

## Jay Sagin (Zhanay Sagintayev), PhD

Assistant Professor

Dept. of Civil Engineering, School of Engineering, Nazarbayev University  
Address: Office 6247B, 53, Kabanbaybatyr Ave., Astana, Kazakhstan, 010000

Phone: +7 (7172) 706424,

[zhanay.sagintayev@nu.edu.kz](mailto:zhanay.sagintayev@nu.edu.kz)

### a. Professional Preparation:

Western Michigan University, USA, Geological Science: EOS and GIS, Ph.D., 2010

Ball State University, Indiana, USA, Natural Resources and Environment M, M.S., 2006

Moscow State University, Computational Mathematics, B.S.-M.S., 1991

### b. Appointments

2015-present, Assistant Professor, Nazarbayev University, School of Engineering, Civil Engineering, Astana, Kazakhstan, (<http://seng.nu.edu.kz/>)

2011-2014, Postdoctoral Fellow – Research Associate, Global Institute for Water Security (GIWS), University of Saskatchewan, Canada, (<http://www.usask.ca/water/>)

2006-2010, Ph.D., Geological Science: EOS and GIS, Western Michigan University, USA

2004-2006, M.S., Department of Natural Resources and Environment Management, Ball State University, Indiana, USA

2002-2004, Engineer – Project Manager, PetroKazakhstan, oil transportation modeling and system optimization, Kazakhstan; originally it was Canadian company, but in 2005 this company was sold to China National Petroleum Corporation (CNPC), PetroChina

2000-2002, Engineer – Project Manager, KazMunayGas, KazTransOil branch, oil transportation modeling and system optimization, Kazakhstan

1992-1999, Engineer – Project Manager, Schlumberger: Actaris Resource Management Services (RMS) branch, measuring technologies equipment, including supervisory control and data acquisition (SCADA); the RMS business was sold and it is owned by Itron Company at present

### c. Publications

#### **(i) Up to five publications most closely related to proposal project**

**Sagintayev, Z.**, Z. Yerikuly, S. Zhaparkhanov, V. Panichkin, O. Miroshnichenko, and S. Mashtayeva. 2015. Groundwater inflow modeling for a Kazakhstan copper ore deposit, *Journal of Environmental Hydrology*, Vol. 23, Paper 9.

MacKinnon, B., **Sagin, J.**, Baulch, H., Lindenschmidt, K., Jardine, T., 2015. Influence of hydrological connectivity on winter limnology in floodplain lakes of the Saskatchewan River Delta, *SK Canadian Journal of Fisheries and Aquatic Sciences*, 10.1139/cjfas-2015-0210

Ireson, A., Barr, A., Johnstone, J., Mamet, S., Kamp, G., Whitfield, C., Michel, N., North, N., Westbrook, J., DeBeer, C., Chun, C., Nazemi, A., **Sagin, J.**, 2015, The changing water cycle: the Boreal Plains ecozone of Western Canada, *WIREs Water Journal*, doi: 10.1002/wat2.1098

**Sagin, J.**, Sizo, A., Wheeler, H., Jardine, T., Lindenschmidt, K-E, 2015, A Water Coverage Extraction Approach to Track Inundation in the Saskatchewan River Delta, Canada, *International Journal of Remote Sensing* 36:764-781

Das, A, **Sagin, J.**, Sanden, Y., Evans, E., McKay, H., Lindenschmidt, K., 2014, Monitoring freeze-up ice cover progression of the Slave River, Canada, *Canadian Journal of Civil Engineering*, doi:10.1139/cjce-2014-0286

#### **(ii) Up to five other significant publications**

**Sagintayev, Z.**, Sultan, M., Khan, S. D., Khan, A. S., Mahmood, K., Yan, E., Milewski, A., and Marsala, P., 2011, Remote Sensing Contributions to Hydrologic Modeling in Arid and Inaccessible Watersheds, PishinLora Basin, Pakistan. *Journal of Hydrological Processes*, June, 2011, <http://onlinelibrary.wiley.com/doi/10.1002/hyp.8114/full>

**Sagintayev, Z.**, Sultan, M., Khan, S. D., Khan, A. S., Mahmood, K., Yan, E., Milewski, A., and K. Chouinard, 2011, Identification of Aquifer Types and Potential Well Locations Using GIS and Remote Sensing Technologies in the PishinLora Basin, Pakistan. *Kazakh Geography Journal*, 2011, N 1 (32), UDK552.5, ISSN 1563-0234, [http://www.kaznu.kz/ru/3144/page/Science\\_and\\_innovations/Scientific\\_publications/The\\_KazNU\\_Journal\\_Geography\\_Edition\\_](http://www.kaznu.kz/ru/3144/page/Science_and_innovations/Scientific_publications/The_KazNU_Journal_Geography_Edition_)

Sultan, M., Fawzy, A., Metwally, S., Becker, R., Milewski, A., Sauck, W., Sturchio, N. C., Mohamed, A.M.M., Wagdy, A., El Alfy, Z., Becker, D., **Sagintayev, Z.**, El Sayed, M., and Welton, B., 2010, Red Sea rifting controls on aquifer distribution: constraints from geophysical, isotopic, and remote sensing data, *Geological Society America Bulletin*.

Khan, S. D., Mahmood, K., Sultan, M.I., Khan, A. S., Xiong, Y., **Sagintayev, Z.**, 2009. Trace element geochemistry of groundwater from Quetta Valley, western Pakistan Belt. *Journal of Environmental Earth*

Forman, S., **Sagintayev, Z.**, Sultan, M., Smith, S., Becker, R., Kendall, M., and Marin, L., 2008, the twentieth-century migration of parabolic dunes and wetland formation at Cape Cod National Sea Shore, Massachusetts, USA: landscape response to a legacy of environmental disturbance, *The Holocene*, v.18(5), pp 765-774.

#### **d. Synergistic Activities**

1. Dr. Sagintayev is an active member of Central Eurasia Leadership Alliance (<http://www.celaprogram.org/>), regional cooperation group of mid-career leaders in the Caucasus, Central Asia and Afghanistan. CELA members support each other in development of the regional cooperation projects. He is a CELA member from 2004 to present day.
2. Hydrological/Hydraulics modeling of the Saskatchewan and Slave River Deltas with EOS GIS since 2012; Radarsat-2, Terra DEM-X, ASTER, and Landsat to track surface water coverage and water volume changes were applied, and the US-Canada trans-boundary cooperation projects, including the US-Canada Red River Basin Commission cooperation projects.
3. Assessment and Development of Renewable Water Resources in the Pishin Lora watershed, Pakistan (US State Department), 2007-2010, project cost \$300,000. This is a trans-boundary Afghan-Pakistan Pishin Lora basin project.
4. Developing Renewable Ground Water Resources in Arid Lands: A Pilot Case – The Eastern Desert of Egypt (Global Environmental Facility; United Nations Development Program [UNDP] (2003-2007; project cost \$880,000); I provided the EOS data processing and GIS support.
5. A Web-Based GIS for Egypt's Geological Datasets (NSF) (2003-2007; project cost \$59,736). I provided the EOS data processing and GIS support.
6. The Relation between the 20th Century Dune Migration and Wetland Formation at Cape Cod National Sea Shore, MA, National Park Services, 2004-2006, project cost \$40,000.
7. Analyzing geochemical and isotopic constraints on the origin of ground waters located within the empty quarter of Saudi Arabia (Saudi Arabia Geological Survey & International Funds) (2006-2007, project cost \$25,000). I provided the EOS data processing and GIS support.

#### **e. Collaborators & Other Affiliations**

##### **(i) Collaborators**

1. M., Khan, S. D., Khan, A. S., Mahmood, from Pakistan Polytechnic University.
2. Z. Yerikuly, S. Zhaparkhanov, V. Panichkin, O. Miroshnichenko, and S. Mashtayeva, from Satpayev Polytechnic University, Kazakstan.
3. Ireson, A., Barr, A., Johnstone, J., Mamet, S., Kamp, G., Whitfield, C., Michel, N., North, N., Westbrook, J., DeBeer, C., Chun, C., Nazemi, from Global Institute for Water Security, Canada
4. Sultan, M., Milewski, A., K. Chouinard, from Western Michigan University

##### **(ii) Graduate and Postdoctoral Advisors**

- a. Dr. Mohamed Sultan, Chair & Director, Geosciences Department; Western Michigan University & ESRSF
- b. Dr. Howard Wheeler, Director, Global Institute for Water Security, Canada Excellence Research Chair in Water Security, Professor, School of Environment and Sustainability, Professor, Department of Civil and Geological Engineering, College of Engineering
- c. Dr. Eugene Yan, Alan Kehew, Applied Geosciences & Environmental Management, Argonne National Laboratory

##### **(iii) Thesis Advisor and Postgraduate Sponsor**

1. Vadim Yapiey, current PhD student, Nazarbayev University, Kazakhstan
2. Zhaiyk Yerekuly, current PhD student, Satpayev Polytechnic University, Kazakhstan
3. Abdulhalim Zaryab, PhD applicant to Nazarbayev University
4. Elvira Turyspekova, Daniyar Malgashdar and Nurlan Ongdas, MS students, Nazarbayev University
5. Co-adviser for 12 PhD and MS students