka State Technical University, Petropavlovsk-Kamchatsky, 683003*  *e-mail:Marchencko29@mail.ru*  **BASIC INDEXES OF SHIP FUEL AND THEIR BASIC OPERATING PROPERTIES**  The aim of this article is in the analysis of different physical and chemical indexes of ship fuel and their influence on operating descriptions and properties of all ship’s fuel system. All basic physical and chemical properties of ship heavy and easy fuels, needed for economically and technologically reasonable selection of type and brand of fuel in the certain terms of bunkering, fuel order , are given in the article.  **Key words**: ship fuel, viscidity, density, mechanical admixtures, wear of cylinders.  *DOI: 10.17217/2079-0333-2015-32-6-11*  **Information about authors**  **Demidova Natalya Pavlovna –** Odessa National Maritime Academy; Odessa, Ukraine, 65029; Senior tutor of Fleet technical exploitation chair; ctefnpdemidova@ukr.net  **Marchenko Aleksej Aleksandrovich** – Kamchatka State Technical University; Petropavlovsk-Kamchatskу, Russia, 683003; Senior tutor of Electro- and radioequipment of ships chair; [Marchencko29@mail.ru](mailto:Marchencko29@mail.ru)  **Onishchenko Oleg Anatolevich –** Odessa National Maritime Academy; Odessa, Ukraine, 65029; Doctor of technical sciences; Professor; Professor of Fleet technical exploitation chair; [olegoni@mail.ru](mailto:olegoni@mail.ru) |
| УДК 510.6:62  **G.А. Pyukke**  *Kamchatka State Technical University, Petropavlovsk-Kamchatsky, 683003*  *e-mail: geopyukke@yandex.ru*  **THE USE OF FUZZY LOGICAL INFERENCE DURING ANALYSIS  OF COMPLEX TECHNICAL SYSTEMS**  The method offered in the articleis based on the use of fuzzy logical inference and allows using the method of linguistic processes description for creation of fuzzy diagnostic models. Losing accuracy within the framework of given engineering problem this approach allows to solve some problems successfully connected with complicated nature of parameters interdependency forming subsystem, their nonlinearity and stochastic processes nature which take place in the systems. The algorithm of fuzzy logical inference for diagnostics of nonlinear dependences is given; the model of diagnostic character dependency from parameter’s component in the form of fuzzy relation is built. The use of fuzzy ratings in the process of diagnosis model with following formalization of computational procedures is done. It makes task solving in the real conditions and allows making analogue of full-scale values dependencies.  **Key words:** the process of making fuzzy, fuzzy dependency, linguistic variable, diagnostic sign, logical conclusion.  *DOI: 10.17217/2079-0333-2015-32-12-20*  **Information about author**  **Pyukke Georgij Aleksandrovich** – Kamchatka State Technical University; Petropavlovsk-Kamchatskу, Russia, 683003; Doctor of technical sciences; Associate Professor; Professor of Control systems chair; [geopyukke@yandex.ru](mailto:geopyukke@yandex.ru) |
| УДК [621.311.42:681.5](571.66-25)  **A.O. Shuvaeva, S.Y. Trudnev**  *Kamchatka State Technical University, Petropavlovsk-Kamchatsky, 683003*  *e-mail: alena.kozyrkova@gmail.com*  **DEVELOPMENT OF AUTOMATIC CONTROL SYSTEM OF TRANSFORMING STATION BACKUP SWITCHING IN CASE OF ACCIDENTS IN GORIZONT-SEVER DISTRICT  IN PETROPAVLOVSK-KAMCHATSKY**  You can find information about problems of using automatic load transfer in power sources and distribution of electric energy in Kamchatka region. The block diagrams of transforming stations’power supply in Gorizont-Sever district in Petropavlovsk-Kamchatsky were analyzed (using general layout of transforming stations location in Petropavlovsk-Kamchatsky dated 17.07.2008 ). The necessity of using automatic load transfer of power in this district of the town was identified and justified. In the course of studies and engineering the opportunity of management of power backup switching was identified, with introducing automatic microprocessor systems into synchronous work of transforming stations.  **Key words:** transforming station, device of synchronization, automatic transfer switch, power supply.  *DOI: 10.17217/2079-0333-2015-32-21-25*  **Information about authors**  **Shuvaeva Alena Olegovna** – Kamchatka State Technical University; Petropavlovsk-Kamchatskу, Russia, 683003; Student; alena.kozyrkova@gmail.com  **Trudnev Sergej Yurevich –** Kamchatka State Technical University; Petropavlovsk-Kamchatskу, Russia, 683003; Senior tutor of Electro- and radioequipment of ships chair; [Trudnev@mail.ru](mailto:Trudnev@mail.ru) |
| УДК 664.95  **K.M. Afanaseva, N.K. Luenko**  *Kamchatka State Technical University, Petropavlovsk-Kamchatsky, 683003*  *e-mail: oleinikovaks@yandex.ru*  **TO STUDY THE PROCESS OF RESTRUCTURING FISH HAM PRODUCTS**  The influence of the degree of crushing of frozen raw materials on the adhesion of mince. We studied the effect of sodium chloride and potassium chloride on the physical and technological properties of mince. It shows the effect of pre-salting of half-stuff. It sets parameters for restructuring for the production of ham products.  **Key words:** ham products, restructuring, frozen raw materials, sodium chloride, potassium chloride.  *DOI: 10.17217/2079-0333-2015-32-26-29*  **Information about authors**  **Afanaseva Kseniya Mikhajlovna –** Kamchatka State Technical University; Petropavlovsk-Kamchatskу, Russia, 683003; Candidate of technical sciences; Head of Post-graduate and doctoral stadies department; [oleinikovaks@yandex.ru](mailto:oleinikovaks@yandex.ru)  **Luenko Natalya Konstantinovna** – Kamchatka State Technical University; Petropavlovsk-Kamchatskу, Russia, 683003; Undergraduate; natasha\_kostya@mail.ru |
| УДК 664.9.022  **N.K. Luenko**  Kamchatka State Technical University, Petropavlovsk-Kamchatsky, 683003  **COMPARATIVE CHARACTERISTICS OF MEAT AND RAW FISH USED  FOR THE PRODUCTS**  The analysis of data on the nutritional value of meat and raw fish used for the production of ham products was presented. The chemical, amino acid and fatty acid composition of muscle tissue of warm-blooded animals and fish were analyzed. The advantage of raw fish to meat and importance of value food components to human health were shown.  **Key words:** ham products, formula, raw materials fish, raw materials meat, amino acid composition, fatty acid composition, vitamins.  *DOI: 10.17217/2079-0333-2015-32-30-33*  **Information about author**  **Luenko Natalya Konstantinovna** – Kamchatka State Technical University; Petropavlovsk-Kamchatskу, Russia, 683003; Undergraduate; natasha\_kostya@mail.ru |
| УДК 664.66.022.3:582.272  **O.V. Mishchenko, M.V. Blagonravova**  *Kamchatka State Technical University, Petropavlovsk-Kamchatsky, 683003*  *е-mail: mblagonravova@mail.ru*  **ОRGANOLEPTIC ASSESSMENT OF BAKERY PRODUCTS WITH STUFFINGS  WITH ADDITION OF KELP**  The article highlights research results of organoleptic parameters of bakery products (baked pies) with fillings with Kamchatka brown algae of the laminarian family *Laminariaceae*. The developed technology will enable to use natural resources of Kamchatka region more extensively, to increase variety of bakery products, to satisfy population demands in products with high food value. Key words: kelp, baked pies, nutrition value, organoleptic characteristics, bakery products. *DOI: 10.17217/2079-0333-2015-32-34-43*  **Information about authors**  **Mishchenko Olga Vasilevna –** Kamchatka State Technical University; Petropavlovsk-Kamchatskу, Russia, 683003; Undergraduate; olga.mishenko@list.ru  **Blagonravova Maja Vladimirovna –** Kamchatka State Technical University; Petropavlovsk-Kamchatskу, Russia, 683003; Candidate of technical sciences; Assistant Professor of Food production technologies chair; [mblagonravova@mail.ru](mailto:mblagonravova@mail.ru) |
| УДК 664.681.1.022.39  **V.B. Chmykhalova, T.R. Malakyan**  *Kamchatka State Technical University, Petropavlovsk-Kamchatsky, 683003*  *e-mail: chmihalova.victoriya@yandex.ru*  **TECHNOLOGY OF FLOUR CONFECTIONERY PRODUCTS  WITH WILD PLANTS DEVELOPMENT**  The manufacturing shortcake "Shaker churek", enriched Kamchatka wild plants was reviewed. The dependency of the chemical parameters change characterizing the degree of maturation, on the way of potassium chloride contributing was detected.  **Key words:** "Shaker churek", cranberries, wild plants, vitamin and mineral supplements, enrichment.  *DOI: 10.17217/2079-0333-2015-32-44-47*  **Information about authors**  **Chmykhalova Viktoriya Borisovna** – Kamchatka State Technical University; Petropavlovsk-Kamchatskу, Russia, 683003; Candidate of biological sciences; Associate professor; Assistant professor of Food production technologies chair; [Vikakgtu@mail.ru](mailto:Vikakgtu@mail.ru)  **Malakyan Tatevik Robertovna** – Kamchatka State Technical University; Petropavlovsk-Kamchatskу, Russia, 683003; Undergraduate; aidou\_aki@mail.ru |
| УДК [582.273:581.2]:639.64(519.5)  **T.A. Klochkova, G.H. Kim**  *Kamchatka State Technical University, Petropavlovsk-Kamchatsky, 683003;*  *Kongju National University, Kongju, 314-701, Korea*  *e-mail: tatyana\_algae@mail.ru*  **DISEASES OF THE RED SEAWEED *PYROPIA* (*= PORPHYRA*) IN KOREAN SEA FARMS**  This paper presents data on widely distributed diseases of commercially cultivated red seaweed *Pyropia* (= *Porphyra*), which are known as *Olpidiopsis* disease and red-rot disease in the southeastern Asian countries. *Pyropia* products (‘nori’ or ‘kim’) are widely exported to Russia nowadays. These diseases are caused by the microscopic Oomycetes (pseudofungi), *Olpidiopsis* and *Pythium*, respectively. The annual losses due to Oomycete infections are estimated as several million dollars US in South Korea along. Abrupt decreases in seawater salinity can significantly increase Oomycete infections in the following 1-2 days. Therefore, it is not recommended to lift up cultivations nets from the sea in rainy days.  **Key words:** commercial seaweed farm, infection, aquaculture, *Pyropia*, *Olpidiopsis*, *Pythium.*  *DOI: 10.17217/2079-0333-2015-32-48-52*  **Information about authors**  **Klochkova Tatyana Andreevna –** Kamchatka State Technical University; Petropavlovsk-Kamchatskу, Russia, 683003; Candidate of biological sciences; Senior Reseacher; [tatyana\_algae@mail.ru](mailto:tatyana_algae@mail.ru)  **Kim Gwang Hoon –** Kongju National University; Kongju, Republic of Korea, 314-701; Doctor of Philosophy in Biology (Ph.D.); Professor; Dean of College of Natural Sciences; ghkim@kongju.ac.kr |
| УДК 613.84(571.66-25)  **V.A. Mironov**  *Kamchatka State Technical University, Petropavlovsk-Kamchatsky, 683003.*  *e-mail: snuffpart2.1@gmail.com*  **STUDY OF SMOKING PREVALENCE IN PETROPAVLOVSK-KAMCHATSKY**  The article highlights the results of research on the prevalence of tobacco in Petropavlovsk-Kamchatsky with the help of questionnaires. It was ascertained that there was a big number of people with nicotine addiction among citizens of Petropavlovsk-Kamchatsky. Findings demonstrate high smoking prevalence among teenagers of Petropavlovsk-Kamchatsky and corroborate the following clause. Due to age-related and psychological characteristics significant role in drawing teenager into smoking is played by pressure of peers and elder teenagers.  **Key words:** smoking, carcinogenic effect, nicotine addiction, negative effects of smoking, early adolescence.  *DOI: 10.17217/2079-0333-2015-32-53-57*  **Information about author**  **Mironov Valerij Aleksandrovich** – Kamchatka State Technical University; Petropavlovsk-Kamchatskу, Russia, 683003; Undergraduate; snuffpart2.1@gmail.com |
| УДК 593.961.4(265.5)  **V.G. Stepanov, Е.G. Panina**  *Kamchatka branch of Pacific Geographical Institute FEB RAS, Petropavlovsk-Kamchatsky, 683000*  *e-mail: vgstepanov@inbox.ru*  **LIST OF SPECIES OF THE SEA CUCUMBERS (HOLOTHUROIDEA) IN THE FAR-EASTERN SEAS OF RUSSIA. II. THE ORDER MOLPADIIDA HAECKEL, 1896 (ECHINODERMATA: HOLOTHUROIDEA)**  The article deals with the list of species composition of barrel type sea cucumbers (Holothuroidea), the order Molpadiida Haeckel, in the Far-Eastern seas of Russia. Each species is given a modern name, synonymy, distribution information in the Bering , Okhotsk, Japan Seas, south-east Kamchatka and Kuril Islands. Some species are illustrated with original pictures of outward structure.  **Key words:** holothurian, sea cucumber, Holothuroidea, Molpadiida, synonymy, list of species, distribution, Far-Eastern seas of Russia  *DOI: 10.17217/2079-0333-2015-32-58-69*  **Information about authors**  **Stepanov Vadim Georgievich –** Kamchatka branch of Pacific Geographical Institute FEB RAS; Petropavlovsk-Kamchatskу, Russia, 683000; Candidate of biological sciences; Researcher of Hydrobiological laboratory; [vgstepanov@inbox.ru](mailto:vgstepanov@inbox.ru)  **Panina Elena Grigorevna –** Kamchatka branch of Pacific Geographical Institute FEB RAS; Petropavlovsk-Kamchatskу, Russia, 683000; Candidate of biological sciences; Research assistant of Hydrobiological laboratory; [panina1968@mail.ru](mailto:vgstepanov@inbox.ru) |
| УДК 629.5.081(571.66-25)"1941/1945"  **S.V. Gavrilov**  *Kamchatka State Technical University, Petropavlovsk-Kamchatsky, 683003*  *e-mail: gavrilov\_sv@kamchatgtu.ru*  **PETROPAVLOVSK DOCKYARD DURING THE GREAT PATRIOTIC WAR**  There are conditions in which the main Kamchatka’s plant connected with metal processing, ship repair, and shipbuilding – Petropavlovsk dockyard was functioning in war period. Nature of production activity was changed, product range was increased. Unique images of foremost people in industry and the only floating dock in Kamchatka are published first time ever.  **Key words:** dockyard, war, ship repair, workshops, shipbuilding, front brigades, stakhanovsky movement, fishing and transport vessels, ships.  *DOI: 10.17217/2079-0333-2015-32-70-76*  **Information about author**  **Gavrilov Sergej Vitalevich –** Kamchatka State Technical University; Petropavlovsk-Kamchatskу, Russia, 683003; Associate Professor; Assistant Professor of Electro- and radioequipment of ships chair; gavrilov\_sv@kamchatgtu.ru |
| УДК 338.486(519.5+47)  **L.I. Kulakova**  *Kamchatka branch of Far Eastern Federal University, Petropavlovsk-Kamchatsky, 683000*  *e-mail: milakul2606@rambler.ru*  **TOURISM DEVELOPMENT AS A WAY OF ECONOMIC INTEGRATION  OF THE ASIA-PACIFIC REGION**  At the modern stage of globalization of economic cooperation in the Asia-Pacific region gets the greatest relevance. This article describes the main ways of interaction and cooperation between Russia and the Korean Republic, identified the potential of tourism development, the proposed mechanisms and the main directions of state regulation aimed minimization problems and the expansion of the interstate cooperation.  **Key words:** international cooperation, regional economy, management arrangements.  *DOI: 10.17217/2079-0333-2015-32-77-84*  **Information about author**  **Kulakova Lyudmila Ivanovna** – Kamchatka branch of Far Eastern Federal University; Petropavlovsk-Kamchatskу, Russia, 683003; Senior tutor; milakul2606@rambler.ru |
| УДК 631.1(571.66)  **S.A. Popova**  *Kamchatka State Technical University, Petropavlovsk-Kamchatsky, 683003*  *e-mail: kaf508@yandex.ru*  **TRENDS AND PROSPECTS OF AGRICULTURE IN KAMCHATKA TERRITORY**  The article gives a brief history of the development of agriculture in Kamchatka, its development trends in the post-perestroika period from 2000 to 2012 are summarized and further prospects for growth are indicated.  **Key words:** agriculture, agricultural organizations, peasant (farmer) farms, agricultural land, livestock, crops, agriculture, ekoferma, greenhouses, investment.  *DOI: 10.17217/2079-0333-2015-32-85-94*  **Information about author**  **Popova Svetlana Aleksandrovna –** Kamchatka State Technical University; Petropavlovsk-Kamchatskу, Russia, 683003; Senior tutor of Economy and management chair; kaf508@yandex.ru |
| УДК 327(470 +510)  **V.V. Rykina**  *Kamchatka State Technical University, Petropavlovsk-Kamchatsky, 683003*  *e-mail: rikina2014@yandex.ru*  **THE HISTORY OF FORMATION AND DEVELOPMENT OF RELATIONSHIP  BETWEEN RUSSIA AND CHINA**  This paper is the result of analysis and evaluation of interaction and relationship between the two major Euro-Asian powers Russia and China. The purpose of this article is to systemize and analyze the existing scientific opinions and concepts for future cooperation.  **Key words:** intergovernmental relation, geopolitical interests, cooperation, geopolitical goals, economic development.  *DOI:10.17217/2079-0333-2015-32-95-99*  **Information about author**  **Rykina Viktoriya Viktorovna** – Kamchatka State Technical University; Petropavlovsk-Kamchatskу, Russia, 683003; Senior tutor of History and philosophy chair; rikina2014@yandex.ru |
| УДК 94(571.66)"165/175"  **N.V. Tolkacheva**  *Kamchatka State Technical University, Petropavlovsk-Kamchatsky, 683003*  *e-mail: love-lion@yandex.ru*  **THE RUSSIAN PEOPLE AND THE INDIGENOUS PEOPLES OF KAMCHATKA: THE FIRST CONTACTS. THE BEGINNING OF INCORPORATION IN THE STATE**  N.V. Tolkacheva's article is devoted to consideration of Kamchatka history and its indigenous peoples in the period of the first contacts with Russians. The author studies a history of beginning of incorporation of aboriginals in Russian state at the end of the XVIIth – the first part of the XVIIIth centuries.  **Key words:** Russian-aboriginal contacts, the Koryaks, the Itelmens, Kamchatka, incorporation, state.  *DOI: 10.17217/2079-0333-2015-32-100-109*  **Information about author**  **Tolkacheva Nataliya Vladlenovna** – Kamchatka State Technical University; Petropavlovsk-Kamchatskу, Russia, 683003; Candidate of historical sciences; Assistant professor of History and philosophy chair; love-lion@yandex.ru |