

**RAMI KEREN**

## **CURRICULUM VITAE**

**Institute of Soil, Water and Environmental Sciences  
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### **Personal:**

Date of Birth: May 14, 1942  
Place of Birth: Petach Tikva, Israel.  
Military Service: 1960-1963.

**April 1989** Received the scientific rank of **A<sup>+</sup>** (**Equivalent to Full Professor**).

**April 2000** Received the title **Full Professor** by the Hebrew University of Jerusalem.

### **University Education and Additional Training:**

1963-1966 B.Sc. in Agronomy, The Hebrew University, Faculty of Agriculture. Graduated Jan. 26, 1967.

1967-1969 M.Sc. in Soil Science, The Hebrew University, Faculty of Agriculture. Graduated June 22, 1969. Thesis title "The Distribution of Iron Oxides in red Sandy Soils of Israel".

1970-1973 Ph.D. in Soil Science at the Hebrew University, Faculty of Agriculture. Israel. Graduated July 11, 1974. Thesis title: "Thermodynamic of Water Adsorption on Sodium and Calcium Montmorillonite".

1974-1975 Post-doctoral fellow with Prof. R. Gast at the Department of Soil Science at University of Minnesota, Saint-Paul, Minnesota. USA.

### **Research Interests:**

Research interests range from basic surface phenomena to reclamation of sodic soils and prevention of crust formation in soils. Fundamental studies of soil solution equilibrium relations, kinetic processes and charge properties and binding properties of soil colloids which relate to the effective utilization of soil as a natural resource.

Current emphasis is on Saline sodic soil reclamation, sewage effluent and soil structure stability, boron adsorption and transport in soils, fly ash - soil interaction.

### **Last Position Held:**

**2003- present                      Deputy Director, Agricultural Research Organization (ARO),  
Bet Dagan, Israel.**

### **Professional Society Activities (last 5 years):**

|                |   |
|----------------|---|
| 2000 - Present | A member of a Steering Committee on Recycled Water Plant (SHAFDAN), Water Commissionaire, Israel.   |
| 2001           | Member, Organizing Committee of the 31 <sup>st</sup> National conference of the Israeli Ecology and the Environmental Sciences Society.                               |
| 2001           | A Chairman of a committee on effluent criteria for irrigation. Ministry of Environment, Israel.   |
| 2002-2003      | A member of the Editorial Advisory Board of the Encyclopedia of Soils in the Environment. Academic Press, Elsevier Science, London.                                   |
| 1999 -2003     | A member of the Technical Advisory Committee (TAC), United States-Israel Binational Agricultural Research and Development Fund (BARD).                                |
| 2004 - Present | A member of the Technical Advisory Committee (TAC), Texas-Israel Binational Agricultural Research and Development Fund (BARD).  |
| 2004 – Present | Initiating the idea and establishing the foundation for the Bi-Lateral cooperation in agriculture research between Israel and Canada, Queensland Australia and Italy. |
| 2005 – Present | A member of the Standing Committee in Agriculture Research (SCAR), European Union, Brussels, Belgium.   |

### **Advising Graduate Students:**

- 1984**                      **Appointed by the Hebrew University in Jerusalem as a supervisor for doctoral students.**
- 1988-1991**                **Member of a Graduate Student's advisory committee, Texas A&M University, College Station, Texas, USA.**
- 1998**                      **Appointed by the University of Tottori, Tottori, Japan as a supervisor for doctoral students.**

**M.Sc students: 13.**

**Ph.D Students: 5.**

**Reviewing of Scientific Manuscripts for the Following Journals:**

1. Soil Science Society of America Journal.
2. Clays and Clay Minerals.
3. Water Resources Research.
4. Journal of Soil Science.
5. Irrigation Science.
6. Journal of Environmental Quality.
7. Canadian Journal of Soil Science.
8. Forest Ecology and Management.
9. Geoderma.
10. Separation Science and Technology
11. Aquacultural engineering
12. Encyclopedia of Soils in the Environment

**Major Competitive Grants (last 5 years)**

- 2001 A grant from the Israel – China Agricultural Research and Development Fund on “ Optimizing the use of reclaimed waste water for sustainable agriculture and environment” (with Dr. Guanhua Huang, Dr. Y. Cohen and Dr. U. Yermiyahu). A project for two years (\$ 160,000).
- 2002 A grant from the Ministry of Agriculture, Israel, on “Crop irrigation with effluent while minimizing environmental impacts”(A research leader with several Scientists from Volcani Center, ARO, The Hebrew University and The Technion). A project for three years (\$ 300,000).
- 2003 A grant from the Ministry of Environment and Territory, Italy, on Polishing municipal secondary effluent for stream rehabilitation. A project for 3 years. In collaboration with Tel Aviv University.
- 2004 A grant from The National Coal Supply Corporation on “Oxy-anions dissolution from fly ash in basic aqua media”. Total budget of US\$ 40,000.

- 2004 A grant from GIF on “Boron Binding by Natural Organic Matter: The Basis for Remediation of Boron Rich Waters and Soils”. A project for 3 years. Total budget of US\$ 260,000.
- 2005 A grant from the Ministry of Science, Israel, on “Minimizing Adverse Environmental Effects of Land Disposal (Irrigation) of Treated Effluent”. Total budget of US\$ 150,000.

## **LIST OF PUBLICATION**

### **Refereed Journal Articles of the last 5 years (out of 80):**

- 67. Ben-Hur, M., F.H. Li, **R. Keren**, I. Ravina, and G. Shalit. 2001.  
Water and salt distribution in a field irrigated with marginal water under high water table conditions.  
Soil Sci. Soc. Am. J. 65: 191-198.
- 68. Yermiyahu, U., **R. Keren** and Y. Chen. 2001.  
Boron uptake by plants as affected by composted organic matter.  
Soil Sci. Soc. Am. J. 65: 1436-1441.
- 69. Heller, H., and **R. Keren**. 2001.  
Rheology of Na-montmorillonite suspension as affected by electrolyte concentration and shear rate.  
Clays and Clay Minerals. 49: 286-291.
- 70. Heller, H. and **R. Keren**. 2002.  
Rheological behavior of Na-montmorillonite suspensions in presence of anionic polyacrylamide polymers.  
Soil Sci. Soc. Am. J. 66: 19-25.
- 71. Agassi, M. Y. Binyamini, E. Fizik, J. Tarchizky, **R. Keren** , D. Goldshtein and Y. Chen. 2003.  
The effect of long-term irrigation with effluent on water infiltration rate of a soil.  
Journal of Environmental Quality. (in press, May-June)
- 72. Arai Masae, R. Keren T. Yamamoto and M. Inoue. 2003. Effect of Water Quality on Saturated Hydraulic Conductivity of Soils with 2:1 and 1:1 Clay Minerals.  
Transactions of the Japanese Society of Irrigation, Drainage and Reclamation Engineering. 71: 11-17.
- 73. Arai Masae, **R. Keren** T. Yamamoto and M. Inoue. 2003.

Aggregate Stability Evaluation of Sodic Soils Using Water-Ethanol Mixtures.

Transactions of the Japanese Society of Irrigation, Drainage and Reclamation Engineering. 71: 65-71.

74. Heller, H. and **R. Keren**. 2003.  
Anionic polyacrylamide polymer adsorption by pyrophyllite and montmorillonite.  
Clays and Clay Minerals. (June issue).
75. **Keren, R.** and M. Ben-Hur. 2003.  
Interaction effects of clay swelling and dispersion and  $\text{CaCO}_3$  content on saturated hydraulic conductivity.  
Australian Journal of Soil Research. 41: 979-989.
76. Yermiyahu, U., **R. Keren**, I. Finegold, Y. Cohen, H. Yehezkel, and D. Shmoel. 2003.  
Response of pepper to boron and salinity under greenhouse conditions.  
Acta Hort. 609:149-154.
77. Communar, G., **R. Keren** and FaHu Li. 2004.  
Deriving boron adsorption isotherms from soil column displacement experiments.  
Soil Sci. Soc. Am. J. 68: 481-488.
78. Communar, G., **R. Keren** 2005.  
Equilibrium and nonequilibrium transport of boron in soil.  
Soil Sci. Soc. Am. J. 69: 311-317.
79. Communar, G., and **R. Keren**. 2005.  
Rate-Limited boron transport in soils: The effect of soil texture and solution pH. Soil Sci. Soc. Am. J. (in press).
80. Communar, G., and **R. Keren**. 2005.  
Rate-limited boron transport in saturated soil columns. Journal of Contaminant Hydrology (in press).

### **Reviewed Chapters in Books (last 5 years):**

7. **Keren, R.** 1999. Salinity. A review chapter in "Handbook of Soil Science" (M.E. Sumner, ed.). CRC Press, Inc. pp G3-G25.
8. **Keren, R.** 2003. Soil alkalization. A review chapter in: "Processes in the soil-plant system: Modeling concepts and applications". ( D.K. Benbi and R. Nieder, eds). The Haworth Press, Inc. Binghamton, NY, USA. (199-225)
9. **Keren, R.** 2003. Boron in Water Supplies. A review chapter in: "Encyclopedia of Water Science. (B. A. Stewart and T. Howell, eds.). Marcel Dekker, Inc. New York, NY, USA.
10. **Keren, R.** 2003. Salt-affected soils, reclamation. A review chapter in: "Encyclopedia of Soils in the Environment". (D. Hillel, ed.). Academic Press. London, UK. (454-461).
11. **Keren, R.** 2005. Irrigation water-quality assessment. A review chapter in: "Encyclopedia of Soil Science and Technology". (C.W. Finkl, Jr., ed). Van Nostrand Reinhold, New York, NY, USA (in press).