

CURRICULUM VITAE

Dr. Sivan Klas

Department: Biotechnology Engineering, ORT Braude College of Engineering, Karmiel, Israel

Current Position: Senior Lecturer

Courses: Thermodynamics and Kinetics, Fluid Mechanics, Water Chemistry, Biological processes in Environmental Engineering

Email: sivanklas@braude.ac.il

Telephone: 972-4-990-1907

EDUCATION

Ph.D. 2010, Faculty of Civil and Environmental Engineering, Technion- Israel Institute of Technology, Haifa, Israel. Supervisors: O. Lahav, Y. Dubowski

M.Sc. 2005, Technion, Faculty of Agricultural Engineering, Technion- Israel Institute of Technology, Haifa, Israel. Supervisors: O. Lahav, N. Mozes

B.Sc. 2003, *Cum Laude*, Faculty of Chemical Engineering, Technion- Israel Institute of Technology, Haifa, Israel

ACADEMIC APPOINTMENTS

2015 – Present Senior Lecturer, Department of Biotechnology Engineering, ORT Braude College, Karmiel, Israel

2020 – Present Adjunct Lecturer, Department of Water Industry Engineering, Kinneret College of Engineering, Israel

2017 – 2020 Adjunct Lecturer, Faculty of Civil and Environmental Engineering, Technion, Haifa, Israel

2014 – 2015 Adjunct Lecturer, Department of Biotechnology Engineering, ORT Braude College, Karmiel, Israel

2013 – 2014 Post-Doctoral Fellow, Faculty of Civil and Environmental Engineering, Technion, Haifa, Israel

2010 – 2012 Post-Doctoral Fellow, Department of Chemical Engineering and Applied Chemistry, University of Toronto, Canada

TEACHING EXPERIENCE

ORT BRAUDE

2016 – Present Lecturer, Water Chemistry

2014 – Present Lecturer, Thermodynamics and Kinetics, Fluid Mechanics

2014 – 2016 Lecturer, Environmental Engineering Lab

KINNERET

2020 – Present Lecturer, Water Chemistry

TECHNION

2018 - 2020 Lecturer, Biological Processes in Environmental Engineering
(Undergraduate, Graduate and International School)
2008 Tutor, Environmental Chemistry (Graduate)
2014 Tutor, Water Chemistry (International School)
2007 Tutor, Environmental Micro-Meteorology
2005 Tutor, Water Chemistry
2005 Tutor, Introduction to Aquaculture
2004 Tutor, Drainage Engineering

UNIVERSITY OF TORONTO

2011 TA: Applied Chemistry III / Lab

ACADEMIC AND PROFESSIONAL AWARDS AND GRANTS

2018, 2019 Israel Fisheries Association R&D grant
2017 Ministry of Chief Scientist R&D grant (with Biofishency Ltd)
2010-2012 Lyon Sachs Post-Doctoral Fellowship
2007-2010 ISEF Scholarship
2008 Rieger Foundation Scholarship
2004 Hertzfeld Scholarship
2004 Ministry of Agriculture Scholarship
2004 Rieger Foundation Scholarship
2004 Gutwirth Foundation Award
2003 Gal Weisberg Prize GIS Project
2000-2003 Dean's Honor List

PROFESIONAL ACTIVITIES

2017 – Present European Cooperation in Science and Technology management committee
2014 – Present Examiner of Practical Engineers ("Handesaim") Completion Projects in
Water Technology
2014 – Present Co-Author, National Graduation Exams for Practical Engineers in Water
Technology, The Center for Educational Technology
2010 – Present Reviewer: Environmental Science & Technology (ACS), Science Reports
(Nature), Chemosphere (Elsevier), Chemical Engineering Journal
(Elsevier), Journal of Hazardous Materials (Elsevier), Environmental
Engineering Science (Mary Ann Libert), Sensor Letters (ASP)
2017 Consultant, Strauss Water Ltd
2014 Refereeing Committee Member, for 2014 Research Proposals in
"Infrastructure Development in Engineering Sciences", Chief Scientist
Office, Israeli Ministry of Science, Technology and Space
2014 Consultant, Suron Precision Technology Ltd
2013 Partner, Algae-Art Saline Water Technologies Ltd
2013 Consultant, Biofishency Ltd

LIST OF PUBLICATIONS

Theses

- Ph.D. Removal of heavy metals from industrial wastewater by their stable incorporation into ferrites at ambient temperature: process development and modeling. Technion, Faculty of Agricultural Engineering, October 2010
- M.Sc. Development of a cost effective solution to nitrate discharge from intensive aquaculture systems by denitrification using intrinsic organic carbon source. Technion, Faculty of Agricultural Engineering, November 2005

Refereed Papers

1. Rom I., Peretz Y. **Klas S.** Cultivation of European sea bass (*Dicentrarchus labrax*) in brackish water desalination concentrate. Submitted to *Aquacultural Engineering*
2. Rom I. and **Klas S.** Kinetics of CaCO₃ precipitation in seeded aeration softening of brackish water desalination concentrate. *Chemosphere*, 260, 2020
3. **Klas S.**, Peretz Y. Fish survival in groundwater desalination concentrate. *Aquacultural Engineering*, 88, 2020
4. **Klas S.**, Beliavski M, Gluska D, Amara R, Katz I, Lehrer T, Nahir, R, Tarre Sh, Green M. Minimizing brine discharge in a combined biophysical system for nitrate removal from inland groundwater. *Separation and Purification Technology*, 156, 496-501, 2015
5. **Klas S.**, Perlberg-Banet A, Smirnov Y, Zivan A, Ophek L, Friedlander Y, Lahav O. A procedure for adjusting grey mullet (*Mugil Cephalus Lin.*) fingerlings to low-salinity, low-hardness waters for economic and environmentally-friendly inland culture. *Aquacultural Engineering* 59, 55-63, 2014
6. **Klas S.**, Kirk D.W. Understanding the positive effects of low pH and limited aeration on selenate removal from water by elemental iron. *Separation and Purification Technology* 116, 222-229, 2013
7. **Klas S.**, Kirk D.W. Advantages of low pH and limited oxygenation in arsenite removal from water by zero-valent iron. *Journal of Hazardous Materials* 252-253, 77-82, 2013
8. Kirk D.W., Graydon J, **Klas S.** Temperature effects in Activated Carbon Supercapacitors. *Electrochemical Society Transactions* 50 (43), 45-51, 2013
9. **Klas S.**, Dubowski Y, Lahav O. Chemical stability and extent of isomorphous substitution in ferrites precipitated under ambient temperatures. *Journal of Hazardous Materials* 193, 59-64, 2011
10. **Klas S.**, Dubowski Y, Pritosiwi G, Gerth J, Calmano W, Lahav O. Extent and mechanism of metal ion incorporation into precipitated ferrites. *Journal of Colloid and Interface Science* 358, 129-135, 2011
11. Petrick L, Dubowski Y, **Klas S.**, Lahav O. Stable incorporation of Co²⁺ into ferrite structure at ambient temperature: effect of operational parameters. *Water, Air and Soil Pollution* 190, 245-257, 2008
12. **Klas S.**, Mozes N, Lahav O. A conceptual, stoichiometry-based model for single-sludge denitrification in recirculating aquaculture systems. *Aquaculture* 259, 328-341, 2006
13. **Klas S.**, Mozes N, Lahav O. Development of Single-sludge denitrification in recirculating aquaculture systems: comparison between lab-scale results and model prediction. *Aquaculture* 259, 342-353, 2006

Conference Proceedings (Refereed)

1. **Klas S.**, Peretz Y., Rom I. Desalination concentrate: A new water source for aquaculture in arid areas. 10th International Conference on Fisheries and Aquaculture, Toronto, Canada

2. **Klas S.** Chemical waste management. Photochemical Machining Institute International Spring conference, Tel Aviv, Israel
3. **Klas S, Kirk D.W.** The effect of aeration on selenate reduction by elemental iron. 2nd International Conference on Environmental Pollution and Remediation, Montreal, Quebec, Canada, 2012
4. **Klas S, Dubowski Y, Kirk D.W., Lahav O.** AMD treatment by the ferrite process - opportunities and challenges. 5th Mining and the Environment International Conference, Sudbury, ON, Canada, 2011.
5. Lahav O, **Klas S, Mozes N, Johnson B.** Removal of nitrate from marine recirculating aquaculture systems, using solids hydrolysis and denitrification in a single reactor. 5th Recirculating Aquaculture Conference, Roanoke, VA, USA, 2004

Books

1. Lahav O, Birnhak L, **Klas S.** Fundamentals of aqueous chemistry for environmental and process engineers. Technion Press, Israel (in Hebrew), 2010

Professional and Research Reports

1. Klas S, Lahav O. Six intensive aquaculture farms - monitoring project report to the Ministry of Agriculture, Israel, 2006