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Curriculum Vitae

Key words: Marine and Freshwater bacteria, *Archaea*, Genomics, New Microbial Taxa, Quorum Signaling in Biofilms, Human Genetics and Genomics

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Official Address: Box P.O. 7 Department of Microbiology, St. George´s University, School of Medicine, St. George, Grenada, West Indies, phone 001 437 444 4357 ext. 2316, E-mail SKotelnikova@sgu.edu

Birthdate: November 9, 1962

Birthplace: Russia, Southern Ural, Zlatoust

Current position: Associate Professor at the Department of Microbiology, School of Medicine, St.George's University

Adjunct Professor at the School of Veterinary Studies , St. George's University

Family status: Married to Peter Giesler, Swedish, borne in 1965, with three children, Anna (student, International economics and linguistics, Germany), Sergey (student, electrical engineering, Sweden) and Robin (High School Student in Sweden)

Foreign languages: English, Swedish, Russian, Esperanto

Driving license: type B

Education:

1970-1980 – school and high school, student

1980-1985 Department of Biology, Nignij Novgorod State University, undergraduate

1988-1994 Institute of Biochemistry and Physiology of Microorganisms, post-graduate

1994-1996 Department of Marine and General Microbiology, Gothenburg University, post-doctoral fellowship and post-graduate studies

2000-2001 Department of organic and inorganic chemistry, Chalmers Technical University, Institute of Zoology, Botanical Institute, Ecology and Evolution, Marine Biology, Gothenburg University, Sweden

2000-2001 College Teacher of Biological Sciences and Chemistry, Pedagogue, Institute of Education, Gothenburg University

Academic degrees:

B.A.1984 “Effect of oxygen on enzymes of energy metabolism from *Methylomonas methanica*”Institute of Biochemistry and Physiology of Microorganisms,

M.S. 1985 “ Respiration of hydrogen-oxidizing bacteria “ Institute of Biophysics of Siberian Academy of Science

June 1985 Diploma awarded for Biologist and Teacher of Biology and Chemistry in Russian

Ph.D. 1994 “Taxonomy of Methanotrophic *Archaea* of Genera *Methanobacterium* and *Methanosarcina*" Institute of Biochemistry and Physiology of Microorganisms, Pushchino, Moscow region, Russian Academy of Science

B.A. 2001 Teaching of Biological Sciences and Chemistry in Swedish

Postdoctoral fellowship 1994-1996 “Deep hydrogen-based biosphere” Göteborgs Universitet, Microbiologi, Cell och Molekular Biologi Institution, Medicinaregatan 9C, Box 462, 405 30 Göteborg Telephone: 031 773 25 65, Fax 46 31 773 25 99

Independent Research 1996-2000, Microbial reduction of oxygen in deep indigenous groundwaters, Swedish Nuclear Fuel and Waste Management Co, Department of Microbiology, Cell and Molecular Biology Institute, Gothenburg University

2000-2001 Microbial corrosion and interaction with polymers, Department of Microbiology, Cell and Molecular Biology Institute, Gothenburg University

2001-2005 Antagonistic compounds from marine microorganisms,Aquatic bacteriology and public health, New taxa of *Vibrio, Rachnella* ***and*** *Serratia* producing signaling and anti-microbial compounds

Professional affiliation and activities:

Membership:

American Society of Microbiology (USA)

Society for General Microbiology (Europe)

Employment

1985-1988 Research assistant, Institute of Biochemistry and Physiology of Microorganisms, Pushchino, Moscow region

1988-1994 Research associate, Institute of Biochemistry and Physiology of Microorganisms, Pushchino, Moscow region

1994-1996 Postdoctoral fellowship, Gothenburg University

1996-2001 Researcher and lector, Department of Microbiology, Institute of Cell and Molecular Biology, Gothenburg University

Nuclear Power Waste Company (Svensk Kärnkraftavfall Bolag, SKB)

2001 currently Associate Professor in Microbiology and Genetics

Department of Microbiology, St. George´s University

Research interests:

I have professional experience in different fields of microbiology, mainly in microbial ecology, taxonomy, biochemistry and physiology of microorganisms in crystalline rocks and hydrothermal vents. I have worked in the fields of microbial decontamination of the environment, identification and taxonomy of strict anaerobic bacteria and geomicrobiology of deep subsurface for 14 years. Part of my research interests concentrates on the isolation of pure cultures of the hardly cultivable anaerobic microorganisms, their physiology and biochemistry, chemotaxonomy and

genosystematic of methanogenic *Archaea*, sulphate-reducing and acetogenic *Bacteria*. I begun my scientific carrier working with enzymatic characterization of oxygen-limited *Methylomonas methanica* in the laboratory of Methylotrophy of the G. K. Skryabin Institute of Biochemistry and Physiology of Microorganisms, in Russia. I then continued with research on the enzymes of the electron transport chain of hydrogen-oxidizing bacteria in the Institute of Biophysics of the Siberian Academy of Science, in Russia. I then studied mechanisms of microbial pesticide degradation, worked with strict anaerobic methanogenic Archaea and sulphate-reducing Bacteria in the Russian Bacterial Culture Collection of the Russian Academy of Science, where I isolated and characterized 3 new species and 6 new strains of methanogens. In that time it was a new research area with developing microbiological techniques. I studied the cell wall composition, biochemistry, physiology and phylogeny of thermophilic methane-producing *Archaea*, including my own isolates from Far-East hydrothermal vents. Her interests during this period of time were connected to mechanisms of thermophilicity, properties of strict anaerobic methanogens, diversity and evolution of Archaeal forms. After I defended my PhD thesis (February, 1994) titled “Systematics of thermophilic Archaea of genera *Methanobacterium* and *Methanosarcina*”, I moved to the Deep Biosphere Laboratory, Gothenburg (September, 1994) as postdoctoral researcher.

I began the work with microbiology of deep igneous rock aquifers at Äspö Hard Rock laboratory, in Sweden. Äspö Hard Rock laboratory project is multi-disciplinary project and directed towards the understanding of using hard rock as a site for final disposal of high redioactive waste. The support from geological, geochemical and hydrological research was important for my microbial ecology research. Although this research aimed at the applied task of safe disposal of radioactive waste, most of the research I performed had a very basic nature. This is because nothing was known about subterranean homoacetogens and methanogens, interaction of homoacetogenesis and methanogenesis in deep crystalline bedrock before I started my research. The initial questions have been raised: Are homoacetogens and methanogens present in the oligotrophic deep granitic aquifers? Are they active? Which environmental factors do affect their distribution and diversity? May methanogenic Archaea and homoacetogenic Bacteria initiate a chain of organic carbon production in the anoxic and organic poor subsurface? I developed molecular biology tools for retrieving the archaeal genes from the environment, sampling and cultivation methods for anaerobic organisms from the deep subsurface. I have found both methane and hydrogen dissolved in the deep granitic groundwater. First known granitic methanogens were isolated and characterized. My findings revealed the existence of an unknown microbial interaction between homoacetogens and acetoclastic methanogens, which is an evidence for hydrogen driven deep biosphere. The deep subterranean biosphere is driven by the energy available in hydrogen and carbon in calcites.

Later on I continued my scientific career as leader of the research project funded by the Swedish Nuclear Waste Company (SKB). The Microbe-REX project dealt with microbial oxygen consumption in the deep granitic subsurface. The chemical modeling showed that iron minerals in the rock matrix and reducing components in the bentonite will consume the introduced oxygen within 300 years. However, I found evidence for the concept that methanotrophic, hydrogen-oxidising and heterotrophic bacteria reduce oxygen with methane, hydrogen and organic carbon. The scenario changes dramatically- oxygen is gone within days or maximum months. A series of experiments have been performed during this period of time concerning inorganic and organic (microbial) reduction of oxygen. The results confirmed the hypothesis and showed that there is a strong microbial oxygen reduction potential in the underground fractures. A model for microbial oxygen consumption in the groundwater was developed and applied.

During this period of time I have done basic research aiming presence and activity of methanotrophic bacteria in the deep subsurface. Methanotrophs are present wherever there is methane in the groundwater. Methane-utilising bacteria were studied in granitic aquifers at depths from 70 to 700 m below surface (in Sweden and Finland) with respect to their presence, distribution, diversity, activity and oxygen consuming potential. New species of methanotrophs unique and highly adapted to the deep subsurface have been discovered.

Later I was responsible for microbiological part of the International Redox *in situ* experiment in detailed scale (SKB). Most important is the fact that oxygen would induce aerobic microbial respiration and succession of microbial groups both in the groundwater and on mineral surfaces (diorite biofilms). The numbers of cells attached as biofilms inside the *in situ* REX system exceeded the numbers of free-living cells. The development of biofilms would potentially lead to change of absorbing properties of the mineral surfaces that alter sorption of radionuclides, which eventually may leak from the repository. Biofilms would potentially harbour aerobic, microaerophilic and anaerobic microorganisms, promoting both oxygen respiration and development of the reduced species. Empirical model and results of the inhibiting experiment *in situ* suggested that attached and unattached organisms could be responsible for the oxygen uptake observed under *in situ* conditions in the deep granitic aquifers.

Simultaneously I have participated in the International expedition to East Drinefontain Gold mines in South Africa, funded by the National Geographic Society. The expedition was successful. The Witwatersrand gold mining levels at Western Deep Levels Inc. (South Africa) are the deepest in the world (3500 meters below surface, 60°C). The most productive "reef" was a thin organic-rich layer, called the Carbon Leader, which also contains high uranium concentrations. I hypothezised that the extremely high

uranium concentrations in the organic rich layers containing the gold cause radiolysis of water to H_2 and O_2. Methane and hydrogen occur frequently in the mines. Our results of most probable number, radiotracer experiments and enrichment cultures showed that methane and hydrogen were consumed by microbes both in the presence and absence of oxygen. I proposed the presence of syntrophic consortia of hydrogen-producing methanotrophs and anaerobic organisms respiring sulphate, ferric iron and/or manganese thereby able to oxidize methane under anoxic conditions. My results indicated that methane and hydrogen may contribute to the organic carbon production of the ultradeep system, constituting the energy base of subterranean microbial ecosystems.

During the time when I have been working in Sweden I have gained experience of the project planning, coordination, working in team, coworking with microbiologists and geologists from USA, France, England, Russia and Switserland. I have developed communicative abilities in English and Swedish. I have learned to work on applied and basic research area in parallel way. During this time I have participated numerous International Symposia on: Evolution of microorganisms (Warwick, England, 1996), Microbial Ecology, (Halifax, Canada, 1998), Environmental biogeochemistry (Toronto, Canada, 1999), Subsurface Microbiology (Davos, Switzerland, 1996, and Vail, Colorado, USA, 1999). I have also participated in project meetings (Nottingham, England 1996, 1997, Marseille, France, 1998, Äspö, 1999, Stockholm, Sweden 1999).

Currently my research is associated with Graduate Research Program of St George's School of Medicine and WINDREF in Grenada. (see the list of recent reports published). I was excited to be a part of this new developing graduate program and very happy to be a driving force using my experience and scientific curiosity in the field of microbiology associated with diverse bacterial and archaeal communities in such unique environments like hot iron springs, volcano lake, deep biofims and coral reef animals. The capacity of bacteria associated with biofilms in the environments listed above is tendency to produce unique biological compounds while possessing unique physiology which might facilitate the use theses of these organisms in biotechnology without cloning or genetic transformations. This is an approach, which is alternative to metagenomics. We are seeking for anti-microbial and anti-fouling, anti-biofilm producing cultivable bacteria, then we identify the producers to define the optimal physiological conditions for the production. In the mean time, we are discovering new unknown organisms. On the other side, I have established Environmental Testing Unit based at the Department of Microbiology, serving SGU and funded by SGU for drinking water and coastal water regular testing and quality assurance. This service is also useful for disaster management and preparedness. I supervise a team of 5 people,

which are serving as a great resource not only for SGU community but also for graduate research in Microbiology and Public Health.

Future scientific development is linked with my vision of archaeal organisms associated with marine water and coral reefs. They are representing more than 30% of the community in according representation of 16S rRNA genes, however there is not a single one that was cultured. These organisms represent a distinct domain, so we can expect a very distinct biochemical activity. They may be thriving in symbiotic associations which will create an additional challenge for their culturing in the laboratory.

Research awards (last several years)

George Soros's Science Foundation, Moscow, 1994, 5 000 US

Swedish Institute120 000 SEK

Swedish Nuclear Fuel and waste management CO., Microbial consumption of oxygen in Äspö environments, 1996-1998, 500 000 SEK

Swedish Nuclear Fuel and waste management CO., Microbial effects on oxygen reduction in REX in situ experiment, 1998-1999, 800 000 SEK

Stiftelsen Lars Hiertas Minne Microbial systems in deep groundwater. 1998, 40 000 SEK

Magnus Bergvalls Stiftelse (MBS) Life bonds: thermophilic methane- and hydrogen related microorganisms in Ultradeep Environment close to the Earth core. 1998, 50 000

National geographic Foundation (USA) Whitewatersrand Microbiology project, 1998, 10 000 SEK

Just a drop, (UK) , Providing safe drinking water to the community, 30 000 GP

Teaching experience

As a post-doctoral researcher, I have gained experience in teaching by being lecture in inorganic and organic chemistry in a Swedish gymnasium (high school) in 2000; environmental microbiology and biochemistry of strict anaerobic microorganisms at Gothenburg University (1996-2000), supervising diploma and post-graduate students (1994-2000), consulting and educating engineers and geochemists from Swedish Nuclear Waste Management company and other relevant organizations (ANDRA, France, PNC, Japan, British Geological Survey, England) and participating the

International projects. I started as assistant professor at SGU, Department of Microbiology in August 2001 and since then have been teaching students on undergraduate and graduate levels in Medical Microbiology, Microbial Genetics, Marine Microbiology, Research Methods and Human Genetics for pre-medical and pre-veterenary students. Research superviser of number (5) of MD/MSC, DVM/Msc and free-standing Msc research students (see details in SGU Teaching Portfolio and the list of publications below). I have been serving as Faculty Advisor for more than 88 medical students and 65 premedical students.

Methods used and skills:

Cell culture maintenance, spectroscopic measurements of enzymatic activities, DNA-DNA re-association, electrophoresis of proteins, indirect immuno-fluorescence, isolation and chemical analysis of cell walls, determination of G+C content in DNA, gas chromatography of fatty acids and environmental gases, determination of physiological parameters of bacterial growth, light and UV microscopy, microphotography, preparation of cells for electron microscopy, comparable numeric analysis, most probable numbering of viable microorganisms, microbial sensitivity to antimicrobial agents and poisons, PCR, genomic transformation, cloning, DNA sequencing (chain termination method with radioactive and fluorescent label, DNA extraction and purification, primer design, molecular 16S rRNA probe technique, analytic chemistry of gases and low molecular compounds (for instance, methane, hydrogen, carbon dioxide, helium, acetate, formate, sulfide, ferric and ferrous iron), non-stable radioisotope labeling techniques, labeled gas-trapping. Computer – Microsoft WINDOWS 98, LINUX editors, DOS-editors (Word 5.0, 6.0), Plotting in UNIX, DOS and Microsoft Windows Systems: GC Star Analysis system, GC MS, Microsoft EXCEL, Graph program FigP, GCG packet for 16S rRNA data base interaction, Reference program GETAREF and ENDNOTES, programs for genomic sequence comparisons FASTA, BLAST in f.e. GenBank, sequence submission SEQUIN, and evolutionary trees building (ARB). The methods have been used for studying of the following objects: anaerobic and aerobic geochemical microbial processes and competent organisms in natural environments, biochemistry, immunology, molecular taxonomy, microbial ecology, radio-nucleotide distribution by microorganisms, degradation of pollutants in subsurface and identification of agents responsible for the process, methane related processes and microorganisms, hydrogen-oxidizing bacteria, subsurface microbiology, microbial physiology, structure of microbial communities, microbial aerobic and anaerobic

respiration, growth kinetic, modeling of microbial growth and oxygen respiration in subsurface, sun-independent microbial communities, extra-terrestrial organisms metabolism types.

I am routine user of number of educational and communication tools such as Microsoft Power Point, Quick Place, ANGEL, and LOTUS NOTUS.

List of essential publications in English:

P- Reviewing of papers:

1. Peer-review written by **Dr. Kotelnikova**, **S,** Manuscript id es 034061j, Environmental Science and Technology. Title: Temporal variation of methane oxidation in a carex freshwater marsh in Sanjiang Plain, China. Authors: Weixin Ding, Zukong Cai, Haruo Tsuruta, Xiaoping Li. The Peer-review was required by journal of Environmental Science and Technology 06.03.2003

2. Peer-review written by **Dr. Kotelnikova, S.**, Manuscript id: FEMSEC-0211-0711, Title: Microbiology of formation waters from the deep repository of liquid radioactive wastes Severnyi. Authors: Tamara Nazina, Inessa Kosareva, Vladimir Petrunyaka, Margarita Savushkina, Evgeniy Kudriavtsev, Valeriy Lebedev, Viktor Ahunov, Yuriy Revenko, Robert Khafizov, George Osipov, Sergey Belyaev, Mikhail Ivanov. The peer-review was required by: FEMS Microbiology Ecology 17.04.2003.

3. Peer-review written by **Dr. Kotelnikova, S.** "*Archeoglobus fulgidus and Thermotoga elfii*: are they two common inhabitants of the deep biosphere?" The peer-review was required by editor of the Joulnal of Geomicrobiology, 20.03.2006

Reviews:

Kotelnikova S. and Pedersen K. 1997 Evidence for methanogenic *Archaea* and homoacetogenic Bacteria in deep granite rock aquifers, FEMS Microbiology Reviews. 20, 339-349.

Kotelnikova S. Microbial production and oxidation of methane in the deep subsurface. 2002 Earth Science Review, 58/3, pp. 367-395.

P-reviewed full Articles:

Laurinavichus K.S., Kotelnikova S.V., Obrazsova A.Ya. New species of thermophilic methane-producing bacteria. Microbiology translated from Russian 1988. V.57. N. P. 832-838.

Scherbakova V.A., Kotelnikova S.V., Navoa M.-K., Obrazsova A.Ya., Kruz M., Laurinavichus K.S., Akimenko V.K. Physiological properties of thermophilic *Methanosarcina* isolated from active sludge of anaerobic digests. Microbiology translated from Russian 1991. V.60. P.325-329.

Kotelnikova S.V., A.Y. Obraztsova, K.-H. Blotevogel, I.N.Popov Taxonomic analysis of thermophilic strains of the genus *Methanobacterium*. Reclassification of *Methanobacterium thermoalcaliphilum* as a synonym of *Methanobacterium thermoautotrophicum.* Int. J.Syst. Bacteriol. 1993. V.43. N 3. P.591-596.

Kotelnikova S.V., Lysanskaja V.Y., Obraztsova A.Y. Glycine in the cell walls of thermophilic *Methanobacterium* strains. Microbiology translated from Russian. 1993. V.62 N5, P.572-573.

Kotelnikova S. V., A.Y. Obraztsova, G. M. Gongadze, K. S. Laurinavichus. *Methanobacterium thermoflexum* sp. nov. and *Methanobacterium defluvii* sp. nov., thermophilic rod-shaped methanogens isolated from anaerobic digestor sludge. System. and Appl. Microbiol. 1993. V.16. N 3. P.427-435.

Kotelnikova S. and K. Pedersen. Distribution and activity of methanogens and acetogens in deep granite rock in Äspö Hard Rock Laboratory, Sweden. FEMS Microbiology Ecology, 1998, 26:121-134

Kotelnikova S., A.J.L. Macario and K. Pedersen *Methanobacterium subterraneum***,** a new alcalophilic, eurythermic and halophilic methanogen isolated from a deep granitic groundwater. Int. J. System. Bacteriol. IJSB, 1998, 48: 357-367

Kotelnikova S. Kaluzhnaya, M.G., Khemelina, V. N., Trotsenko, Yu and Pedersen K. Methane oxidation in deep ingneous groundwaters. Microbial Ecology, 2002, in press.

Kotelnikova S. Pedersen K. : Microbial oxygen consumption in the Deep Igneous Rock Ground Water, 2002 FEMS Microbiology Ecology, submitted

Kaluzhnaya, M.G. Khemelina, V. N. Kotelnikova* S.V. Holmquist, L. Pedersen K. Trotsenko Yu. 1999. *Methylomonas scandinavica* sp. nov, a New Methanotrophic Psychrotrophic Bacterium isolated from Deep Igneous Rock Ground Water of Sweden. Systematic and Apply Microbiology, 22,1999, p. 565-572

I. PUIGDOMENECH, L. TROTIGNON, S. KOTELNIKOVA, K. PEDERSEN, L. GRIFFAULT, V. MICHAUD, J.-E. LARTIGUE, K. HAMA, H. YOSHIDA, J.M. WEST, K. BATEMAN, A.E. MILODOWSKI, S.A. BANWART, J. RIVAS PEREZ, AND E.-L. TULLBORG, 1999, Oxygen Consumption in a granitic environment. Manuscript. Scientific Basis for Nuclear Waste Management

Kotelnikova S. Microbial succession in response to oxygenation of deep granitic aquifer. SAME-8 8-th Symposium on aquatic microbial ecology, Taormina, Sicily, 25-30 October 2002, pp.15, L8

Kotelnikova S. Microbial production and oxidation of methane in deep subsurface. Earth-Science reviews, 2002, 367-395.

C. Bruno and Kotelnikova S. Prevention of fouling by reef fish microflora, ASM symposium Biofilms 2003, Victoria, Canada, p.45

C. Bruno and Kotelnikova S. Anti-biofilm forming properties and diversity of pro-biotic microflora of coral reef fish *Sparisoma ninida*. Proceedings of Caribbean Research Council, 2004, Grenada.

Davis S. and Kotelnikova S. Microorganisms isolated from marine and freshwater environments in Grenada, West Indies. Proceedings of Caribbean Research Council, 2004, Grenada, manuscript

Giesler, P. Lennon D., Pensick A., and S. Kotelnikova. Monitoring of recreational aquatic environments in Grenada, West Indies. Proceedings of Caribbean Research Council, 2004, Grenada, manuscript

Svetlana Kotelnikova, Nicholas Caputo , Cynthia Bruno, Eugene Martin and Karsten Pedersen, 2006· *Vibrio salinivivax* sp. nov., sp. an extreme halophilic marine bacterium isolated from biofilm on the bottom of marine bay sea in Grenada. IJSEM, International Journal of Systematic and Evolutionary Microbiology, manuscript

S/. Kotelnikova. Microbial production and oxidation of methane in deep subsurface Virtual Journal of Geobiology, Volume 1, Issue 2, October 2002, pp.367-395. http://earth.elsevier.com/geobiology/archive/1_2.htm

Chapter in Books:

Kotelnikova S.V., Novoa M.- L., Obraztsova A.Y., Laurinavichus , Akimenko V.K. Characterization of thermophilic *Methanocarsina* isolated from sewage sludge in Lubertsy and Havana. in book "Bioconvercion - 88" Riga. 1988. P.64.

Culture catalogue of All-Russian Microorganisms collection. Moscow-Pushchino, VINITI. 1992.

Microbes in Motion. 1996. Educational software. Pictures of *Methanobacterium subterraneum* and others subsurface Archaea.

The Procaryotae. The 3rd edition Edit: Dr. David R. Boone, Portland State University, under edition.

Reports:

Kotelnikova S.V. and Pedersen K. Anaerobic bacteria in the Äspö tunnel, Sweden and Palmottu, Finland. In SKB Quaternary Report, Stockholm, April 1995, p.13-20

Kotelnikova S.V. and Pedersen K. Microbial oxygen consumption in Äspö tunnel environments. Progress report HRL 98-11. Swedish, Nuclear Power Fuel and waste Co (SKB), Stockholm 1998, pp 1-98.

Kotelnikova S.V. and Pedersen K. Microbe-REX project: microbial oxygen consumption in the Äspö tunnel, SKB Technical Report 98-17, 1999. p. 1-75

Puigdomenech I., Banwart S.A., Bateman K., Milodovski A.E., West J.M., Grifault L., Gustafsson E., Hama K., Yoshida H., Kotelnikova S., Pedersen K., Lartique J.-E., Michaud V., Trotignon L., Morosini M., Rivas Perez J. and Tullborg E.-L. SKB-ICR-99-01. 1999, Swedish Nuclear Fuel and Waste Management Co, Stockholm. pp 1-120.

Kotelnikova S. and Pedersen K. Microbial oxygen consumption during *in situ* field experiment. SKB International progress report. 2000, Swedish Nuclear Fuel and Waste Management Co, Stockholm. pp 1-66.

Puigdomenech, I., Gustafsson, E., Kotelnikova, S., Morosini, M., Pedersen, K., and Tullborg, E.-L. (1999) In-situ Determination of O_2 Depletion by Geologic Media: The Redox Experiment in Detailed Scale (REX). SKB Technical Report, 1999

Moser D, Onstott T.C, Pfiffner S, Kotelnikova S, Peacock A, Phelps T, Deflaun M, Hoek J, Ghirose W.C, Colwell F, Kift T, Reysenbach A.-L, Fredrickson J.K, Southam G, , Slater G, Omar G, Pratt L, Boone D, Pedersen K. and Sher W. The Witwatersrand Deep Microbiology project: A Window into the extreme environment of deep subsurface microbial communities. Project Status report, 1999, p.1-78.

Cataloque of strain 2001 DSMZ -Deutsche Sammlung von Mikroorganismen und Zellkulturen GmbH, Braunschweig, Germany. 2001 List of Microbial Species: Methanobacterium sp. (Archaea), pp. 5-6

www.gbf-braunschweig.de/dsmz/species/sp303872.htm

Kotelnikova S. Respiration of iron and manganese by anaerobic methane-oxidizing microorganisms in Witewatersrand Gold Mines at depth of 3.1 km**.** Project report for Magnus Bergvalls Stiftelse (MBS) Life and Stiftelsen Lars Hiertas Minne. Sweden, 2001, pp. 1-45.

E. Davis and Kotelnikova S. Caribbean Environmental Research Initiative. Monitoring of recreational aquatic environments in Grenada. In WINDREF Annual Report, St Georges University, Grenada 2003, p .29-32

C. Bruno and S Kotelnikova. Antagonistic properties of reef fish microflora. In WINDREF Annual Report, St Georges University, Grenada 2003, p .32-34.

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V. Zxeltkov and S. Kotelnikova. Sulfate-reducing bacteria in oxidised freshwater of tropical mangroves. In WINDREF Annual Report, St Georges University, Grenada 2004, pp. 14-16

Davis S. and Kotelnikova S. Gram-negative bacteria from aquatic environments of Grenada (61.4W and 12.0 N), West Indies. In WINDREF Annual Report, St Georges University, Grenada 2004, pp.20-24

Kotelnikova S. Identification of bacteria producing antagonistic compounds isolated from marine biofilms of Grenada. In WINDREF Annual Report, St Georges University, Grenada 2004, p .24-25.

Kotelnikova S. Post-Hurricane water surveillance in problematic areas of Grenada. In WINDREF Annual Report, St Georges University, Grenada 2004, p. 27-31

Kotelnikova S. SGU Environmental Testing Unit (ETU) established and supervised by CERI. In WINDREF Annual Report, St Georges University, Grenada 2004, p. 25-27

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Rochard Daniel, Smith Jaime and Svetlana Kotelnikova. The Antimicrobial Properties of the Nutmeg. In WINDREF Annual Report, St Georges University, Grenada 2005, p. 44-46

Bruno C and S. Kotelnikova. Characterization of novel bacterial species and genera. In WINDREF Annual Report, St Georges University, Grenada 2005, p.47-50.

Nicholas D. Caputo and S. Kotelnikova, Novel Antimicrobial Compounds from Tropical Marine Environments. In WINDREF Annual Report, St Georges University, Grenada 2005, p.50-53.

Marisa Nimrod, Michle Klug, Jessica Kramer, Mehran Massumi, Dawn Adams and S. Kotelnikova. The Effect of Water Quality on the Students of St George's University. Grenda, 2005, 54-56.

Kotelnikova, S., Hallback L., and K. Pedersen "Fountain of Youth" in the Iron Springs in St. Andrews, Grenada: pre-investigation stage. Grenada: WINDREF Research Institute Annual Report 2006, pp. 23-27.

Presentations at meetings and Symposia:

Kotelnikova S. and K. Pedersen. Evidences for the presence of homoacetogenic bacteria in deep granitic groundwater obtained with culturing, molecular and radioisotopic techniques. The 1996 International symposium on Subsurface Microbiology, Davos, Switzerland.

Kotelnikova S. Energy sources for microbial respiration of oxygen in granitic ground water. . REX project meeting,, November 1996, Nottingham, England

Kotelnikova S. Microbial reduction of oxygen in granitic ground water. REX project meeting, November 1997, Äspö, Sweden. The 1996 International symposium on Subsurface Microbiology, Davos, Switzerland.

Kotelnikova S. Modeling of microbial respiration during Microbe-REX project. REX project meeting, Äspö, 1998, Sweden. The 1996 International symposium on Subsurface Microbiology, Davos, Switzerland.

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Kotelnikova S. Contribution of microbial biofilms to microbial respiration of oxygen in granitic ground water. REX project review meeting, October 1999, Stockholm, Sweden

Kotelnikova S.V, Pedersen K, Moser D. and Onstott T.C. The Witwatersrand Deep Microbiology project: methane and hydrogen dependent metal reduction. In Abstract Book of the 4th International Symposium on Subsurface Microbiology, August 22-27. Ghirose W (Ed) 1999, p 22. ASM, Vail, Colorado, USA.

Kotelnikova S, Response of microbial population to oxygenation of deep granitic groundwater during in situ experiment. 14-th International Symposium on Environmental Biogeochemistry. September 26-30, 1999, Hunsville, Ontario, Canada, pp.43.

Kotelnikova S. Microbial succession in response to oxygenation of deep granitic aquifer. SAME-8 8-th Symposium on aquatic microbial ecology, Taormina, Sicily, 25-30 October 2002, pp.15, L8

Kotelnikova S. Sulfate-reducing bacteria in mangroves and marine water. Panel of Research and scholarly activity , April, 7, 2005, Saint George University, Grenada, West Indies

Kotelnikova S. Coastal Recreational Waters in Grenada. Panel of Research and scholarly activity , April, 7, 2005, Sant George University, Grenada, West Indies

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Phylogenetic diversity and biogeography of marine sponge-associated bacteria and the potential usage of secondary metabolites in biotechnology. CO-INVESTIGATORS: SGU: Laura Jamieson, Hilary Crane MSc students, Newcastle University, UK: Prof. Grant Burgess (NCL), Victor Amadi, free-standing Ms Candidate in Microbiology, Grenada. Budget of 1000 USD. 2007

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