

CURRICULUM VITAE

Dr. Samuel Kosolapov

ד"ר שמואל קוסולאפוב

Department: Electrical and Electronic Engineering Engineering
Current Position: Lecturer, Department of Electrical and Electronic Engineering.
Research Interests: Image Processing. Embedded systems. Pedagogic Systems
Courses: Theory of Analog Electronics
Image Processing (Lectures and Laboratory)

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EDUCATION

Ph.D. 1982, Research Institute for the Biological Testings of Chemical Compounds,
Moscow, USSR

M.Sc. 1976. (Summa cum laude) MFTI - Moscow Institute of Physics and Technology,
Moscow, USSR

RESEARCH INTERESTS

- Image Processing
- Embedded Systems
- Pedagogic Tools

ACADEMIC APPOINTMENTS

2011 – present ORT Braude Academic College Of Engineering Excellence Program.
Head.
Karmiel, Israel

2014 – present Senior Lecturer, ORT Braude Academic College of Engineering,
Department of Electrical and Electronic Engineering.
Karmiel, Israel

1994 – 2014 Lecturer, ORT Braude Academic College of Engineering,
Department of Electrical and Electronic Engineering,
Karmiel, Israel

TEACHING EXPERIENCE

ORT Braude Academic College of Engineering, Karmiel, Israel:

Undergraduate Courses:

Theory of Analog Electronics
Image Processing (Lectures and Laboratory)
Introduction to Electronics
Introduction to Electronics (Laboratory)
Analog Electronics
Analog Electronics (Laboratory)
Introduction to Electricity (Laboratory)
Digital Electronics
Digital Electronics (Laboratory)
Analog Electronics Communication
Electricity and Electronics (Lectures and Laboratory)
 (Department of Mechanical Engineering)
Elements of Machine Vision (Lecture and Laboratory)
 (Department of Industrial Engineering and Management)

Diploma Projects supervision:

Department of Electronics and Electrical Engineering (B.Tech, B.Sc.)
Department of Computer Engineers (Practical Engineers)

Development of Laboratories:

Image Processing Laboratory

Practical Engineers Courses:

Introduction to Computers

Practical Engineers Courses:

Radio Communication (I, II, III)
TV Systems III

Department of Continuing Education, Karmiel, Israel

Gifted Children Program:

Pascal, C++, OOP (lectures and laboratories)
Computer Games Design (laboratory)
2-Arm Robot Design (laboratory)

Courses of Ministry of Labor:

C and C++ for Windows and Unix (lectures and laboratory)
OOP for Windows (lectures and laboratory)
Introduction to Digital Electronics
Introduction to Computer Architecture

Medical College #6, Moscow, USSR

Courses:

Physics
Introduction to computers

Moscow Institute of Physics and Technology, Moscow, USSR

Gifted Children Program:

Physics

ACADEMIC AND PROFESSIONAL AWARDS AND GRANTS

- 2012 Outstanding lecturer prize.
ORT Braude Academic College of Engineering
Karmiel, Israel
- 2012 CONTENT 2012 – IARIA Award.
- 2007-2009 “TNUFA” - Bureau of Chief Scientist,
Ministry of Industry, Trade & Labor.
Israel, R&D grant
- 1995-1996 BIRD Foundation (Israel-US Binational Research and Development)
USA-Israel, R&D Grant
- 1992 -1995 Incubator Program - Ministry of Industry, Trade & Labor,
Israel. R&D Grant.
- 1984 All-Union Exhibitions Center. Moscow, USSR. Bronze Medal.

PROFESSIONAL ACTIVITIES

ORT Braude Academic College of Engineering:

- 2012 – 2013 Committee of “Industry-Academy Conference” Organization.
Member
- 2011 - present Student’ Excellence Program Committee. Chair
- 2011 - present Student’ Excellence Program Scholarships Sub-Committee. Member
- 2008 - present Committee of Academic Affairs. Member
- 2008 - 2009 Committee of Technology Development, Member

Conferences:

- 2014. CONTENT 2014 Content Publicity Chair.
- 2014. CONTENT 2014 Technical Program Committee. Member.
- 2013. ASMDA 2013. Section “Multivariate Monte-Carlo” . Chair.
- 2013. CONTENT 2013. Section “CONTENT” . Chair.
- 2013. CONTENT 2013. Panel: “Advances on Information Mining”. Panelist.
- 2013. CONTENT 2013 Technical Program Committee. Member.
- 2012. CONTENT 2012. Section “CONTENT 4. Image, 3D Graphics”. Chair.
- 2012. CONTENT 2012. Panel: “Discovering Content via Patterns”. Panelist
- ASMDA2011 (Applied Stochastic Models and Data Analysis) Section “Statistics 2”.
Chair

Industrial Experience

- 1994 - Present Founder, Consultant (freelance), CMD Ltd., Karmiel, Israel
(Development of image processing and multimedia systems,
Development of software and hardware for medical devices,
Consulting)
- 1991 - 1994 Algorithmist & Software developer
MRI Research and Development Group
ELSCINT Ltd. Haifa, Israel
(Development of the MRI reconstruction algorithms)
- 1992 - 1994 Project Leader.
Project “Jet Snake”
ELTAM, MATAM, Haifa, Israel
(Development of the mechanics, software and hardware)
- 1989 - 1991 Project Leader.
Research & Development Group
Product Computers Ltd., Haifa, Israel
(Development of the sound acquisition software and hardware)
- 1977 - 1989 Editor & Reviewer (electronic and optical equipment for medicine).
Review Journal “RG Bionics, Biokibernetica, Biologia”
Central Institute of Scientific and Technical Information
of the USSR Academy of Sciences, Moscow, USSR
- 1983 - 1989 Editor & Translator. (electronic devices and equipment)
All-Union Center of Technical Translations
of the USSR Academy of Sciences, Moscow, USSR
- 1976 - 1987 Scientific Researcher
Laboratories:
Design of Automated Systems
Biological Systems Analysis
Physical-Chemistry Pharmacology
Research Institute for Biological Testing of Chemical Compounds
Moscow, USSR

LIST OF PUBLICATIONS

Refereed Papers

1. Kosolapov S. Reliability Evaluation of Multi-Camera Motion Detector by using Monte-Carlo Simulator. In the book: “New Perspectives on Stochastic Modeling and Data Analysis” (in preparation)
2. Gershikov E., Kosolapov S. Reliability Evaluation of Custom 2D Barcode OCR by using Monte-Carlo Simulation. In the book: “New Perspectives on Stochastic Modeling and Data Analysis”. (in preparation)
3. Gershikov E., Libe T., Kosolapov S. Horizon Line Detection in Marine Images: Which Method to Choose? *International Journal on Advances in Intelligent Systems*. Vol 6., Num 1&2, (79-88) 2013
4. Sabag N., Kosolapov S., Using Instant Feedback System and Micro Exams to Enhance Active Learning, *American Journal of Engineering Education*, Vol 3, Num 2, (115-121) 2012.
5. Kosolapov S, Robust Algorithms Sequence for Structured Light 3D Scanner Adapted for Human Foot 3D Imaging, *Journal of Communication and Computer*, Vol 8, Num 7, (595-598) 2011.
6. Dmitrieva N.V., Shtrasgeim E. I., Kitaygorodskaya G.M., Kosolapov S.S., et el. Screening of cardiotropic substances on strip of frog myocardium, *Pharmaceutical Chemistry Journal / (Khimiko-Farmatzevticheski Zhurnal)*, (Article in Russian, Translated into English) , Vol. 19 No. 12, 1140-1444 (837-842). 1985.
7. Bol'shakov V.I., Kosolapov S.S., Nizhnii S.V., Fedorov Yu.I., The effect of finely dispersed powders and metal salts on the electrical activity of the frog retina, *Proceedings of USSR Academy of Sciences / Izvestiia Akademii Nauk SSSR, Seriya Biologicheskaya*, (Article in Russian, Translated into English), 3, 466-469, 1983.
8. Kosolapov S.S., Bolwshakov V.I., Powders and salts in multi-parametrical experiment on isolated retina. *Bulletin of Moscow Society of nature investigators, Biological Section*, (Article in Russian), 1983.
9. Nizhnii S.V., Kosolapov S.S., Various clear and obscure aspects of the problem of chemical structure-biology activity relationship. *Proceedings of USSR Academy of Sciences / Izvestiia Akademii Nauk SSSR, Seriya Biologicheskaya*, (Article in Russian, Translated into English), 6, 827-835, 1982.
10. Kosolapov S.S., Nizhnii S.V., Possibilities of studying the biological activity of chemical compound in a kinetic experiment. *Proceedings of USSR Academy of Sciences / Izvestiia Akademii Nauk SSSR, Seriya Biologicheskaya*, (Article in Russian, Translated into English), 1, 77-84, 1982.

11. Schevchenko T.F., Kalamkarov G.R., Kosolapov S.S. Ostrovskii M.A. Release of calcium ions from native outer segments of rods after partial bleaching of rhodopsin. *Biophysica/Biofizika*, (Article in Russian, Translated into English), 26(2), 284-287, 1981.
12. Kosolapov S.S., Nizhnii S.V., Piruzyan L.A. Possibilities for the identification and prediction of biological activity on an isolated retina of a frog. *Pharmaceutical Chemistry Journal / (Khimiko-Farmatzevticheski Zhurnal)* , (Article in Russian, Translated into English) , 15(2), 50-54 (107-111), 1981.
13. Dmitrieva N.V., Kaplun A.B., Kosolapov S.S., Lobanov V.I., Nizhnii S.V., Piruzyan L.A., Pronin V.I. Modes and classes of modes of action of physiologically active substances of the receptor type under conditions of screening. *Biology Bulletin of the Academy of Sciences of the USSR*, (Article in Russian, Translated into English), 7(3), (223-228), 1980.
14. Dmitrieva N.V., Kaplun A.B., Kosolapov S.S., et. el. Modalities and classes of modalities of action of physiologically active substances of the receptor type during screening. *Proceedings of USSR Academy of Sciences /Izvestiia Akademii Nauk SSSR, Serii Biologicheskaja* (Article in Russian, Translated into English), 3, 408-414, 1980.
15. Kosolapov S.S. Kinetic reconstruction of photoreceptor potentials. *Reports from USSR Academy of Sciences/Doklady Akademii Nauk SSSR*, 251(1), (Article in Russian), 230-233, 1980.
16. Zak P.P., Kosolapov S.S, Possibility of recording the late receptor potential of isolated frog retina external rod segments. *Sechenov Physiological Journal of the USSR/Fiziologicheskii Zurnal SSSR imeni I.M. Sechenova*, (Article in Russian, Translated into English), 65(9), 1364-1366, 1979.
17. Kosolapov S.S., Kalamkarov G.R. , Ostrovskii M.A. Relationship between dark adaptation in retinal rods and rhodopsin photolysis. *Sechenov Physiological Journal of the USSR/Fiziologicheskii Zurnal SSSR imeni I.M. Sechenova* , (Article in Russian, Translated into English), 64(7), 905-911, 1978.

Conference Proceedings and Abstracts

1. Kosolapov S. Usage of Heavily Masked Normalized Correlation for a 2D Labels Detection. *The 9th Interdisciplinary Research Conference. ORT Braude College. Book of Abstracts. (17)*, HaGoshrim. Israel, October 2-3, 2013.
2. Kosolapov S. Reliability Evaluation of Multi-Camera Motion Detector by using Monte-Carlo Simulation. *ASMDA 2013. 15th Applied Stochastic Models and Data Analysis International Conference*. Book of Abstracts. (120-121). Mataró (Barcelona), Spain, June 25–28, 2013
3. Gershikov E., Kosolapov S. Reliability Evaluation of 2D Barcode OCR by using Monte-Carlo Simulation. *ASMDA 2013. 15th Applied Stochastic Models and Data Analysis International Conference*. Book of Abstracts. (92). Mataró (Barcelona), Spain, June 25–28, 2013

4. Kosolapov S., Gershikov E., Sabag N. Feasibility of a Camera-Based Instant Feedback System. *Think Mind. CONTENT 2013*. (23-29). May 2013
5. Kosolapov S. Simulation of Intrusion Detector Based on Two-Camera Setup with Point of Convergence. *The 8th Interdisciplinary Research Conference. ORT Braude College. Book of Abstracts*. (17), Acre. Israel, October 17-18, 2012.
6. Sabag N., Kosolapov S. Using Instant Feedback System and Micro Exams to Enhance active Learning. *The 8th Interdisciplinary Research Conference. ORT Braude College. Book of Abstracts*. (74), Acre. Israel, October 17-18, 2012.
7. Samuel Kosolapov Self-Calibrated Structured Light 3D Scanner Using Color Edge Pattern. *Think Mind CONTENT 2012*. (86-90), July, 2012.
8. Tzvika Libe., Evgeny Gershikov., Samuel Kosolapov. Comparison of Methods for Horizon Line Detection in Sea Images. *Think Mind CONTENT 2012*, (79-85), July, 2012.
9. Sabag N., Kosolapov S. Using Instant Feedback System and Micro Exams To Enhance Active Learning. *Clute Institute International Conference. Proceedings*, (353-359), Rome, Italy, June, 2012.
10. Kosolapov S. Reliability Evaluation of 3D Motion Detector by using Monte-Carlo Simulation. *SMTDA 2012 Stochastic Modelling Techniques and Data Analysis. Proceedings*,. (419-423). Chania Crete, Greece. June 5-8, 2012.
11. Kosolapov S., Lomes A. Monte-Carlo Simulation of Poorly Calibrated Stereo Tracking System. *SMTDA 2012 Stochastic Modelling Techniques and Data Analysis. Proceedings*, (425-429), Chania Crete, Greece, June 5-8, 2012.
12. Kosolapov S. Reliability Evaluation of 3D Motion Detector by using Monte-Carlo Simulation. *SMTDA 2012 Stochastic Modelling Techniques and Data Analysis. Book of Abstracts*, (60), Chania Crete, Greece, June 5-8, 2012.
13. Kosolapov S., Lomes A. Monte-Carlo Simulation of Poorly Calibrated Stereo Tracking System *SMTDA 2012 Stochastic Modelling Techniques and Data Analysis. Book of Abstracts*, (60-61), Chania Crete, Greece. June 5-8, 2012.
14. Kosolapov S. Reliability of Modified Color Edge Detector Supporting Heavily Compressed JPEG Images Obtained by Inexpensive Cameras. *The ORT Braude College 7rd Interdisciplinary Research Conference. Book of Abstracts*. (14), Kfar Blum, Israel, September 19-20, 2011.
15. Kosolapov S., Lomes A., Dead-Zone and 3D Accuracy Evaluation of Modified Two-Camera Stereo Setup by using Monte-Carlo Simulation. *Proceedings ASMDA 2011*, (744), Roma 6-10 giugno, 2011.
16. Kosolapov S. Evaluation of Robust Color Recognition Algorithm Optimized for Color Outliners Effective Elimination. *Proceedings ASMDA 2011*, (743), Roma, Italy, 6-10 giugno, 2011.

17. Kosolapov S. Reliability Evaluation of the Driverless USB-HID platform for data transfer between master PC and slave embedded device. *Abstracts of the 6th ORT Braude College Interdisciplinary Research Conference*, Haifa, Israel, October 13-14, 2010.
18. Kosolapov S. Evaluation of Robust Algorithms Sequence Designed to Eliminate Outliers from Cloud of 3D Points Representing 3D Human Foot Image, *Stochastic Modeling Techniques and Data Analysis International Conference (SMTDA2010)*, SMTDA 2010 Proceedings, (383-389), Chania Crete, June 8 – 11 2010.
19. Kosolapov S. Evaluation of Robust Algorithms Sequence Designed to Eliminate Outliers from Cloud of 3D Points Representing 3D Human Foot Image. *Stochastic Modeling Techniques and Data Analysis International Conference. Book of Abstracts*, (61), Chania Crete Greece, June 8-11 2010.
20.
 שמואל קוסולפוב, ניסים סבאג
 לניהול ובקרת התקדמות הסטודנט בלימודי מעבדה Cloud Computing שימוש בשירותי
 יוזמות לקידום הלמידה במוסדות ההשכלה הגבוהה
 הכנס הרביעי, 27 במאי 2010, כרמיאל
21. Kosolapov S., Sabag N. Usage of Cloud Computing Services for Storing, Handling and Validation of Electronically Signed Laboratory Reports. *Abstracts of the 5th ORT Braude College Interdisciplinary Research Conference*, (20), Naharia, Israel, October 14-15, 2009.
22. Kosolapov S., Sabag N. Time-Effective Logistics of Electronically Signed Laboratory Results Reporting. *2009 American Society for Engineering Education Northeast Section Conference*. Bridgeport, CT, USA, April 3-4, 2009.
23. Kosolapov S., Robust color edge detector for the compact 3D scanner, *Abstracts of the 4th ORT Braude College Interdisciplinary Research Conference*, (46), Nazareth Ilit, Israel, October 22-23, 2008.
24. Kosolapov S., Comparison of accuracy of different structure light techniques adapted for 3D human foot imaging, *Abstracts of the 3rd ORT Braude College Interdisciplinary Research Conference*, (31), Hagoshrim, Israel, October 8-9, 2007.
25. Kosolapov S., Comparison of accuracy of different structure light techniques, *Applied Harmonic Analysis*, (5), ORT Braude College, Karmiel, Israel, May, 2007.
26. Kosolapov S.S., Nizhnii S.V., Kinetic description of curves of surviving and changes of physiological indices, *Quantitative aspects of chemical actions in oncology*, Leningrad, USSR, (Russian), p6, 1985
27. Kosolapov S.S., Nizhnii S.V., Classification of the direction and effectiveness of drugs using kinetic parameters, *Quantitative aspects of chemical actions in oncology*, Leningrad, USSR, (Russian), p9, 1985

28. Kosolapov S.S., Nizhnii S.V., Determination of effectiveness of antitumoral drugs by kinetic parameters, *Quantitative aspects of chemical actions in oncology*, Leningrad, USSR, (Russian), p10, 1985
29. Bol'shakov V.I., Kosolapov S.S., Nizhnii S.V., Comparative study of the influence of finely dispersed powders of some metals and their salts on electro-retinogram of frogs, *Ferments, Metals, Metal-ferments in Diagnostics and Treatment, Abstracts and reports from the Republican Conference*, Ivanovo-Frankovsk, USSR, (Russian) p 39, Oct 1982
30. Kosolapov S.S., Nizhnii S.V., et. el, Automatization and algorithms for decision making in the system of determination of the biological activity of chemical compounds, *1st International School of Automatization of Scientific Research*, Pushchino, USSR, (Russian) p9, 1982
31. Bol'shakov V.I., Kosolapov S.S., Nizhnii S.V., Fedorov Yu.I., The influence of finely dispersed powders and salts of metals on electrical activity of frogs' retina, *1st All-Union Congress of Biophysics*, Moscow, USSR, (Russian), v3, 57-58, 1982
32. Dmitrieva N.V., Kaplun A.B., Kosolapov S.S., Lobanov V.I., Nizhnii S.V., Investigation of dynamics of the chemical factors influence on biosystems, *1st All-Union Congress of Biophysics*, Moscow, USSR, (Russian), v3, 54, 1982
33. Kosolapov S.S., Possibilities for the study of physiological activity of chemical compounds in kinetic experiment. *1st All-Union Congress of Biophysics, Moscow, USSR*, (Russian), v3, p55, 1982
34. Kosolapov S.S., Kinetic model for photoreceptor potentials. *1st All-Union Congress of Biophysics, Moscow, USSR*, (Russian), v2, 84-85, 1982
35. Dmitrieva N.V., Gabrielan E.N., Kaplun A.B., Kosolapov S.S., Lobanov V.I., Nizhnii S.V., Shatalov V.A., The problem of identification of physiologically active substances' action of the vegetative system by the method of pattern recognition, *Abstracts of reports from the 1st All-Union Conference on Physiological cybernetics*, Moscow, USSR, (Russian) 60-61, 1981
36. Kalamkarov G.P., Kosolapov S.S., Ostrovsky M.A., Shevchenko T.F., Investigation of the role of Ca⁺⁺ ions and cyclic nucleotides in mechanism of optic cell function, *XIII Congress of All-Union Physiological Society*, Alma-Ata-Leningrad, USSR, (Russian), v1,104-105, 1979
37. Kalamkarov G.P., Kosolapov S.S., Ostrovsky M.A., Shevchenko T.F., The role of Ca⁺⁺ ions in primary mechanisms of photo-reception. *1st Soviet-Switzerland Symposium Biological Membranes and Functions*, Tbilisi-Moscow, USSR, p96, 1979
38. Kosolapov S.S., Bochkin L.M., Separation of the photoreactions of rods and cones of the isolated retina of the frog. *Physical-Chemical processes in the gas and condensed phases*, Tshernogolovka, USSR, (Russian), p57, 1979

39. Kosolapov S.S., The use of model of isolated retina for the screening of physiologically active substances, *Problems, researches and production of the new drugs*, Kaunas, Latvia, USSR, (Russian), 21-22, 1979

40. Kosolapov S.S., Methods of kinetic parameters quantitative processing, *Problems, researches and production of the new drugs*, Kaunas, Latvia, USSR, (Russian), 23-24, 1979

41. Kosolapov S.S., Automatical stimulator for examination of physiologically active substances of isolated retina, *Problems, researches and production of the new drugs*, Kaunas, Latvia, USSR, 25-26, 1979

Other Publications

1. שמואל קוסולאפוב
מכשיר לזיהוי אופטי

Israel Patent, 162063, 01-09-2011

2. Kosolapov S., Color edge based system and method for determination of 3d surface topology, US Patent . US 7,456,842 B2 Nov. 25, 2008

3. Kosolapov S., Method and apparatus for optical authentication, PCT Int. Appl. (2005), WO 2005-IL508 , WO 2005112009, 2005

4. Danenberg N, Kosolapov S. Method and apparatus for determining the three dimensional shape and dimensions of the object, PCT Int. Appl. (2004), WO/2004/070315, PCT/IL2004/000119

5. Kosolapov S.S., Isolated retina as a model for prognosing of the physiological activity of chemical compounds. *Thesis for Ph.D. degree. Kupavna*, 108 p., 1982

1994-2008

More than 12 reports to the Chief Scientist in the Ministry of Industry, Trade and Labor and BIRD (Israel-US Binational Industrial Research and Development).