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&

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# Keynote Forum
# Day 01

30 YEARS OF EXCELLENCE IN MEDICAL PUBLISHING

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Bernat-Carles Serdà, J Nursing Research and Practice, Volume 3
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Bernat-Carles Serdà

University of Girona, Spain

## Lecture versus self-directed methodologies in university students' learning

This study compared the effectiveness of teaching and learning methodologies based on knowledge transfer (lecture) with approaches that emphasized self-directed learning (Problem-Based Learning [PBL] and Reflective Learning [RL]), in a sample of 230 undergraduate nursing students and 8 professors. A mixed-methods study was carried out in a university school of nursing: quantitative methods were used to analyse the outcomes achieved by university students and compared the effectiveness of the various methods based on the students final examination scores; and qualitative analysis evaluated the factors that affected student learning in each of the three study arms: lecture, PBL and RL. The quantitative results show a better score for RL compared to PBL and the traditional lecture format. Qualitative findings indicate that self-directed methodologies result in higher-quality outcomes in student acquisition of content knowledge. Our results suggest two findings: methodologies focused on knowledge transfer (lecture) and those that favour self-directed learning (PBL and RL) are complementary; each approach has specific functions that cannot be replaced by the other two; and, self-directed learning methodologies, which are distinguished by their promotion of active student participation contribute most significantly to improving student learning. (Hajrulla 2014) Various studies have recommended the promotion of these methodologies in higher education considering them a necessary pathway for the preparation of competent professionals, as our findings also suggest. (Fook 2007) In this context that self-directed learning is a key strategy to promote individual abilities for learning continuum. The PBL and RL approach can help to foster professional knowledge and quality learning in higher education. Our research contributes to better understanding of self-directed (reflective) learning and professional practice development. We concluded that simultaneous use of diverse instructional techniques constitutes the best instructional approach. It could be useful in the future to design instruments to evaluate specific skills associated to each technique.

### Biography

Bernat-Carles Serdà is a teacher and researcher in the Health Sciences Faculty, (University of Girona, Spain). His research focuses on Quality of Life and chronic malignancies. Nowadays is supervising several theses using mixing methods in this research field. He has achieved several pre-doctoral and post-doctoral grants for international academic stays.

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*Ignat Ignatov*
*Scientific Research Center of Medical Biophysics, Bulgaria*

## Effects of electrochemically activated water catholyte and anolyte on human health

In the process of electrochemically activation of water with electrolysis are obtained catholyte and anolyte. The device is called electrolyzer and is separated into two parts with a semi-permeable membrane. In the two sections are put two electrodes with direct current. These are cathode and anode for the waters catholyte and anolyte.

**Introduction:** The properties of anolyte and catholyte are measured with pH and Oxidation Reduction Potential (ORP). The indicator pH gives information about the acidity and alkalinity of the liquids. Oxidation Reduction Potential (ORP) is associated with electron transition processes. There is a dependence between oxidation-reduction processes and antioxidant.

**Results:** The physical-chemical properties of the catholyte and anolyte determine their activity. The optimal values for catholyte for ORP are (-200 - -400 mV) and for pH (8.5 – 9.5). For the anolyte they are (+500 - +600 mV) and for pH (3.5 – 4.5).

The following processes take place in the two sections of the electrolyzer.

**In the cathode section:** $2H_2O + 2e^- \rightarrow H_2 + 2OH^-$ .

The hydrogen gas that is produced separates, and the water obtains an alkaline reactivity.The catholyte has reduction properties and there is an increase in the number of the electrons according to the control sample and negative ORP.

In the anode section $2H_2O \rightarrow 4e^- + 4H^+ + O_2$

The separated hydrogen ions and oxygen molecules lead to an increase in the acidity of the anolyte. The anolyte has oxidation properties and there is decrease in the number of the electrons according to the control sample and positive ORP.

The values of pH and ORP of the catholyte and anolyte after certain amount of days following the water activation, change in different ways during the time. The catholyte preserves its high alkality (pH > 8.9) for about a week, but its oxidation-reduction potential changes rapidly and becomes almost zero after the second day. On the contrary, the corresponding values of the anolyte change insignificantly (about 10%) after almost a year.The indicated properties give unique acting properties of the activated water. During the process of electrolytic decomposition particles or components are created that cannot exist outside the solution. The increased quantity of monomolecules causes changes in viscosity, diffusion, thermal and electrical conductivity, the surface tension and the catalytic activity of the catholyte and anolyte. Water is the natural and necessary medium for most biological molecules. Changes in its composition and structure can have stimulating or inhibitory action on the processes in the living things. The increased catholyte reduction leads to increased antioxidant effects on bio molecules. Due to this reason the catholyte has protective and positive effect for oxidation stress-connected diseases such as diabetes, cancer, neurodegenerative diseases, and side effects accompanying hemodialisys. There is stimulation of immunology system. Clinical examinations carried out by different scientists have demonstrated positive effect in cases such as difficult healing wounds, diabetes of type 2, telomere shortening at the cancer cells and inhibition of their growth, suppression of side effects caused by the use of anticancer medications, favorable influence on the blood system. Investigations have proved that the activated water was not toxic for cells and tissues, and did not have mutagenic, cancerogenic, embryotoxic or immunotoxic effects. The high oxidation of the anolyte has a strong biocidal effect on various microbes, bacteria and viruses, which leads to their retention or complete destruction. Rapid healing of wounds and inflammation, suppression of herpes and rhinitis viruses, etc. are observed. Anolyte completely eliminates Staphylococcus aureus and Escherichia coli bacteria in in vitro experiments.About the mechanism of action of catholyte and anolyteThe mechanism of influence of activated water on the living matter is not quite clear. The observed anomalous properties of this water could directly or indirectly be referred to one or other activity, but for the present a full explanation of the process is not still available.

Generally, the explanations concern the high alkalinity of the catholyte and the antioxidant effect in bio molecules, and the high acidity of the anolyte and the increased acidity stemming from this. Some observations of the authors suggest that the following hypothesis could take place. The catholyte obtained during the electrolysis has a different hydrostatic pressure than the blood plasma i.e. it is hypertonic relative to it. This will intensify increased flowing of intracellular liquid which contains oxidized substances resulting from the cell metabolism. Thus, the cell waste cleaning will be stimulated. According to the authors, the unique properties of the catholite and the anolyte can be explained by hydrogen H+ ion. It has oxidizing and reducing properties. This makes it possible to achieve a balance of oxidation / antioxidant against reactive oxygen species (ROS) and free radicals. In cancer, the intracellular water is acidified. The catholyte is alkalinized and, due to its higher surface tension and viscosity, separates the adhering erythrocytes. Free electrons have an antioxidant effect on biomolecules. There are evidence for the improve the quality and quantity of erythrocytes. This will lead to an improvement in immune system status.

## Biography

Ignat Ignatov DSc was born on January 1, 1963 in the town of Teteven, Bulgaria. In 1976 descrebes a phenomenon in which little apertures act like optic lenses. In 1989 Ignatov majored in physics from "Kliment Ohridski" Sofia University with master degree. In 1996 he founded the Scientific and Research Center of Medical Biophysics (SRCMB) of which he is also an owner.Prof. Dr. Ignat Ignatov was a consultant of the National Center of Public Health at the Ministry of Health until 2003. The Bulgarian scientist is involved in research projects for the study of biophysical and medical effects for the influencing of human health.The Bulgarian scientist is member of Inter-disciplinary thematic group, Bulgarian Academy of Sciences (BAS) for studying the properties of activated waters with head Ass. Prof. Georgi Gluhchev.From 2007 Ignat Ignatov is honorable doctor in European Academy of Natural Sciences (Germany). From 2013 he is Doctor of Science and Professor in The Russian Academy for Natural History.Prof. Ignatov is editor in chief in Bulgarian Journal of Public Health, Ministry of Health.Prof. Ignatov is Chief Editor of two US journals. The scientific directions of Prof. Ignat Ignatov DSc are – structure of water, origination of life and living matter, mountain water and longevity, high frequency color coronal discharge, nanotechnologies, astrobiology, biological effects in heavy water, entropy and time in living matter, visual analyzer, biophysical fields, biotechnologies, shungite. In 2008, together with Prof. Marin Marinov, he established an electromagnetic concept of vision. In 2010 Prof. Ignatov, together with Ass. Prof. Mosin, created a concept for the origination of life and living matter in hot mineral water.

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**Notes:**

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# Keynote Forum
# Day 02

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*Olga Kubassova*

*Image Analysis Group, UK*

## Three types of artificial intelligence (AI) to impact clinical research in the next 3 years

Current ways of pharmaceutical Research & Development (R&D) generate poor R&D and no longer sustainable. Artificial Intelligence (AI) is already here to Increase the speed & quality of innovation in clinical R&D. The future of successful clinical R&D of novel therapeutic agents is dependent on the efficient use of smart modern technologies and data centric development approach. The use of modern technologies, such as cloud platform and wearables will allow acquire large quantities of data, often real-time and real-life; Smart ways of using data through deep learning, big data, machine learning approaches for patient phenotyping, patient selection, trial recruitment optimization and new drug efficacy assessment will enable the life sciences industry to increase the speed and quality of innovation, while reducing costs of development. Thus, making AI and Machine Learning (ML) methodologies a major source of competitive advantage. Today is the right time for efficient collaborations between the bio-pharma industry, technology companies, academic researchers, physicians and patients. A deeper convergence between key stakeholders and advanced technologies will facilitate the discovery and development of powerful therapies, devices and advanced diagnostics to benefit patients.

### Biography

A mathematician with over 10 years expertise in actively managing innovation in life science companies, Olga Kubassova, PhD, is a healthcare innovator and biotech investor with passion for improving people's health. She has co-authored over 60 publications, books and book chapters, has become a scientific adviser to the UK government and EU funding bodies. She is a founder and CEO of IAG, Image Analysis Group, the imaging clinical research organization working with top bio-pharma companies to maximize their chances of brining novel therapeutic agents to the market. She is a four-time winner of national and international "Entrepreneur of the Year" awards. Olga's ambition is to bring truly disruptive technologies, artificial intelligence and best of machine learning to clinical practice and research, while expanding IAG's footprint and partnerships.

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