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HUMANITIES SCIENCES

POSTERS



THE FUNCTIONS OF THE MEMBERSHIP IN THE PRO ANA COMMUNITY - A CASE STUDY

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A few words about the author:

Rachela Antosz-Rekucka is a 5th grade psychology student and the president of the Jagiellonian University Psychology Students' Scientific Association. She is interested in psychopathology and therapy.

Abstract:

Although anorexia nervosa is a severe mental disorder, the pro ana movement regards anorexia as a kind of a diet and insists that one has the right to choose it as a lifestyle. The members of the movement call themselves "wannarexies" or "butterflies" and create smaller or bigger online communities. Interestingly, the Polish pro ana communities are almost unexplored. The poster presents a case study of a certain pro ana forum. The aim of the study was to learn why young women - who constitute the majority of the pro ana movement - joined the forum. Six categories of functions fulfilled by membership in the movement emerged in the analysis. The categories were: receiving support, motivation source, self-expression, shaping reality, building identity, and normalization of one's own experience. These findings are not surprising, but they bring important implications for therapy.

Keywords:

pro ana, anorexia nervosa, eating disorders, case study, online community



CREATIVE INTERCULTURAL EDUCATION TRANSLATED INTO VISUAL ARTS AND THEATER

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A few words about the author:

I am a Teacher in Kindergarten. I study in University of Silesia in Katowice. I am PhD study. I am interested in intersemiotic translation and literary for children.

Abstract:

The poster presents the practical possibilities of using the elements of interculturalism in early childhood education. This is a very important topic that touches upon the problems of the modern world. People are afraid of what they don't know. One should be sensitive to other people's problems, show acceptance in order to avoid conflicts and crisis situations.

Keywords:

interculturalism, early children, literary, art



INTERDISCIPLINARITY OF WORK

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Abstract:

Work is of interest to various disciplines: philosophers, psychologists, educators, sociologists, economists and doctors. All of these sciences have a common goal in the context of work, which is to prepare a person for a professional role in the national and world community, using their full potential, thanks to which they can fulfill themselves not only as an employee, but also as a citizen.

Keywords:

interdisciplinarity, work



SOCIAL CAMPAIGNS AS A COMMUNICATION TOOL OF PRO-ANIMAL ORGANIZATIONS

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A few words about the author:

I am a graduate of philosophy, journalism and social communication. Currently I am a PhD student in Social Communication and Media Studies at the Pontifical University of John Paul II in Krakow.

Abstract:

Nowadays, when there are more and more social problems, social campaigns are a tool that can influence specific social behavior and are also a certain communication channel that is the medium of specific content. The issue of inhumane treatment of animals is so serious that it is present in a wide public debate. Pro-animal organizations show the problems of the use of non-human beings and are an example of the fact that it is possible to oppose this practice. The main purpose of this science poster is to show that social campaigns as a communication tool of pro-animal organizations fight against cruel exploitation of animals because of their huge potential and various visual materials published as part of them intensify their effects. They are also great medium of promoting a plant-based diet. The poster present also the analysis of social campaigns conducted by two Polish pro-animal organizations.

Keywords:

social campaigns, pro-animal organizations



DEADLY INNOVATION OF BOEING 737 MAX 8

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A few words about the author:

The Doctoral School student, studying at the University of Economics in Katowice who is deeply passionate about public relations, crisis management and financial frauds.

Abstract:

How can one specific type of innovation be the cause of huge success in one company and terrible failure in the other? An example of such a situation is the use of an extremely efficient jet engine by two of the biggest airplane manufactures in the world – Airbus and Boeing.

Thanks to the construction of Airbus 320, engineers were capable to place the new engine on the already existing model without any modifications. The new plane Airbus 320 NEO was so well thought out that any pilot could fly the new model after little additional training.

This innovation caused Boeing to try to mimic the sole strategy of Airbus. However, the construction of the existing Boeing 737 didn't allow engineers to place the new engine so easily. It was necessary to introduce additional software to prevent the plane from achieving the critical angle of attack. Therefore, Boeing introduced Maneuvering Characteristics Augmentation System (MCAS) which was primarily designed to address stability issues in Boeing 737 MAX 8. The faulty installation of this software is the key to understanding why 346 people died inside Boeing 737 MAX 8 airplanes in the span of six months.

This poster is intended to depict the process of wrongly introduced innovation in Boeing 737 MAX 8.

Keywords:

crisis management, civil aviation, Boeing, 737 MAX

HUMANITIES SCIENCES

PRESENTATIONS



SOCIAL AND LEGAL ASPECTS OF THE FUNCTIONING OF THE NATIONAL SECURITY THREATS MAP

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Abstract:

The National Security Threat Map is an interactive map developed in recent years. It is a new tool for contacting the public with state services through which an ongoing analysis of the security situation in various places is carried out. KMZB is popular with the public and contributes to minimizing security risks.

Keywords:

National Map of security threats, social security



WHAT IS YOUR MOTIVATION TO STUDY?

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A few words about the author:

I am a PHD student. I study in the University of Silesia in Katowice. I am a Teacher in Kindergarten. I am interested in intersemiotic translation and literary, art for children.

Abstract:

The issue of motivation to study is a key concept of quality academic education at universities of various faculties. It is related to this issue also the identification of students with a future professional role. Society's expectations are high in relation to each undertaken profession, especially in the fields of study pedagogy, medicine, theology. There are various motives for making study choices, sometimes it's up to us to decide, sometimes it's influenced by other people, and sometimes it's an issue case. Therefore, the decisions of society in the choice of courses are related to conscious or unconscious stimuli to act in the desired direction and achieving the expected effect.

Keywords:

motivation, study, different courses



OUTSOURCING THEORIES

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Norbert Kawęcki PDH student in UMCS university in Lublin. Interests in Outsourcing in theories and practise. Experience gained in United Kingdon and in Poland by employment and self- employemnt on different management positions in UK and Poland.

Abstract:

The Paper describes Outsourcing in theories. Outsourcing as a process which is fundamental part of many organization in the world is today very important for solutions in business developing. The paper contains definition of outsourcing, brief history, types and futures. Further the paper contains the collection of theories from 1990 to 2006 coming from many interesting authors. Main goal is to present and describe recognizable and valuable outsourcing theories. The paper is overview for following theories: Transaction Cost Economics, Relation View, Core Competences, Evolutionary Economics, Incomplete Contracts, Resourced-based view, Agency theory, Knowledge-based view, Neoclassical economic theory, Social exchange theory, Economics of information. As a summary overview for theories will be presented.

Keywords:

outsourcing, theories, outsourcing process, resource



PRO-DEFENSE EDUCATION IN THE SYSTEM OF STRENGTHENING STATE SECURITY

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A few words about the author:

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Abstract:

Education and upbringing is not a process carried out only by the armed forces and Civil Defense formations, and education for defense is not only carried out to prepare candidates for military service. It should be one integrated didactic and educational system covering state and local institutions as well as non-governmental organizations. It should have a social, mass character, and this is primarily guaranteed by the school.

Keywords:

security, youth, pro-moral education, military uniformed classes



THE IMPORTANCE OF WORK IN HUMAN LIFE

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Abstract:

Work is an interdisciplinary concept, therefore an important thread is understanding its multifaceted nature.

Visualizing the need for thorough preparation through education to choose the right career path is important because it is the profession that determines our social position.

An integral element is the recognition of abilities in the learner or working entity and development at every stage of life and activity.

"Man is the highest value", and "work is the measure of human value".

Keywords:

interdisciplinarity, job



COMPARASION OF THE LINGUISTIC COMPETENCE BY NOAM CHOMSKY AND COMMUNICATIVE COMPETENCE BY DELL HATHAWAY HYMES

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A few words about the author:

Mikołaj Maj is doing BA in Ethnolinguistic and BSc in Biotechnology.

Abstract:

The purpose of the presentation is to discuss and compare the concepts of generative grammar coined by Noam Chomsky and Dell Hathaway Hymes. Both of them have a profound impact not only on process of learning a language, but also on involvement in set of skills, knowledge, and attitudes that are interrelated and mutually supported in order to conduct a successful scientific communication.

Keywords:

linguistic competence, communicative competence, generative grammar



PERCEPTION OF PRIVATE LABELS BY CONSUMERS

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Abstract:

Private labels are one of the most characteristic elements of retail trade that the consumer encounters. Their expansion in the world, and above all in the European market, is very dynamic. In Poland, private labels have been created in particular by foreign retail chains, and despite the fact that they systematically gain more and more space on store shelves, they still arouse much controversy.

This article pays special attention to the directions and tendencies in the context of consumer perception in relation to private label products. Thus, the overriding goal of the work is to verify the knowledge and level of satisfaction with private label products, based retail network customers compared to the brands of leading manufacturers. The tool used to achieve this goal was to conduct questionnaire interviews that were carried out among customers of various retail chains in July 2020. 500 randomly selected respondents took part in it.

Research shows that consumers positively evaluate private label products, regardless of the retail network. Particularly noteworthy is the fact that customers very well perceive the quality and price of private label products through the prism of the products of leading manufacturers. Moreover, users are willing to recommend private label products to their family and friends, as they meet their expectations. In addition, customers see opportunities to develop these products as part of expanding the range or improving their quality.

Keywords:

private label, perception, customer



UPBRINGING ATTITUDES APPLIED TO CHILDREN

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Abstract:

The presentation prepared by me has several different aims. The first one is to present the basic techniques of upbringing that are used by parents towards children, another one is to find an answer to a question what attitudes interviewees have. The third goal is to gain conclusions about such attitudes and afterthoughts. The topic of the presentation is crucial because we have to realise what attitude we should take to enable children's proper development. Parents' attitudes are different and they often do not realise that some of their attitudes are negative and should not be used in one's upbringing. Questions in a survey refer to every day life situations and interviewees need to tick options, which refer to their behaviours towards children. Once the results are analysed we can observe what attitudes are the most common among parents and which ones are not. At the beginning of my presentation I am going to analyse particular parental attitudes and divide them into positive and negative ones. Then the survey done by parents will be analysed, followed by summing up, conclusions and afterthoughts. I believe that my presentation is going to broaden one's horizons and will be thought-provoking.

Keywords:

parental attitudes, upbringing



THE NEWEST ENGLISH LOANWORDS AND THEIR DERIVATIVES USED ON FACEBOOK BY POLISH USERS

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Ph.D. student in linguistics at the University of Warsaw, graduate of English Philology (two specializations: teaching and translation) at Nicolaus Copernicus University. Teacher and translator of English and Arabic, founder of a language school.

Abstract:

It is common knowledge that English highly influences the Polish language used on social media, especially on Facebook, which is claimed to be the most popular social networking service in the world. The outcome of the interaction between the two languages can be seen, for example, in the form of English loanwords in Polish. The study analyses the use and structure of the newest English loanwords appearing in a corpus consisting of Polish posts and comments posted on Facebook in 2014-2020 and addresses their derivatives. As can be seen, the lexical borrowings have entrenched in Polish used on Facebook to such an extent that the users introduce their derivatives into the texts even if the borrowings are relatively new. The root words and their derivatives have been noticed not only on Facebook but also on other Internet websites, which means that the forms are not Facebook-restricted. However, there are several distinct derivational formations based on the analysed loans that appear on the Internet but not on Facebook.

Keywords:

loanwords, derivatives, the English language, the Polish language, Facebook



POLISH AUTONOMY IN THE USSR

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Abstract:

Communists considered national autonomy the best means of indoctrination and sovietization of society. In the USSR in the years 1925-1937 there were two national regions – Polski Rejon im. Julian Marchlewski in Ukraine and the Polish Region of Feliks Dzerzhinsky in Belarus. This action was related to the policy of rooting, i.e. taking into account the national social structure, while supporting the language and culture of minorities living in the USSR. The Soviet authorities recognized that propaganda operating in the languages of individual minorities would be more effective. A special element of the sovietization of the Polish diaspora was the creation of Polish education, the publication of books and newspapers in Polish, the formation of national village councils in villages inhabited mostly by Poles, the formation of Polish offices at party committees, and the establishment of Polish workers' clubs and other cultural and educational organizations.

Keywords:

USRR, Poland, autonomy



POLAND'S COOPERATION WITH OTHER COUNTRIES IN ORDER TO JOIN NATO AND INITIATE POLAND-NATO RELATIONS

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Abstract:

After the collapse of the then post-war order and the dissolution of the Warsaw Pact in 1991, on the one hand, the sense of NATO's further functioning was questioned, and on the other, the possibility of extending this organization to include sovereign states of Central and Eastern Europe was considered. The largest polarization of attitudes was characteristic in the United States, where the motives of opposition to the enlargement of the Alliance were quite varied. Opponents of this idea were the so-called isolationists who believed that the United States should only defend itself. Moreover, some of them believed that the weak states of the former Eastern Bloc in Central and Eastern Europe were of little importance in terms of American security. They were in favor of an agreement with Russia that would guarantee security and cooperation. The supporters of the enlargement of the Alliance were, first of all, the American Polonia and the Polish American Congress. The key factor here, however, was the decision of the Bill Clinton administration, which, before the 1996 presidential election, invited the first candidates to membership during the 1997 Madrid summit. From then on, NATO enlargement to include Poland, the Czech Republic and Hungary was the most important goal of foreign policy USA.

Keywords:

USA, NATO, Poland, cooperation



OUTLINE OF POLISH-SOVIET RELATIONS IN THE YEARS 1921-1939

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Abstract:

The Treaty of Riga, concluded on March 18, 1921 between the Republic of Poland and the Russian Socialist Federative Soviet Republic and the Ukrainian Socialist Soviet Republic, formally ended the Polish-Bolshevik war. However, despite the peace treaty concluded, relations on the Warsaw-Moscow line remained tense throughout the interwar period, despite the fact that on both sides it is impossible not to notice a temporary warming up. The Soviets treated the Riga agreement de facto in an instrumental way, ultimately targeting the world revolution and treating the state of coexistence with the Second Republic as a transitional period leading to a revolution.

Keywords:

USRR, Poland, relations



DIFFICULTIES IN LEARNING AMONG EARLY YEARS CHILDREN AND METHODS OF OVERCOMING THESE OBSTACLES BASED ON PARENTS' OPINIONS OF CHILDREN YEARS I-III IN PRIMARY SCHOOL (AGE OF CHILDREN: 7-10)

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Abstract:

Difficulties in learning can appear among children who are on different stages of development. More than once the reason can be intellectual disability, various dysfunctions or abnormalities in brain functioning. However among children who do not have developmental problems we can recognise: dyslexia, dysgraphia, dysortographia or dyscalculia. Apart from the above parents and teachers notice concentration, memorising, or understanding instructions problems. In case of suspecting problems of a child or diagnosis the cooperation between parent and a teacher is very important. Efficient communication and proper therapy let the child work over the difficulties and help to minimise their problems.

Keywords:

dyslexia, dysgraphia, dysortographia, dyscalculia



GEOGRAPHICAL NAMES IN THE SYSTEMATIC BOTANICAL NAMES – A POLYCONFRONTATIVE STUDY OF PHYTONYMS (IN DUTCH, ENGLISH, POLISH AND CZECH)

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Abstract:

The proposed by Linnaeus system of Latin nomination was the inspiration to introduce so called binomial nomenclature, in which the first element of the name is the genus name in the form of a noun, whereas so called specific epithet is (basically) expressed with the form of an adjective. It contributed to the creation of a common base enabling identification of particular species. At the same time the indigenous languages preserved the traditional plant names. As a result there function two parallel systems of nomination: the Latin one (to a certain degree universal) and the indigenous one.

In my presentation I want to concentrate first of all on introducing the comparison of Latin botanical names containing in the specific epithet a geographical name with the traditional names in selected languages (Dutch, English, Polish and Czech). The results will be presented with the consideration for answering the following questions:

- is it possible to observe naming tendencies in the particular languages taking into consideration their compliance with the system of Latin botanical names,
- to what extent the botanical names exploit geographical names in the process of creating the specific epithet?

Keywords:

onomastics, phytonyms, polyconfrontative studies, geographical names, taxonomy

MEDICAL SCIENCES

POSTERS



THE USE OF ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING TO ASSESS THE EFFECT OF CARBOPLATIN AND CISPLATIN ON THE VIABILITY OF AMNIOTIC FLUID STEM CELLS (AFSC)

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Abstract:

Morphological parameters of cells are an important indicator of effectiveness of chemotherapy. The gold standard in cell analysis is flow cytometry. This method does not fit testing of low abundant cell populations such as Amniotic Fluid Stem Cells (AFSC). The alternative is fluorescence microscopy and image analysis using machine learning algorithms.

AFSC were cultured in a 96-well culture plate and exposed to four concentrations of Carboplatin CA and Cisplatin CP at three time points. Then cells were fixed with formaldehyde, permeabilized with TritonX-100 and stained with DAPI. The viability of cells was analyzed with CellProfiler software. We also compared the effectiveness of identifying cell nuclei using traditional image analysis software Cell Profiler and software using the supervised machine learning algorithm Cell Profiler-Analyst (CP-A).

The cytotoxicity of CA and CP was dependent on the dose and time, the highest level of toxicity was obtained with the concentration of 1000 μ M for CA and 100 μ M for CP in 72h and 48h. CP-A marked the boundaries of cell nuclei with higher accuracy, preventing their incorrect segmentation.

The possibilities of machine learning and artificial intelligence constitute a large area of research for the development and testing of new anti-cancer therapy strategies. The presented research also proves that such advanced, multi-parameter analysis is also possible without the use of automatic stations dedicated to High Content Analysis.

Keywords:

artificial intelligence, machine learning, amniotic fluid stem cells, carboplatin, cisplatin



THE ANALYSIS OF MORBIDITY SUITABLE IN CASE OF LYMPHOID LEUKAEMIA WITHIN YOUNG CHILDREN AND TEENAGERS IN THE YEARS 2000-2017 BASED ON NATIONAL CANCER REGISTRATION

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A few words about the author:

Student at the Doctoral School of the Medical University of Silesia.

Abstract:

INTRODUCTION: Lymphoid leukaemia C91 code classified according to ICD-10 is one of the most common childhood cancers. The initial symptoms of lymphoid leukaemia vary widely and may resemble infections. The key to diagnosis is to initiate diagnosis if standard infection treatment fails.

AIM: The aim of this study was a literature review and statistical analysis of data on the morbidity and mortality of lymphoid leukaemia in the years 2000-2017.

MATERIAL AND METHODS: The material consisted of epidemiological data on lymphoid leukaemia obtained from the National Cancer Registry for the years 2000-2017 and literature data on the discussed health problem. Statistical analysis was performed using Statistica 13.1.

RESULTS: Over the years studied the incidence of lymphoid leukaemia stagnated, which in 2017 amounted to 110 cases among boys, which is a slight 8% decrease in the incidence compared to 2000. Among girls this decrease was 18% respectively. The highest number of cases of boys and girls in the studied years was observed in Mazowieckie voivodship, while the lowest number of cases was recorded in the Opolskie voivodship in the case of boys, and in the case of girls in the Lubuskie voivodship..

CONCLUSIONS: Actions should be implemented to increase the availability of health services in regions with a low incidence rate and continue to monitor the rates of incidence and mortality of children and adolescents from lymphoid leukaemia.

Keywords:

lymphoid leukaemia, data analysis, children, teenagers



RA IN THE FALL OF COVID-19 TROUGH THE EYES OF A PHYSIOTHERAPIST

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Abstract:

RA is classified as autoimmune and is associated with a malfunctioning immune system. The diagnosis of RA is based primarily on the criteria of the American School of Rheumatism, updated in 1987, the criteria are only for diagnosis, which is still problematic in the early stages of the disease. It affects young people between 30-50 years of age. It occurs three times more often in women and affects 0.9% of the adult population in Poland. It is accompanied by constant fatigue, depressed mood, anxiety states and depression. It is an incurable disease. The main goal of treatment is to prevent disability developing during the course of the disease. In the treatment of rheumatoid arthritis, physical therapy, exercises and massages are used, as well as adjusting the patient's environment to his mobility, orthopedic equipment, psychotherapy, pharmacology, thermal therapy, cryotherapy, spa treatment, saline and sulphide-hydrogen sulphide treatments, and surgical treatment. Mud is contraindicated. Treatment is also based on self-education of patients.

Keywords:

immune system, RA, treatment

MEDICAL SCIENCES

PRESENTATIONS



THE ROLE OF SOMATOSTATIN IN THE DIAGNOSIS AND TREATMENT OF GASTRO-ENTERO-PANCREATIC NEUROENDOCRINE TUMORS

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Abstract:

Gastro-entero-pancreatic neuroendocrine neoplasms (GEP-NETs) are a group of neoplasms originating from a diffuse neuroendocrine system present in the digestive system and pancreas. Their diagnosis has been increasing in recent years, but they are still a significant clinical problem. Due to the lack of specific early biomarkers, as many as 50-70% of patients at diagnosis have metastasis, and there is no effective therapy in late stages.

Somatostatin (SST) is a peptide hormone that inhibits many physiological functions of the digestive system and inhibits the release of hormones from the anterior pituitary, thyroid, pancreas, kidneys and adrenal glands. In addition, it can inhibit cell proliferation or have anti-inflammatory properties. The presence of somatostatin receptors has been demonstrated in neuroendocrine tumors, and their expression depends on the type of GEP-NET. Taking into account the properties of somatostatin and the expression of its receptors on neuroendocrine tumors, SST and its analogues can be successfully used to inhibit the release of hormones by GEP-NETs and reduce the symptoms caused by these hormones. It has also been shown that by binding to its receptors, somatostatin shows an antiproliferative effect and inhibits tumor growth, which emphasizes its importance in the treatment of neuroendocrine tumors. Studies on SST analogues that can inhibit tumor growth both in vivo and in vitro are also noteworthy.

Keywords:

gastro-entero-pancreatic neuroendocrine tumors, somatostatin, somatostatin receptors



SELECTED CYTOKINES AS NEUROENDOCRINE TUMOR MARKERS

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Abstract:

Neuroendocrine tumors are a heterogeneous group of neoplasms with the most common location in the gastrointestinal tract. The lack of specific tumor markers and non-specific symptoms in early stages of the disease are still a significant clinical problem. Therefore, prognostic markers are sought, also among the factors of inflammation, which often accompanies the process of carcinogenesis. Cytokines shape the tumor microenvironment by playing an important role in communication between epithelial cells and tumor components. At present, little is known about the diagnostic and prognostic value of inflammatory factors in neuroendocrine tumors. However, among many inflammatory factors: tumor necrosis factor α (TNF- α), interleukin-1 (IL-1) and interleukin-6 (IL-6) deserve special attention. Analysis of the literature highlights interactions between cytokines and the tumour microenvironment that could be of diagnostic value for neuroendocrine tumours.

Keywords:

cytokines, inflammation, neuroendocrine tumors



HEALTH THREATS POSED BY MODERN FOOD

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I am a student of dietetics at the Faculty of Medical Sciences and Health Sciences at the University of Natural Sciences and Humanities in Siedlce.

Abstract:

Already in antiquity, Hippocrates pronounced the words "Let food be your medicine, and the medicine your food." This proves that the relationship between food and health was noticed in such distant times. Along with the development of civilization and the spread of all kinds of food products, on the one hand, food safety has improved (e.g. due to microbiological hazards), and on the other - its quality has deteriorated. This is due to from mass production of food and the mass use of various food additives. The work deals with the potential health risks of modern food.

Keywords:

health, modern food



THE USE OF ECHINACEA PURPUREA IN DIETETICS AND MEDICINE

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Abstract:

Echinacea purpurea is a plant commonly used in herbal medicine. It gained recognition, among others thanks to its antibacterial, antiviral, antifungal, analgesic, anti-inflammatory and immune-supporting properties. In dietetics, e.g. supporting the digestive system by stimulating the secretion of gastric and intestinal juices and the secretion of bile. By affecting the acceleration of metabolism, it will work well during the reduction diet. The work concerns the use of this plant in dietetics and medicine.

Keywords:

echinacea purpurea, medicine, dietetics



VERSATILE USE OF HYALURONIC ACID

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Abstract:

Hyaluronic acid has gained many applications in various medical fields and is found in many specialist surgeries. What properties does this compound have? What is proof of its versatility? The answer is simple because it is a compound naturally occurring in the human body in the form of sodium salt. This is associated with high tolerance and virtually no allergic reaction. It is a strong hygroscopic compound with the ability to attract water molecules which results in moisturization, firmness, protection against drying and sagging. Additionally, it stimulates tissues to produce collagen. The first application of HA was in ophthalmology due to its moisturizing and protecting woven fabrics from damage. Dermatologists have discovered its effective action in treating scars and burns. Used as a cosmetic after radiotherapy, it helps to relieve allergic reactions. In rheumatology and orthopaedics, it is used as an excellent means of alleviating symptoms of joint problems. The dentist's office is another place where in case of periodontal disease HA will be a good choice. Its use is also found in gynaecology, laryngology and urology. Without a doubt, the best known field using hyaluronic acid is aesthetic medicine. In order to determine the level of knowledge about the wide range of HA application, the questionnaire-based surveys was conducted. The research confirmed that about 85% of people are best known for their use of HA in aesthetic medicine, while the remaining use is unknown.

Keywords:

applications, properties, hyaluronic acid



ADJUVANT TREATMENT OF COLORECTAL CANCER - THE CURRENT STATE OF KNOWLEDGE

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Dr hab. Ewa Ziółkowska – specialist in oncological radiotherapy, professor at the Academy of Kalisz at the Medical Faculty.

Abstract:

Colorectal cancer is one of the most common causes of death in cancer patients. However, when it is detected early and subjected to radical treatment, it gives a chance for a cure or at least a long life. How was it achieved?

Recommendations for adjuvant therapy have been refined over the years.

The point was that patients obtained the greatest benefit with the least possible toxicity. What were the directions of this therapy? In our presentation, we would like to show the way to the current therapeutic standards. Besides, we would like to present the effects that were achieved in this way. We also pay attention to the current recommendations of oncological scientific societies and their use in everyday clinical practice.

Keywords:

colorectal cancer, radiotherapy, chemotherapy, radical treatment



INFERTILITY AS A COMMON PROBLEM

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We are students of the fifth year of medicine at Medical University of Lublin. Piotr Olcha is a head of the gynecology department in first Military Clinical Hospital in Lublin spec. in gynecology and obstetrics, gynecological endocrinology and reproduction.

Abstract:

Infertility is a common clinical problem. Miscarriage costs about 15-20% of all clinically recognized pregnancies. Risk factors include: infection, advanced reproductive age, vaginal colonization with group B streptococci, uncontrolled diabetes mellitus, polycystic ovary syndrome, thrombophilia, antiphospholipid antibodies, and a history of miscarriage.

A 38-year-old patient had 5 miscarriages between 7 and 12 weeks of pregnancy. She came to an infertility clinic where she was ordered to have a blood test, including ANA level, and FSH/estradiol on the second day of period. After positive pregnancy test hCG levels were marked- significant increase appeared although progesterone level was 6-10 ng/ml. Corpus luteum failure was found. After ovulation stimulation, the patient became pregnant. Weekly levels of beta hCG, ANA, estradiol and progesterone were monitored. Therapy started with high doses of progesterone intramuscularly so that it remained above 25 ng/ml. The level checked 2 to 3 times a week was 40-55 ng/ml. After 6 weeks, an ultrasound was performed which showed alive pregnancy. Progesterone was monitored throughout pregnancy. After 38 weeks, the pregnancy was terminated by caesarean section. The woman gave birth to a healthy child.

In the opinion of all authors, individual therapy with progesterone and other anti-miscarriage drugs should be selected. This is especially important when the patient has had a repeated unexplained miscarriage.

Keywords:

infertility, corpus luteum, progesterone



PROPHYLAXIS AND TREATMENT OF NAUSEA AND VOMITING INDUCED BY COMBINED ONCOLOGICAL THERAPY

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Abstract:

Nausea and vomiting are among the most common complications of chemotherapy and radiotherapy in oncological patients. They concern about 70-95% of patients in whom anti-emetic prophylaxis has not been implemented. They significantly affect the quality of life, deepen the degree of protein and energy malnutrition, water and electrolyte balance, and may cause treatment discontinuation. Nausea and vomiting can be divided into acute (appear up to a few hours after the beginning of therapy and disappear up to 24 hours after its completion), late (appear 24 hours after the end of chemo- and / or radiotherapy), breakthrough (occur despite the use of antiemetic prophylaxis)) and pre-emptive (occurring before treatment; most often psychogenic). Serotonin receptor antagonists, neurokinin 1 receptor antagonists, dexamethasone, metoclopramide, anxiolytics and sedatives are used to treat the above side effects. Prevention and treatment of N&V take into account the type and dose of chemotherapy as well as the size and area of the body that was subjected to radiotherapy. In patients who have received combination therapy, the type of chemotherapeutic agent determines the applied prevention of N&V.

Keywords:

nausea, vomiting, prevention, chemotherapy, radiotherapy



RADIOPROTECTIVE PROPERTIES OF VITAMIN D

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Jarosław Nuszkiewicz is a PhD student at Faculty of Medicine, Ludwik Rydygier Collegium Medicum in Bydgoszcz. Interested in oxidant/antioxidant balance, role of vitamin D and melatonin in homeostasis.

Abstract:

The annual dose of ionizing radiation (IR) from natural sources in Poland is approximately 2.4 mSv. Additionally, IR has found wide medical application in diagnostics and therapy. X-ray examination of the lumbar vertebrae is a dose of 0.9 mSv, while oncological radiotherapy is an exposure to about 45 mSv. IR has a sufficiently high energy that, when interacting with atoms, causes their ionization. As a result, larger amounts of reactive oxygen species (ROS) may be produced, which leads to increased oxidative stress.

In order to reduce the negative effects of IR on tissues and cells, antioxidants are used to neutralize ROS. Antioxidants are a large group of chemical compounds, both enzymes synthesized *in vivo* (e.g. superoxide dismutases (SODs), glutathione peroxidase (GPxs) and exogenous compounds ingested with food (vitamins C, E and flavonoids).

In recent years, researchers have been trying to define the role of vitamin D as an antioxidant in organisms exposed to IR. Calcitriol, the hormonally active form of vitamin D (1,25-dihydroxycholecalciferol), acts on cells through a specific nuclear receptor. Vitamin D can stimulate the expression of genes coding for antioxidant enzymes such as SODs and GPxs. Scientists confirmed that after exposure of the skin to ultraviolet radiation, calcitriol and its precursors increase p53 levels, which reduces intracellular ROS. An increase in the concentration of metallothioneins, which are ROS scavengers, was also observed.

Keywords:

ionizing radiation, oxidative stress, reactive oxygen species, vitamin D



FGF23 AND ITS ROLE IN INFLAMMATION

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Abstract:

Inflammation is an ordered, multi-stepped response of the body to the action of a damaging agent. The main goal of inflammation is to protect the tissues from permanent damage and return the tissue to its physiological state. So far, many substances involved in the initiation, course and termination of inflammation have been identified. Research conducted in recent years has shown that fibroblast growth factor 23 (FGF23) may be a promising marker of inflammation.

FGF23 is secreted by osteocytes and osteoblasts in response to increased 1,25-dihydroxycholecalciferol (the hormonally active form of vitamin D) level. The main function of this protein is the regulation of phosphate concentration in blood plasma. The kidney is a target organ for FGF23. It mainly affects the phosphate metabolism (inhibition of phosphate reabsorption), vitamin D metabolism (reduction of the synthesis of the hormonally active form) and the expression of the Klotho protein (cofactor FGF23).

Recent studies suggest that systemic inflammation affect to FGF23 indirectly. Two targets and regulators of FGF23, namely vitamin D and phosphates, are strongly associated with systemic inflammation. Relationships between inflammatory markers and FGF23 have been reported in many diseases, such as chronic kidney disease, rheumatoid arthritis, insulin resistance, aortic valve sclerosis and cancer. Furthermore, FGF23 also shows pro-inflammatory and immunomodulatory effects, affecting macrophages and neutrophils.

Keywords:

FGF3, inflammation, phosphates, vitamin D



WNT SIGNALING AND DRUG RESISTANCE IN CANCERS

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A few words about the author:

I am a third year PhD student at the medical faculty. I am interested in cell cycle proteins including cyclins, as well as prognostic markers in cancer.

Abstract:

Wnts are secreted proteins that bind to cell surface receptors to activate signaling cascades. Normal Wnt signaling plays a key role in many cellular processes such as cell proliferation and survival, embryogenesis, and cell differentiation. Secretion of Wnt ligands, turnover of Wnt receptors and signaling transduction are tightly regulated and tuned so that the output signal is "right". Hyperactivated Wnt signaling due to repeated genetic alterations leads to several human cancers. Increased Wnt signaling also provides resistance to many conventional and targeted anti-cancer therapies through various mechanisms, including maintenance of the cancer stem cell population, enhancing DNA damage repair, facilitating transcription plasticity, and promoting immunity avoidance. Various classes of Wnt signaling inhibitors have been developed to target key nodes of the pathway and have been shown to be effective in treating Wnt-induced cancers and in reducing resistance to Wnt-mediated therapy in preclinical studies. In the near future, pharmacological inhibition of Wnt signaling may be a real choice for cancer patients.

Keywords:

Wnt signaling, cancer, cells



NOVEL PROGNOSTIC MOLECULAR MARKERS IN LUNG CANCER

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A few words about the author:

I am a third year PhD student at the medical faculty. I am interested in cell cycle proteins including cyclins, as well as prognostic markers in cancer.

Abstract:

Lung carcinoma, especially in its most commonly diagnosed non-small cell histological form, is a challenge to diagnose and treat worldwide, due to the prognosis in patients with this type of cancer being poor and mortality rates being high. However, a number of patients with this type of lung carcinoma exhibit a longer than average overall survival. The specific molecular background of non-small-cell lung cancer that favors longer survival has not yet been determined. The aim of the current study was to review articles published in the years 2017-2018 and create a list of the most important and strongest non-conventional factors that could be used in the future assessment of the prognosis of patients with adenocarcinoma and squamous cell carcinoma of the lung who cannot undergo current targeted therapy. Analysis identified multiple prognostic factors in non-small cell lung carcinoma, including tumor mutational burden, which was revealed to be independent of the tumor stage or grade as well as other factors, including age, sex or targeted therapy effects. The selected molecular factors exhibit the potential to be used in the treatment of patients with specific problematic lung cancer, and may contribute to setting recommendations for the diagnosis, prognosis and treatment of individual patients with lung cancer.

Keywords:

lung cancer, immunohistochemistry, prognosis



IMPROVING PHYSICAL ACTIVITY IN THE FALL OF THE COVID-19 ERA IN THE OVERALL RISE IN THE INCIDENCE OF INFLUENZA

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Abstract:

Prophylactically health training, that is, regular physical exercise along with proper management of rest, nutrition and sleep, can improve the body's physical performance. According to WHO recommendations, the minimum activity of adults is household chores. In order to improve blood supply, bone health, they should perform aerobic exercise at various intensities for 150 minutes per week (walking, Nordic Walking, jogging). Moderate aerobic (aerobic) exercise, during which blood pressure rises and we start to sweat, but still talk normally. The article presents the approach to physical activity in autumn, in a descriptive form, the current problems of those who like physical activity are considered in the overall increase in the incidence of COVID-19 during the flu season.

Most EU countries prefer outdoor exercise to sport facilities. Poles are lazy by nature and this is the biggest problem. Physical activity is about getting outside your comfort zone. According to the study "Actively for health", over 60% of Poles are physically active. However, this is below the European average (71%).

Keywords:

health training, physical activity, exercise



COVID-19, ACE2 AND THE CARDIOVASCULAR COMPLICATIONS

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A few words about the authors:

We are students of medicine faculty at Medical University of Lublin. The tutors are doctors at the Chair and Department of Cardiology of Medical University of Lublin.

Abstract:

INTRODUCTION: The COVID-19 is caused by the SARS-CoV-2. While pulmonary complications and systemic inflammation can result in considerable morbidity, cardiovascular complications may also take place. Understanding of the interaction between COVID-19 and cardiovascular disease is necessary for optimum management of this group of patients.

AIM OF THE STUDY: The aim of the study is to analyze the latest studies on the impact of SARS-CoV-2 infection on the appearance of complications from the cardiovascular system.

METHODS: Authors searched PubMed and Google Scholar for articles from the last 6 months.

RESULTS: Respiratory illness is the main clinical manifestation of COVID-19, cardiovascular involvement occurs less often. SARS-CoV-2 is thought to infect host cells through ACE2 to cause COVID-19, it also cause damage to the myocardium. The cardiovascular system is affected with complications including myocardial injury, acute myocardial infarction, myocarditis, dysrhythmias, heart failure and venous thromboembolic events. It has been demonstrated that the presence of current cardiovascular diseases and/or development of acute cardiac injury are bound up with significantly worse outcome in these patients.

CONCLUSIONS: COVID-19 is associated with a number of cardiovascular complications. Patients with underlying cardiovascular disease and SARS-CoV-2 infection have a poor prognosis, so special attention should be given to cardiovascular protection while treating patients for COVID-19.

Keywords:

COVID-19, ACE2, cardiovascular system, medical complications



LATE CARDIOTOXICITY OF RADIOTHERAPY: A PROBLEM OR A CHALLENGE FOR THE RADIATION ONCOLOGIST?

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A few words about the authors:

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M. Sc. D. Laskowska – assistant of the Department of Electroradiology, Academy in Kalisz.

Abstract:

The results of recent studies have confirmed the cardiotoxic effect of ionizing radiation. It was found that the risk of cardiovascular diseases (as acute or late complications) is greatest in the radiotherapy of lymphoma, breast cancer (especially left breast), oesophageal cancer, thymoma or lung cancer. The observed dysfunctions and disorders were located mostly in pericardium and coronary vessels, and in some cases myocardium, the stimulatory-conducting system or the heart valves.

One of the factors affecting the cardiotoxicity of radiotherapy is the presence of the heart in the irradiated field, where the risk of damage is proportional to the heart volume exposed to radiation.

Another factor is the age of the patient. Among young people who do not have classic risk factors (cigarette smoking, diabetes or obesity), radiation will have a significant impact on the induction of cardiovascular diseases.

In addition, the cardiotoxicity of radiotherapy may increase the use of neoadjuvant or combination chemotherapy regimens.

The aim of the study is to present the previously identified side effects of radiotherapy and draw attention to the need to develop new technological solutions that reduce the adverse effect of ionizing radiation on the cardiovascular system.

Keywords:

radiotherapy, cardiotoxicity, late toxicity

**NATURAL AND TECHNICAL
SCIENCES**

POSTERS



PHYTOEXTRACTION AS A TECHNIQUE IN THE PHYTOREMEDIATION OF SOILS CONTAMINATED WITH METALS

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A few words about the authors:

Author and all of the co-authors work in Warsaw University of Technology in Faculty of Building Services, Hydro and Environmental Engineering. Whithin the Faculty operates Chair of Environment and Management with Land Protection Group.

Abstract:

The aim of the study was to analyze the literature on methods of cleaning soils contaminated with metals with the use of the accumulation capacity of various plant species. Soil cleaning is influenced by many factors, such as the size of the contaminated site, soil properties, the concentration and type of pollutants, the time by which the cleaning process must be completed, the level of pollution reduction necessary and costs. The work in some way brings the issue of selecting the appropriate plant species for various phytoextraction processes, which is a key issue in obtaining the highest possible soil cleaning efficiency. As part of assisted (induced) phytoextraction, synthetic metal mobilizing (chelating) substances are added to the soil requiring treatment, which cause the transition of metals from forms bound in the solid phase of the soil to the soil solution and improve the ability of plants to uptake metals from the soil, as well as improve the transport of these impurities from the roots to the aboveground parts of the plant. It should be taken into account that some solutions mobilizing metals may also become soil contamination.

Keywords:

phytoremediation, induced phytoextraction, metals, soil, contaminated areas



PHYTOSTABILIZATION AS A TECHNIQUE IN PHYTOREMEDIATION OF SOILS CONTAMINATED WITH METALS

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A few words about the authors:

Author and co-authors work in Warsaw University of Technology in Faculty of Building Services, Hydro and Environmental Engineering.

Abstract:

The aim of the study was to analyze the literature of the metal stabilization method in polluted soils with the use of the stabilizing abilities of various plant species. In this work has been characterized plants that affect the physical and chemical properties of pollutants, causing their immobilization. After use of such plants, metals are immobilized by absorption and accumulation in the roots of plants, adsorption on the surface of the roots, as well as precipitation in the rhizosphere. In phytostabilization, plants with low habitat requirements, low capacity for uptake of pollutants from soil, and limited possibilities of translocation to above-ground parts are used. Plants limit soil water and wind erosion, regulate its water management by increasing evapotranspiration and limit the possibility of migration of pollutants in the soil profile. The phytostabilization method is used in reclamation of waste landfills and mining heaps.

Keywords:

phytoremediation, phytostabilization, metals, soil, reclamation, landfills, mining heaps



THE INFLUENCE OF CRYSTAL STRUCTURE DEFECTS ON MAGNETIC PROPERTIES OF TYPE I AND II SUPERCONDUCTORS

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A few words about the author:

Master's degree student at the Faculty of Physics and Astronomy, University of Wrocław. My scientific interests focus on superconductivity and nuclear physics.

Abstract:

Due to its unusual properties, in span of couple fo last years, the materials exhibiting superconductivity became an object of interest not only within many branches of science (magnetometers and particle accelerators) but also for industry, medicine (magnetic resonance imaging) and energetics. This study has two main aims. The first one is to expand the knowledge regarding the superconductivity phenomenon. The second one is to show the influence of structural defects on superconductivity in studied materials. To define types of defects it had been used PALS (Positron Annihilation Lifetime Spectroscopy). This technique was chosen because of it's a non-destructive method of structural defects detection. The study was performed on tantalum (99.98% purity) and vanadium (99.7% purity) samples, which are type I and II superconductors, respectively. PALS spectra measured for cold-rolled and annealed samples of Ta and V revealed that cold-rolled samples contain a high concentration of structural defects while annealed ones are almost free of any defects. At the same time, magnetic results show that the behaviour of the superconducting phase may change depending on the concentration of defects. For V samples, a high concentration of defects caused an increase of the upper critical field (H_{c2}). In the case of Ta, the cold-rolled sample exhibits type-II superconductivity while after annealing, the Ta sample recovers type-I superconductivity.

Keywords:

superconductivity, structural defects, magnetism, positron annihilation



INVESTIGATION OF THE PROPERTIES OF INTERMETALLIC ALLOYS OBTAINED BY THE LENS TECHNIQUE

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A few words about the author:

I am PhD Student at Military University of Technology. My research are focused on 3D printing technology in particular intermetallic alloys and for several years I am also interested in research on materials for hydrogen storage.

Abstract:

Due to its specific properties, which are low density, resistance to corrosion, oxidation and wear resistance of the intermetallic alloys, they have been intensively tested for many years.

Typically, these materials are obtained by techniques such as powder metallurgy or conventional melting and casting, however, due to the great interest in 3D printing techniques, an attempt was made to make these elements using LENS technology.

In this work, four elements were produced from alloys from the Fe-Al system, using various parameters of the process and then structural-phase tests were carried out, such as X-ray phase analysis, observations with use of the light microscope, chemical composition analysis and mechanical properties tests, static tensile tests were carried out, and then breakthroughs were observed by scanning microscopy. The obtained results were correlated with the obtained cooling rates during build process, which influenced on the mechanical properties and the structural and phase composition of the resulting elements.

Keywords:

LENS technique, additive manufacturing, intermetallic phase, Fe-Al



MONONUCLEAR NICKEL(II) COMPLEX WITH O-VANILLIN AND 2-AMINOPYRIDINE

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A few words about the author:

PhD student at the Gdańsk University of Technology. As part of my doctoral thesis, I realize the synthesis of multicore nickel(II) and cobalt(II) complexes with Schiff bases as potential catalysts of oxidation reactions of organic compounds.

Abstract:

In recent years, transition metal complexes with Schiff base ligands captured the attention of chemists and have been extensively studied. Schiff bases, also known as imines (or azomethines) were received for the first time in 1864 by Hugo Schiff by condensation of primary amine with carbonyl compound. He was also a pioneer of synthesis new types of metal complexes with imines [1, 2]. Imines are a good chelating agents, simple to synthesize and air stable. In my research I focused on nickel complexes, which are widely used because of nickel abundance in the environment, low costs, catalytic, magnetic and electrical properties and also biological activities. One example is multinuclear complex, which was obtained in reaction between $\text{Ni}(\text{NO}_3)_2 \cdot 6\text{H}_2\text{O}$ and imine 2-methoxy-6-(E-2-pyridyliminomethyl)-phenol [3, 4]. In this complex, four oxygen atoms derived from o-vanillin coordinated to nickel atom. Also one additional 2-aminopyridine group and water molecule are bound to nickel atom. This complex was probably obtained as a result of hydrolysis of imine coordinated to nickel within a tetranuclear complex, which will be discussed in the poster.

[1] A. L. Berhanu et al., Trends Anal. Chem., vol. 116, pp. 74–91, 2019.

[2] S. R. Collinson et al., Coord. Chem. Rev., vol. 148, pp. 19–40, 1996.

[3] A. Mielcarek et al. Dalton Trans., 48, 2019.

[4] H. Schiff, Justus Liebigs Ann. Chem., 131, 1864.

Keywords:

nickel(II), complex, Schiff base

**NATURAL AND TECHNICAL
SCIENCES**

PRESENTATIONS



SUSPENSION POTENTIOMETRIC TITRATION OF THE FUNCTIONALIZED ORDERED MESOPOROUS CARBONS

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A few words about the author:

I am PhD student at Maria Curie-Sklodowska University in Lublin (Poland). I am interested in physical chemistry, material synthesis, their functionalization and investigation.

Abstract:

Potentiometric titration of suspension is a valuable tool for surface charge determination. The charge on the surface of the solid state appears as a consequence of the reaction between the hydroxyl groups on the surface of this material and the components of the liquid phase. In the case of aqueous solutions, the hydrogen or hydroxide ions and the ions of the carrier electrolyte have an important role in the charge formation at the interface with the solid phase. Hydrogen ions influence the collection of charge on the surface of the material through the acid-base reactions of the surface groups.

The point of zero charge is the pH value at which the surface of a solution or suspension of a solid in water has an electrical charge of zero. This is due to the fact that the sum of the positive and negative surface charges is equal to zero. If the pH of the suspension of a solid is above the zero point of charge, it means that its surface is negatively charged and has the ability to adsorb cations and participate in their exchange reaction. However, when the pH is lower than the pzc, then the surface is positively charged and has the ability to exchange anions. The pH at which the zero point of the charge of a given substance is located depends on the nature of the surface.

In this work, the ordered mesoporous carbon was synthesised, subjected pre-chemical and further thermal modifications. The surface charge has been determined by potentiometric titration of suspension.

Keywords:

potentiometric titration, surface functionalization, ordered mesoporous carbon



SYNTHESIS OF BIODEGRADABLE SUPERABSORBENTS

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A few words about the author:

Since 2012, he has been working at the Polish company Plastica Ltd., which is part of the TZMO Group. In 2018, she began doctoral studies in chemistry at the Faculty of Chemistry of the Nicolaus Copernicus University in Toruń.

Abstract:

Biopolymer-based superabsorbent polymers (SAPs) are being synthesized and investigated as a biodegradable alternative for an entirely synthetic SAPs, particularly those based on acrylic acid and its derivatives. This article focuses on the chemical modification of starch (S), and synthesis of new potentially biodegradable polymers using acrylic acid (AA) as side chain monomer and crosslinking mediator together with N,N'-methylenebisacrylamide (MBA). The graft co-polymerization was initiated by ceric ammonium nitrate (CAN) or potassium persulfate (KPS), leading to different reaction mechanisms. For each of the initiators, three different synthetic routes were applied. The structures of new bio-based SAPs were characterized by means of IR spectroscopy. Thermogravimetric measurements were made to test the thermal stability, and morphology of the samples were examined using scanning electron microscopy (SEM). Physico-chemical measurements were performed to characterize properties of new materials such as swelling characteristics. The water absorption capacity of resulting hydrogels was measured in distilled water and 0.9% NaCl solution.

Keywords:

starch, acrylic acid, superabsorbent, hydrogel, graft copolymerization



DOSING SYSTEM OF N-OCTYLPHENOTHIAZINE DERIVATIVE BASED ON PEDOT

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A few words about the author:

Sara Krawczyk is PhD student in the field of Materials Engineering (polymer science) at University of Silesia. She works on drug delivery system based on conducting polymers in the treatment of neurodegeneration disease.

Abstract:

N-octylphenothiazine derivative (PTZN) was used as a newly synthesized drug substance for dosing system from poly(3,4-ethylenedioxythiophene) platform. Such system could be used in the field of psychotic disease treatment. The purpose of the research is to synthesize by cyclic voltammetry PEDOT loaded with biologically active PTZN and characterize it as potential drug delivery system. Stimulation of such system by potential causes releasing of drug substance. Changing parameters of electropolymerization different thickness of layers were obtained. Release of drug substance from PEDOT matrix was characterized by UV-Vis spectroscopy by registration of spectra during stimulation using chronoamperometry. The layers were investigated by FTIR spectroscopy to identify whether the PTZN has been successfully incorporated into the matrix. Results show that potentially stimulated PEDOT matrix is able to release PTZN. Such systems show promising application in the field of medicine.

Keywords:

conducting polymers, PEDOT, phenothiazines, neural dosing system



THE FUTURE OF ARTIFICIAL INTELLIGENCE AND ITS MAJOR SUBFIELDS

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A few words about the author:

I am a young scientist interested in neurobiology, computer science and creating artificial intelligence systems.

Abstract:

Artificial Intelligence is the simulation of human intelligence and behaviour, demonstrated by machines. Humans have innovated intelligence. We provide machines the ability to examine examples by different ways as Supervised Learning, Unsupervised learning and Reinforcement learning. AI can be divided due to strength, breadth and application. Weak (Narrow) AI can perform specific tasks, but not learn new ones, making decisions based on programmed algorithms, and training data, e.g. language translators, virtual assistants. Strong (Generalized) AI can interact and operate a wide variety of independent and unrelated tasks and learn new tasks to solve problems doing this by teaching itself new strategies. Super (Conscious) AI has human-level consciousness. Some of scientists, who create artificial intelligence are aiming for create human-level intelligence, and then intelligence surpass human intelligence - superintelligence. Major subfields of AI include: Machine Learning, Deep Learning, Neural Networks, Natural Language processing, Speech Recognition, Visual recognition, Robotics. The natural language processing and natural language generation capabilities of AI are enabling machines and humans to understand and interact with each other and creating new opportunities and new ways of doing business. In this presentation some of the ideas that make that AI possible will be shown and how it is that AIs are able to know informations.

Keywords:

artificial intelligence, technology



EQUINE GASTRIC ULCERS

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A few words about the author:

Author is a young student interested in general surgery and very keen on horses.

Abstract:

Nowadays, gastric ulcers occurs in majority of sport horses due to their intensive training, strict eating schedules and deprivation of grazing and roughage. Also stress can lead to gastric ulcerations development. This health problem is called equine gastric ulcer syndrome (EGUS) and is caused mainly by constant gastric acid production and long breaks between meals. The aim of this presentation was to show etiology, pathogenesis and treatment of EGUS. It is crucial to understand EGUS etiology that putting horses in an extensive training in order to achieve better performance may causes serious health problems. Hard-working horses suffering from stress should be well looked after to minimalize stress-related health consequences. To provide good health condition in breeding horses, their environmental conditions should be as close as possible to the natural environment. For EGUS prevention, continuous roughage consumption seems to be very important, as well as, lucerne supplementation.

Keywords:

gastric ulcers, horse



CONCENTRATION OF MERCURY IN TISSUES AND ORGANS OF THE WHITE STORK (*CICONIA CICONIA*)

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Members of the Student's Scientific circle – Veterinary Toxicology section in Subdepartment of Pharmacology, Toxicology and Environmental Protection at the University of Life Sciences in Lublin.

Abstract:

On account of widespread and high geochemical activity mercury is considered as one of the most dangerous chemical elements to the environment. Characterized by highest accumulation rate, it can easily enter the food chain. White stork is a piscivore and its diet is based on small fishes, reptiles, amphibians, birds, mammals and invertebrates. Because these birds live in wetlands, where high mercury pollution may be present, there is a risk of exposition to toxic effect of this specific element.

The aim of this study was to determine mercury concentration in tissues and organs of *Ciconia ciconia*. Livers, kidneys, pectoral and thigh muscles were collected from 23 storks, patients of Rehabilitation Centre of Wild Birds in Bukwałd. Due to severe trauma and poor prognosis, they have been euthanized.

Concentration of Hg was determined using cold steam method in mercury analyser MA-2000 (NIC-Japan). Levels of this element varied across mentioned tissues and organs. Highest value present was 1.8-5.8 $\mu\text{g}/\text{kg}$ of wet tissue in kidneys, where lowest was in pectoral and thigh muscles – respectively 0.33-0.92 and 0.68-1.43 $\mu\text{g}/\text{kg}$. In liver, there were records from 0.5 to 1.9 $\mu\text{g}/\text{kg}$. Levels of mercury shown in this study are considered as low, however, because white storks belong to highest trophic level, magnifying concentration of this particular metal can become toxicological hazard.

Keywords:

white stork, mercury, toxicology



ASSESSMENT OF SPATIAL AND FUNCTIONAL POTENTIAL OF STARA SANDECJA AREA IN NOWY SĄCZ

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A few words about the author:

Architect, until recently a junior inspector dealing with spatial planning decisions in the department of architecture of one of the Polish cities, currently a doctoral student at the Cracow University of Technology (CUT).

Abstract:

The so-called „Stara Sandecja" is an unbuilt green public space. It is one of the problematic areas in the central part of Nowy Sacz, but with great development potential. In the immediate vicinity of the area there are: the Grodzki Bazaar on the south side, the Academic Schools Complex on the west side. The subject of the presentation will be a preliminary assessment of the functional and spatial potential, indicating the possible role of the local center.

The local center is both an urban concept and a meeting place – a center of concentration of social and economic activity. Spatial aspects will be discussed, such as: location, presence of public transport, accessibility on foot, scale, presence of structured public space.

The local center should be multifunctional, therefore functional aspects will also be discussed. It will facilitate access to various services and products, but also enable to spend time in an interesting way, also with family or friends. Cafes, squares, neighborhood clubs, etc. can play such a role. Apart from social activation of the residents, the local center should also be a place of concentration of local entrepreneurship and jobs.

The final evaluation will present the situation of the analyzed area in the form of a matrix: strengths and opportunities, and weak points and dangers. This may form the basis for future development model and sketch alternative action plans or scenarios.

Keywords:

urban analysis, urban renewal, local centre zone



TECHNOSOLS – A LOCAL HISTORY OF HUMAN ACTIVITY (AN EXAMPLE OF THE SOIL COVER OF THE TORUŃ'S COMPANY OF NON - ORGANIC CHEMISTRY "POLCHEM")

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A few words about the author:

Magdalena Urbańska – Nicolaus Copernicus University in Toruń, Department of Soil Science and Landscape Management. Fields of research interests: technosols, soil education.

Abstract:

In a modern look at soil functions the soil environment is noticed as a food producer or gene reservoir but also as a record of the history of human activity. Technogenic soils (technosols) – is a group of soils strongly transformed as a result of human existence excepting agricultural activity. Thus, these soils occur in urbanized and industrialized areas.

Post-industrial areas are not only an infrastructure and ruins but also the soil cover. Soils in such areas should be considered as important element of this type of landscape due to the artifacts. The aim is to show a potential of post-industrial soils.

Technosols are a kind of record of events connected with all industrial activity. There are fragments of reinforcements, debris from buildings, elements of railway tracks and sulfur in different forms. The "Polchem" soil cover has recorded the history of the plant.

Artifacts are important options hidden in soils. "Polchem" area is a place for scientific researches as well as an educational offer for students. In this way it could be present an important soil function – protecting cultural heritage.

Keywords:

technosols, soil functions, artifacts, soil education, post-industrial areas



INFLUENCE OF AUTOLOGICAL NEUTROPHIL- DERIVED PRODUCTS – MICROVESICLES (MV) AND NEUTROPHIL DEGRANULATION PRODUCTS (DGP) ON THE ACTIVITY OF MACROPHAGES (MDM) ISOLATED DURING THE INSERTION OF A TITANIUM IMPLANT INTO THE PROXIMAL TIBIAL PHYSIS IN A SHEEP MOD

Joanna Zdziennicka (1)*, Joanna Wessely- Szponder (1), Tomasz Szponder (2)

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(2) Department and Clinic of Animal Surgery, Faculty of Veterinary Medicine, University of Life Sciences

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A few words about the author:

My name is Joanna Zdziennicka. I am a Phd student in University of Life Sciences in Lublin.

Abstract:

In our experiment the type of MDM response was assessed after stimulation of these cells with preparations; MV and DGP obtained from the blood of sheep during insertion of titanium implant in a sheep model to improve healing during skeletal- muscular system disorders.

The study was conducted in a group of 8 sheep, BCP breed, 4 months old. Whole blood to obtain MV and DGP was collected 7 days before implantation. Monocytes for MDM cultures were isolated 7 days before Ti implant insertion and 2 hrs after implantation. These cells were stimulated with DGP, MV or left without stimulation, marked as BCS (control). Functional analyses of MDM were conducted after 24 hrs and 72 hrs of incubation at 37 °C with 5% CO₂.

The obtained results show that stimulation with DGP cultures generated high amounts of NO and superoxide. Addition of MV into the macrophage induced decrease of NO and superoxide generation.

Our study revealed that neutrophil-derived products could regulate activity of macrophages.

Keywords:

MDM, MV, DGP, sheep, titanium implant



NEUTROPHIL DEGRANULATION PRODUCTS (DGP) AS A FACTOR AFFECTING THE PROCESS OF HEALING SKELETAL INJURY DURING SKELETAL INJURY IN SHEEP AND RABBITS MODELS- COMPARISON

Joanna Zdziennicka (1)*, Joanna Wessely- Szponder (1), Tomasz Szponder (2)

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A few words about the author:

My name is Joanna Zdziennicka. I am a Phd student in University of Life Sciences in Lublin.

Abstract:

The aim of the study was to compare the effect of DGP as a potential regulator of increased inflammation, on monocyte-derived macrophages (MDM) in the course of skeletal injury in different animal species: sheep and rabbits.

The study was conducted on a group of 8 sheep and 8 rabbits. In rabbits the autological grafts were transplanted within both knee joint of the same rabbit while in sheep a titanium implant was placed in the proximal tibial physis. Whole blood to obtain DGP was collected 7 days before every implantation. Monocytes for MDM cultures were isolated 7 days before Ti implant insertion and 2 hrs after implantation. These cells were stimulated with DGP. Functional analyses of MDM were conducted after 24 hrs and 72 hrs of incubation at 37 °C with 5% CO₂.

In rabbit and sheep model MDM generated high amounts of NO and superoxide especially in rabbit after 72 hrs and in sheep after 24 hrs after stimulation.

In both models DGP acted as pro-inflammatory stimulator of macrophages.

Keywords:

DGP, MDM, rabbit, sheep, injury



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