



MUSTAFA ERBAKAN

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EDUCATIONAL HISTORY

The Pennsylvania State University, Bioengineering, PhD Candidate	2010-2014
Advisors: Dr. Wayne R. Curtis (Professor of Bioengineering and Chemical Engineering), Dr. Manish Kumar (Assistant Professor of Chemical Engineering)	
Çukurova University, Adana, Turkey, Chemistry, Master of Science	2004-2007
Advisor: Dr. Ramazan Bilgin, Faculty of Arts&Sciences, Department of Chemistry	
Çukurova University, Adana, Turkey, Chemistry, Bachelor of Science	2000- 2004
Top student in class, 1 of 105	

EXPERIENCE

Postdoctoral Researcher, Penn State University (Kumar Lab)	2014-current
Research Assistant, Adiyaman University, Adiyaman, Turkey	2007
Instructor, Senior Biochemistry Laboratory, Çukurova University, Adana, Turkey	2007

RESEARCH EXPERIENCE

Doctoral projects:

- Advancing *Rhodobacter sphaeroides* for functional expression of industrially and medically relevant membrane proteins (2009-present)
- Building and characterization of a thin-film trickle bed photobioreactor for high density culturing of *Rhodobacter sphaeroides* (2009-2011)
- Molecular cloning, overexpression and characterization of a novel water channel protein from *Rhodobacter sphaeroides* (2011-2014)
- Fluorescence correlation spectroscopy assisted determination of single molecule properties of membrane proteins in proteoliposomes and proteopolymersomes (2013-present)

Masters projects:

- Investigation the effect of ATP, AMP-PNP and retinal on the activity of membrane-bound retinal guanylate cyclase in rod outer segments, Master's thesis project (2006-2007)
- Antioxidant enzyme status in human cystic echinococcosis (2004-2005)

AWARDS & HONORS

- Center for Lignocellulose Structure and Formation at The Pennsylvania State University Fellowship (2013-present)
- Shen Y., Saboe P., Ferlez B., **Erbakan, M.** & Escotet M. Solar energy based biomimetic water desalination and purification. Dow Sustainability Innovation Challenge. 2nd prize at Penn State, 2012
- The Republic of Turkey, The Ministry of National Education Scholarship to pursue a PhD degree in the U.S. 2008-2013
- Exchange student at Carl von Ossietzky Universitaet, Oldenburg, Germany, Socrates-Erasmus Scholarship, 2005-2006 (Karl-Wilhelm Koch Lab)

PUBLICATIONS

1. **Erbakan M.**, Kumar M., Curtis W.R. Advancing *Rhodobacter sphaeroides* for functional expression of membrane proteins. *Biotech. Bioeng.* (submitted)
2. Shen Y., **Erbakan M.**, Meminger C.W., Hou J., Kumar M. Single Molecule Transport Characterization of a High Permeable Artificial Water Channel. (in preparation)
3. **Erbakan M.**, Shen Y., Grzelakowski M., Kumar M., Curtis W.R. Molecular Cloning, Overexpression and Characterization of a Novel Water Channel Protein from *Rhodobacter sphaeroides*. *PLoS ONE* 9 (1): e86830 (2014)
4. Shen Y., Saboe P.O., Sines I.T., **Erbakan M.**, Kumar M. Biomimetic membranes: A review. *J. Memb. Sci* 454: 359-381 (2014)
5. Yucebilgic G., Bilgin R., **Erbakan M.**, Koltas I.S., Parsak, C.K. Antioxidant Enzyme Status in Human Cystic Echinococcosis. *Asian J Chem* 21 (7) : 5453-5457 (2009)

CONFERENCE PRESENTATIONS

1. Escotet M.S., **Erbakan M.**, Kumar M. and Curtis W.R. Use of Fluorescent Protein Fusions to Optimize Membrane Protein Expression in Anaerobic Photoheterotrophic *Rhodobacter*. AICHE Annual Meeting, San Francisco, CA, 2013.
2. **Erbakan M.**, Shen Y., Kumar M. and Curtis W.R. Evaluating a Novel Aquaporin From *R. Sphaeroides* for Biomimetic Membrane Applications. AICHE Annual Meeting, San Francisco, CA, 2013.
3. **Erbakan M.**, Kumar M., Curtis W.R. Expression and Characterization of a Novel Water Channel Protein from *Rhodobacter sphaeroides*. Bioengineering Symposium, University Park, PA, 2012.