Rami Alkhatib

Jordan University of Science and Technology
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PERSONAL INFO

Name: Rami Qassim Farhan Alkhatib
Place of Birth: Al-Mafraq, Jordan
Date of Birth: 7th of March, 1973
Marital Status: Married with 3 kids

EXPERIENCE

2021-to Present Vice Dean, Faculty of Science & Arts, Jordan University of Science and Technology. Irbid-Jordan.

2023-to Present Full Professor, Department of Biotechnology and Genetic Engineering, Faculty of Science & Arts, Jordan University of Science and Technology. Irbid-Jordan.

2017- 2023 Associate Professor, Department of Biotechnology and Genetic Engineering, Faculty of Science & Arts, Jordan University of Science and Technology. Irbid-Jordan.

2011- 2017 Assistant Professor, Department of Biotechnology and Genetic Engineering, Faculty of Science & Arts, Jordan University of Science and Technology. Irbid-Jordan.

2013- 2016 Chairman, Department of Biotechnology and Genetic Engineering, Faculty of Science & Arts, Jordan University of Science and Technology. Irbid-Jordan.

2013- 2016 Institutional Review Board (IRB) Committee Member.

2009-2011 Postdoctoral fellowship. North Carolina State University, Raleigh, NC, USA.
Research: Cellulose biosynthesis/Biofuel/Department of Energy.

EDUCATION

2004-2009 Ph.D. in Molecular Biology
New Mexico State University, Las Cruces, NM, USA.
Dissertation Title: Physiological and Ultrastructural Effects of Lead (Pb) on Tobacco and on the Systemic Movement of RNA Viruses.
Academic Advisor: Dr. Rebecca Creamer

2001-2003	Masters of Science (MS), Botany, Emporia State University. Emporia, Kansas, USA. Thesis Title: Anatomical Changes During Fruit Ripening in Two Lines of Tabasco Pepper (*Capsicum frutescens*, Solanaceae). Academic Advisor: Dr. Marshall Sundberg
1996-1999	Masters of Education (MA), University of Jordan. Amman-Jordan. Curricula and Teaching Methods in Science.
1990-1994	Bachelors of Science, Biology, Yarmouk University Irbid-Jordan.

EXTRACURRICULAR EXPERIENCE

The second secondary grade curricula, Irbid-Jordan. 1996

Curricula development, Madaba, Jordan. 1998

RESEARCH EXPERIENCE

2006-2009	**"Lab manager"**, Electron Microscopy Lab, New Mexico State University, Las Cruces, USA.
1996-1999	Research Assistant, College of Education, University of Jordan, Amman-Jordan.

PREVIOUS TEACHING EXPERIENCE

Teaching Assistant, Biology 211, Cellular and Organismal Biology, Biology 111, Human Evolution, Biology 101, Human Biology. Dept. of Biology, New Mexico State University, Las Cruces, NM, USA. 2004-2006

Teaching Assistant, Botany 213, Plant Anatomy, Biology 101, General Biology, Emporia State University, Emporia, Kansas, USA. 2001- 2003

High School Teacher, Ministry of Education, Madaba, Jordan. 1994- 2001

Current COURSES TOUGHT

BIO 98: Basics in Biology
BIO103: General Biology
BIO 251: Cell Biology
Chem 262: Biochemistry
BT 421: Plant Biotechnology
BT 399: Field Training
BT 451: Protein Biotechnology
BT 451: Molecular Biology I
BT 454: Molecular Biology II
BT 495: Lab Management
BT 491: Undergraduate Seminar
BT 492: Special Topic A
BT 492: Special Topic B
BIO 795: Graduate Seminar
BIO 791A: Special Topic
BIO 713 Advance Plant Biotechnology

Academic Supervision and Thesis Committees (Master Students):

Major Advisor:

1. Batool Alkhatib (MS in Applied Biological Sciences, 2015)
2. Rafeef Kafesha (MS in Applied Biological Sciences, 2016)
3. Razan Hawamdeh (MS in Applied Biological Sciences, 2016)
4. Bayan Obeidat (MS in Applied Biological Sciences, 2016)
5. Maha Mheidat (MS in Applied Biological Sciences, 2017)
6. Nada Abu Diheem (MS in Applied Biological Sciences, 2018)
7. Jalal Sherdo (MS in Forensic Sciences, 2021)
8. Akram Al-Ajlouni (MS in Forensic Sciences, 2020-present)
9. Thaer Khalil (MS in Forensic Sciences, 2020-present)
10. Ali Bani Younis (MS in Forensic Sciences, 2020-present)
11. Afnan Basim Al-Masarwah (MS in Applied Biological Sciences, 2020)
12. Abed Saleh Bashabsheh (MS in Forensic Sciences, 2021-present)

Co-advisor:

1. Hatem Aman (MS in Applied Biological Sciences, 2015)
2. Ibrahim Zubeidi (MS in Applied Biological Sciences, 2016)
3. Sahar AL-Hbabhabah (MS in Applied Biological Sciences, 2015)
4. Doa'a Rababa'h (MS in Applied Biological Sciences, 2015)
5. Hanan Al-Jamal (MS in Applied Biological Science, 2016)
6. Isra'a Omari (MS in Applied Biological Sciences, 2017)
7. Habiballah Lebron (MS in Applied Biological Sciences, 2015)
8. Ahmed Ghoneim (MS in Applied Biological Sciences, 2014)
9. Waffa'a Obadah (MS in Applied Biological Sciences, 2017)
10. Sara AlSharif (MS in Applied Biological Sciences, 2018)
11. Hadeel Ayad ((MS in Applied Biological Sciences, 2019)

AWARDS & ACHIEVEMENTS

Best Teacher Award, Jordan University of Science and Technology, Irbid, Jordan.	December 2019
Outstanding Graduate Assistantship Award ($1,000). New Mexico State University, Las Cruces, New Mexico, USA.	May 2009
Student Poster Award, Biological Science. Microscopy Society of America. Microscopy and Microanalysis Meeting, Albuquerque, NM, USA.	August 2008
Sigma Xi Student Research Award ($1000, Grant ID # G200803150008).	April 2008
Merit-base Enhancement Award ($4,000), Graduate School, Las Cruces, New Mexico State University, NM, USA.	May 2007
Excellence in Teaching Award, Dept. of Biology, New Mexico State University, Las Cruces, NM, USA.	April 2006
Graduate Teaching Award, Dept. of Biology, Emporia State University, KS, USA.	Dec. 2003

EQUIPMENTS I AM PROFESSIONAL TO USE

Hitachi H-7650 TEM	Skilled in Viral and Bacterial diagnosis and localization, and characterization of nano-tubes.
Hitachi S 3400-N (Scanning Electron Microscope).	Skilled in nano-tubes characterization and environmental samples morphology.
Hitachi S 3200-N (Scanning Electron Microscope)	Skilled in nano-tubes characterization and environmental samples morphology.
Hitachi TM-100 (Table Top Scanning Electron Microscope)	Skilled in soil characterization and environmental samples morphology.
Leica UC6 Ultra Microtome	Skilled in getting ultra-thin sections for Transmission Electron Microscope (prepare viral, fungal, and bacterial samples to be diagnosed).
Noran System Six (EDS)	Skilled in elemental analysis and mapping.
Sputter Coater (Denton Vacuum II and IV)	Skilled in samples gold-coating.
Critical Point Dryer (LADD)	Skilled in sample drying for SEM prep.

Glass Knife Maker Leica (EM KMR2)	Skilled in making glass knives for thick sectioning using LeicaUC6 Ultra Microtome.
Cryostat Microm HM 520 (Thermo Scientific Corp)	Skilled in fresh sample sectioning.
Cressington EF-60 Freeze Fracture	Produce high resolution replicas
JEOL 1200 EX TEM	Ultrastructures of plant cells.
Pelco Bio wave 3700	Microwave fixation and immunolabeling

SOFTWARES

Windows operating systems	Image J
Microsoft Office	Photoshop 6 and 8
Microsoft PowerPoint	
Mac OS	
Photoshop (CS4 & CS5)	

LANGUAGES

Fluent in Arabic and English.

PROFESSIONAL MEETINGS AND WORKSHOPS

International Workshop on Advanced Materials, Ras Al Khamiah, United Arab Emirates February 15-18, 2018. Poster title: Impact of iron oxide nanoparticles on Tobacco seedling growth.

3rd International Conference on Computational and Experimental Science and Engineering (ICCESEN-2016). Poster title: Structural and ultrastructural responses of leaf and root cells of Nicotiana tabacum var. Turkish to exogenous caffeine. Turkey, Antalya 19-24/2016.

2nd International Conference OMICS: Genomics, Transcriptomics, and Proteomics. **Chairman**. 3-5 October, 2016. Dead Sea, Jordan.

2nd International Conference on Computational and Experimental Science and Engineering (ICCESEN-2015). Poster title: Impact of exogenous caffeine on morphological, biochemical, and ultrastructural characteristics of Nicotiana tabacum. Turkey, Antalya 15-19/2015.

2nd International Congress on Energy Efficiency and Energy Related Materials. Poster Title: Solar Irradiation on *Lowsonia inermis* Sensitized with Red Blood Cells: Effect on Osmatic Fragility. Oludeniz, Turkey October 16-19, 2014.

Microscopy Society of America. Microscopy and Microanalysis Meeting. Albuquerque, New Mexico, USA. August 6, 2008.

Poster title: Microscopic analysis of lead accumulation in Tobacco (*Nicotiana tabacum* var. Turkish) Roots. **Rami Alkhatib**,** Jibin Zhao*, Douglas A. Blom*, Kajal Ghoshroy***, Rebecca Creamer** and Soumitra Ghoshroy*

*Electron Microscopy Center, University of South Carolina, Columbia, SC 29208, **Electron Microscopy Lab, New Mexico State University, Las Cruces, NM 88003, ***Division of Science, Mathematics and Engineering, University of South Carolina at Sumter, Sumter, SC 29150.

Graduate Research Association Symposium. Talk title: Microscopic analysis of lead accumulation in Tobacco (*Nicotiana tabacum* var. Turkish) Roots. New Mexico State University, Las Cruces, NM, USA. April 3, 2008.

Annual Biomedical Research Conference for Minority Students (ABRCMS). Poster Title: Influence of Fungal Endophyte Presence on the Attachment of Ruminal Microorganism to Cellulosic Substrate. Roxanna Reyna, **Rami Alkhatib**, R. Creamer, and S. Lodge-Ivey. Austin,TX, USA . October 2007.

15th Annual Jornada Symposium. Poster title: N acquisition and utilization upon partial and total defoliation of the creosote bush (*Larrea tridentate*). Fowler, R. Gutschick, V., and **Alkhatib, R.** NMSU, Las Cruces, NM, USA July 14, 2005.

Botanical Society of America. Conference. Talk Title: Anatomical Changes during Fruit Ripening in Two Lines of Tabasco Pepper (*Capsicum frutescens*). **Alkhatib, R.,** and M. D. Sundberg. July 31-August 5. Snowbird, UT, USA 2004.

PUBLICATIONS

First Authored Papers

1. Alkhatib, R, Almasarweh, A, Mayyas, A, Al-Qudah, M, Abu Orabi, S. **2022**. Chromatographic Analysis (LC-MS and GC-MS), Antioxidant Activity, Antibacterial Activity, Total Phenol and Total Flavonoid Determination of *Cleome arabica* L. Growing in Jordan. International Journal of Food Properties 25(1):1920–1933. DOI: 10.1080/10942912.2022.2115063

2. Alkhatib, R, Tadros, M, Lubran, H. **2021.** Chemical Analysis of *Moringa*-Treated Wastewater and its Impact on Seed Germination and Seedling Growth Characteristics in *Leucaena leucocephala*. *Water Air Soil Pollut*. 232:420. https://doi.org/10.1007/s11270-021-05389-5.

3. Alkhatib, R, Alkhatib, B, Abdo, N. **2021**. Impact of exogenous nicotine on the morphological, physio-biochemical and anatomical characteristics in *capsicum annuum. International Journal of Phytoremediation. DOI: 10.1080/15226514.2021.1962798.*

4. Alkhatib, R, Alkhatib, B, Abdo, N. Effect of Fe_3O_4 nanoparticles on seed germination in tobacco. **2021**. *Environmental Science and Pollution Research*. DOI: 10.1007/s11356-021-14541-x

5. Alkhatib, R, Abdo, N, Mheidat, M. Photosynthetic and Ultrastructural Properties of Eggplant (*Solanum melongena*) Under Salinity Stress. **2021**. *Horticulturae.* 7(7):1-12. DOI: 10.3390/horticulturae7070181

6. Alkhatib, R, Obeidat, B, AL-Eitan, L, Abdo, N, Obeidat, F, Aman, H. **2020**. Family-based association study of genetic analysis of paired box gene 9 polymorphisms in the peg-shaped teeth in the Jordanian Arab population. *Archives of Oral Biology.* 121 (2021): 104966.

7. Alkhatib, R, Abdo, N, AL-Eitan, L, Kafesha, R, Rousan, A. **2020**. Impact of magnetically treated water on the growth and development of Tobacco (Nicotiana tabacum var. Turkish). Physiology and Molecular Biology of Plants Journal. 26(5):1047:1054 DOI: 10.1007/s12298-020-00787-1

8. Alkhatib, R, Alkhatib B, Abdo N, AL-Eitan, L, Creamer R. **2019.** Physio-biochemical and ultrastructural impact of (Fe_3O_4) nanoparticles on tobacco. *BMC in Plant Biology* 1: 253-265.

9. Alkhatib, R, Mheidat M, Abdo N, Tadros M, AL-Eitan L, Al-Hadid K. **2019**. Effect of lead on the physiological, biochemical, and ultrastructural properties of *Leucaena leucocephala. Plant Biology*

10. Alkhatib, R, AbuDhaim N, AL-Eitan L, Abdo N, AL-Qudah A, Aman H. **2019**. Genetic Analysis of *ABCA1* Gene of Primary Glaucoma in Jordanian Arab Population. *The Application of Clinical Genetics* 12:181-189.

11. Alkhatib, R, Alkhatib B, Al-Eitan L., Abdo N. Tadros M., Bsoul E., **2018.** Physio-anatomical responses of tobacco under caffeine stress**.** *Photosynthetica* 56 (4): 1140-1146.

12. Alkhatib, R, Alkhatib B, AL-Quraan N, Al-Eitan L, Abdo N, Muhaidat R. **2016**. Impact of exogenous caffeine on morphological, biochemical, and ultrastructural characteristics in Nicotiana tabacum var. turkish. Biologia Plantarum **60 (4): 706-714**. (DIO:10.1007/s10535-016-0600-z).

13. Alkhatib, R, Al-Akhras M. Al-Khalili D. **2015.** Solar Irradiation on *Lawsonia Inermis* Sensitized with Red Blood Cells: Effect on Osmotic Fragility. Springer Proceed. in Energy. 2nd International Congress on Energy Efficiency and Energy Related Materials (ENEFM2014). Proceedings, Oludeniz, Fethiye/Mugla, Turkey, October 16-19, 2014. ISBN:978-3-319-16900-2

14. Alkhatib, R, Emad Bsoul, Douglas A. Blom, Kajal Ghoshroy, Rebecca Creamer, and Soumitra Ghoshroy. **2013**. Microscopic Analysis of Lead Accumulation in Tobacco (*Nicotiana tabacum* var. Turkish) Roots and Leaves. *Journal of Microscopy and Ultrastructure* 1 (2013) 57–62.

15. Alkhatib, R, Rebecca Creamer, Robert T. Lartey, and Soumitra Ghoshroy. **2011**. Effect of Lead on the Systemic Movement of RNA Viruses in Tobacco (*Nicotiana tabacum* var. Turkish). *Plant Cell Reports* 30:1427–1434 (DOI 10.1007/s00299-011-1051-9).

16. Alkhatib, R, Janakiraman Maruthavanan, Soumitra Ghoshroy, Robert Steiner, Tracy Sterling, and Rebecca Creamer. **2011**. Physiological and Ultrastructural Effects of Lead on Tobacco (*Nicotiana tabacum* var. Turkish). *Biologia Plantarum* 56 (4): 711-716, 2011 (DOI: 10.1007/s10535-012-0241-9).

17. Alkhatib, R, and M. D. Sundberg. **2006**. Sclereid development during fruit ripening in two lines of Tabasco pepper (*Capsicum frutescens*). *Transactions of the Kansas Academy of Science* 109 (1/2): x1-x8.

Coauthored Papers

1. Al-Qudah, M, Al-Smadi, Z, Al-Jaber, H, Ihlal Al-Jaber, Tashtoush, H, **Alkhatib, R,**Abu Orabi, S. **2023.** GC/MS and LC-MS/MS phytochemical evaluation of the essential oil and selected secondary metabolites of *Ajuga orientalis* from Jordan and its antioxidant activity

2. Al-Momani, L, Abu Orabi, S, Hlail, H, **Alkhatib, R,** Al-Dalahmeh, Y, Al-Qudah, M. **2022**. *Anthemis Cotula* L. from Jordan: Essential oil composition, LC-ESI-MS/MS profiling of phenolic acids - flavonoids and in vitro antioxidant activity. *Arabian Journal of Chemistry* 16(7):104470. DOI: 10.1016/j.arabjc.2022.104470

3. Alghamdi, M , Al-Eitan, L, **Alkhatib, R ,** Al-Assi, A , Almasri, A, Aljamal, H, Aman, H, Khasawneh, R. **2021**. Variants in *CDHR3, CACNAC1*, and *LTA* Genes Predisposing Sensitivity and Response to Warfarin in Patients with Cardiovascular Disease. *Int J Gen Med. 14:1093-1100. doi: 10.2147/IJGM.S298597.*

4. Al-Eitan L, Aman H, **Alkhatib R**, Alghamdi M. **2020**. Genetic Association of *SH2B1* Gene Polymorphisms in Jordanian Arab Patients with Type 2 Diabetes Mellitus. *Diabetes, Metabolic Syndrome and Obesity: Targets and Therapy*

5. Al-nemrawi N, Alsharif S, Alzoubi K, **Alkhatib R**, **2019**. Preparation and characterization of insulin chitosan-nanoparticles loaded in buccal films. *Pharmaceutical Development and Technology* 24(8):1-26

6. AL-Eitan L, Aljamal H, **Alkhatib R**, **2019**. Gas chromatographic–mass spectrometric analysis of sunscreens and their effects on mice liver and kidney enzyme function. Clinical, Cosmetic and *Investigational Dermatology* 12:11-21.

7. AL-Eitan L, Omari I, **Alkhatib R**, Aljamal H. **2019**. Investigation on the in vivo cytogenetic effects of psychotropic drugs in human lymphocyte cultures. *Pakistan Journal of Pharmaceutical Sciences* (In Press).

8. M-Ali H. Al-Akhrasa, B. Albiss, M.K. Qaseer**, R. Alkhatib,** M.A. Al-Ghbari and Q. Mohaidat. **2018**. Effect of Alternating Magnetic Field on the Growth of Different Strains of Bacteria in the Presence of Iron Oxide Nanoparticles. *ACTA PHYSICA POLONICA* A. Vol. 134: 133-134.

9. Laith Al-Eitan, Sahar AL-Habahbeh, **Rami Alkhatib**. **2016**. Genetic Association Analysis of *ERBB4* Polymorphisms with the Risk of Schizophrenia Susceptibility in Jordanian Population of Arab Descent.

10. Laith N. AL-Eitan, Doaa M. Rababa'h, **Rami Alkhatib**, Rame H. Khasawneh. **2016**. GSTM1 and GSTP1 Genetic Polymorphisms and Their Associations With Acute Lymphoblastic Leukemia Susceptibility in a Jordanian Population. *Journal of Pediatr Hematol Oncol*. 38, (7): 223-229.

11. Bsoul, E., Jaradat, S., Al-Kofahi, S., Al-Hammouri, A., **Alkhatib, R**. **2016**. Growth, Water Relation and Physiological Responses of Three Eggplant Cultivars under Different Salinity Levels. *Jordan Journal of Biological Sciences*. Vol. 9 (2) June. ISSN 1995-6673 Pages 1 – 10

12. K. A. Kanani · Z. S Amr · **R. Alkhatib** · B. Shadfan · M. Al-Rashadan · R. B. Hani. **2015**. A retrospective study on imported malaria in Jordan. 2. Malaria among non-military Jordanians. *Bull. Soc. Pathol. Exot***.** 108:126-129**.** DOI 10.1007/s13149-015-0423-8.

13. AL-Quraan, N., Ghunaim, A., **Alkhatib, R. 2015.** The influence of chlorsulfuron herbicide on GABA metabolism and oxidative damage in lentil (*Lens culinaris Medik*) and wheat (*Triticum aestivum* L.) seedlings. *Acta Physiol Plant*. 37:227 DOI 10.1007/s11738-015-1979-4

SELECTED RESEARCH GRANTS

1. Dr. Laith AL-Eitan (PI), Dr. Jammal Anani (Co-I), Dr. Ahmad Alhusban (Co-I), **Dr. Rami Alkhatib (Co-I).** 2018-2021. "Pharmacogenetic Approach to Treating Drug Addiction: Genetic Predictors for Drug Addiction Development, Treatment Response and Dosing". Sponsor/Agency: ***The Scientific Research Support Funds, Ministry of Higher Education and Scientific Research, Amman, Jordan***. Amount: **JD 66500 (2018)**.

2. Dr. Raed Alzoubi (PI), Dr. Mazhar Alzoubi (Co-I), **Dr. Rami Alkhatib (Co-I)**Applications of Ortho-Substituted Boronic acids and Boroxoles as Green and Waste-free Organocatalysts for Peptide Synthesis and as Selective Cancer-linked T-antigen, ***Scientific Research Support Fund of Jordan (SRSF)***, (07/17-7/18), **81062 JD = 115803 USD**

3. Effect of exogenous nicotine on the physiological and biochemical characteristics of Bell pepper (**JD 7000**). Deanship of Scientific Research, Jordan University of Science and Technology. 2017.

4. Structural and Ultrastructural effects of NaCl on the physio-anatomical properties in eggplant (JD 7000). Deanship of Scientific Research, Jordan University of Science and Technology. 2017.

5. The effect of lead (Pb) on the physiological, biochemical and ultrastructural properties of *Leucaena leucocephala* (6500) (2017).

6. Genetic Analysis of Candidate Genes of Glaucoma in Jordanian Population (6,500) (2016).

7. Effect of Magnetized water on the growth and development of *Nicotiana tabacum* (5,500 JD) (2016).

8. Genetic Association of *MSX1* Gene Polymorphisms with Peg-shape Tooth Disorder in Jordanian Population (6,600 JD) (2015).

9. Genetic Association of *PAX9* Gene Polymorphisms with *Peg-shaped* tooth Disorder in a Jordanian Arab Population (6,500 JD) (2015).

10. Effect of Magnetic Field on Seed Germination and Growth in Cultivated Lentil and Wheat in Jordan (9,800 JD) (2014).

11. Inhibiting the Nano-machine Systemic Movement of RNA viruses in Tobacco (*Nicotiana tabacum* v. Turkish) Using a Non-toxic Concentrations of Zn^{+2} and Ni^{+2} Ions (9,000 JD) (2013).

12. The Biochemical and Physiological Effects of Different Concentrations of Caffeine on Tobacco Plant (*N. tabacum* var. Turkish) and on the systemic Movement of RNA viruses (6,250 JD) (2013).

PEER REVIEWED ARTICLES

Ghaid J. Al-Rabadi. Microscopic Analysis of *in vitro* Digested Milled Barley Grains: Influence of Particle Size Heterogeneity. Jordan Journal of Biological Sciences (7): 199-203, 2014.

Roxanna Reyna, Peter Cooke, Daniel Grum, Daniel Cook, Rebecca Creamer. Detection and localization of the endophyte Undifilum oxytropis in locoweed tissues. Botany, 2012, 90(12): 1229-1236, 10.1139/b2012-092.

PROFESSIONAL TRAINING

March 2007	Hitachi Transmission and Scanning Electron Microscopes Operation Systems, New Mexico State university. Supervisors: Jack Marlowe and Ronald Ticknor.
April 2007	Thermo Electron Corporation, Noran System Six EDS, New Mexico State University. Supervisor: Gary Walker.

NON-ACADEMIC ORGANIZATION

Councilor of the "Great Arab Revolt" Club

PROFESSIONAL ORGANIZATIONS

Microscopy Society of America (MSA), USA.

Sigma Xi (The American Scientific Research Society), NC, USA.

Gamma Sigma Delta (The Honor Society of Agriculture).

REFERENCES

Dr. Rebecca Creamer
Professor
Molecular Biology Program, Director
Department of Plant entomology, Plant Pathology, and Weed Science
New Mexico State University
Las Cruces, NM 88003
Phone: (575) 646-3068.
E-mail: creamer@taipan.nmsu.edu

Dr. Soumitra Ghoshroy
Director, Electron Microscopy Center
Research Associate Professor
University of South Carolina
701 Sumter Street
Columbia, SC 29208
Phone: (803) 777-7085 Fax: 803-777-8908
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Dr. Marshall Sundberg
Professor
Department of Biological Sciences
Emporia State University
Emporia, Kansas
Phone: 620-341-5605
Email: msundber@emporia.edu