

AYLA KISER

Senior Scientist in Biomimicry

ayla@tutamail.com | <https://www.makiser.com>

SUMMARY | I am Johnson & Johnson's in-house biomimicry expert, building the biomimicry pillar within the company and developing consumer healthcare solutions inspired by nature's genius. Prior to my work at Johnson & Johnson, I was a research scientist in environmental engineering. My long-term goal is to conduct research, design, consult, write, and teach in the field of biomimicry, fueled by my deep appreciation and respect for Earth and all of its inhabitants.

EXPERIENCE | **SENIOR SCIENTIST IN BIOMIMICRY** JOHNSON & JOHNSON CONSUMER INC.
JANUARY 2019 – PRESENT

Building the biomimicry program within Johnson & Johnson, developing innovative and sustainable biomimetic consumer healthcare solutions, and teaching biomimicry.

POST-DOCTORAL SCIENTIST JOHNSON & JOHNSON CONSUMER INC.
AUGUST 2017 – DECEMBER 2018

Began building the biomimicry program within Johnson & Johnson, developing biomimetic consumer healthcare solutions, and teaching biomimicry in the company.

POST-DOCTORAL SCIENTIST CATALAN INSTITUTE FOR WATER RESEARCH
JUNE 2014 – APRIL 2017

Built integrated models of wastewater treatment plants that I used to identify strategies to reduce energy and chemical consumption while maintaining plant performance.

POST-DOCTORAL SCIENTIST UNIVERSITY OF OREGON
MAY 2012 – MAY 2013

Synthesized and characterized functionalized gold nanoparticles and conducted experiments to better understand their potential behavior in the environment.

LECTURER ARIZONA STATE UNIVERSITY
SUMMER 2011

60 hours of lecture, 15 hours of laboratory instruction for Introduction to Environmental Engineering; rated "Excellent" by 67% and "Very Good" by 33% of students.

EDUCATION | **M.S. BIOMIMICRY** ARIZONA STATE UNIVERSITY
EXPECTED 2019

Courses taken include Biomimicry Thinking, Life's Principles, Biomimicry and Design, Biomimicry and Business, and Teaching Biomimicry; leadership training; practicums.

PH.D. ENVIRONMENTAL ENGINEERING ARIZONA STATE UNIVERSITY
AUGUST 2011

Dissertation: "Fate of Engineered Nanomaterials in Wastewater Treatment Plants" chaired by Dr. Paul Westerhoff and Bruce Rittmann

M.S. ENVIRONMENTAL ENGINEERING UNIVERSITY OF NEVADA, LAS VEGAS
MAY 2006

Focus: Water and wastewater treatment

B.S. MECHANICAL ENGINEERING UNIVERSITY OF NEVADA, LAS VEGAS
MAY 2003

Focus: Environmental systems; graduated *cum laude* with University Honors

PUBLICATIONS | Eight peer-reviewed articles, cited 1141 times as of 10 March 2019, Google Scholar

Juan-Garcia, P.; Kiser, M.A.; Schraa, O.; Rieger, L.; Corominas, L. Dynamica air supply models add realism to the evaluation of control strategies in water resource recovery facilities. *Water. Sci. Technol.* 2018, 78(5-6), 1104-1114.

Montserrat, A.; Bosch, L.M.; Kiser, M.A.; Poch, M.; Corominas, L. Using data from monitoring combined sewer overflows to assess, improve, and maintain combined sewer systems. *Sci. Total Environ.* 2015, 505, 1053-1061.

Westerhoff, P.K.; Kiser, M.A.; Hristovski, K. Nanomaterial removal and transformation during biological wastewater treatment. *Env. Eng. Sci.* 2013, 30 (3), 109-117.

Kiser, M.A.; Ladner, D.A.; Hristovski, K.D.; Westerhoff, P.K. Nanomaterial transformation and association with fresh and freeze-dried wastewater activated sludge: Implications for testing protocol and environmental fate. *Env. Sci. & Tech.* 2012, 46 (13), 7046-7053.

Westerhoff, P.K.; Song, G.X.; Hristovski, K.; Kiser, M.A. Occurrence and removal of titanium dioxide at full scale wastewater treatment plants: Implications for TiO₂ nanomaterials. *J. Env. Monit.* 2011, 13 (5), 1195-1203.

Kiser, M.A.; Ryu, J.; Jang, H.; Hristovski, K.; Westerhoff, P.K. Biosorption of nanoparticles to heterotrophic wastewater biomass. *Wat. Res.* 2010, 44 (14), 4105-4114.

Kiser, M.A.; Oppenheimer, J.; DeCarolis, J.; Hirani, Z.M.; Rittmann, B.E. Quantitatively understanding the performance of membrane bioreactors. *Sep. Sci. & Tech.* 2010, 45 (7), 1003-1013.

Kiser, M.A.; Westerhoff, P.; Benn, T.; Wang, Y.; Perez-Rivera, J.; Hristovski, K. Titanium nanomaterial removal and release from wastewater treatment plants. *Env. Sci. & Tech.* 2009, 43 (17), 6757-6763.

PRESENTATIONS | Over 15 oral presentations given internationally; please contact for details.

LEADERSHIP | Leading the Biomimicry Pillar in Johnson & Johnson Consumer Inc. (2017 – present)

Supervisor of four M.S. students and four B.S. students (2009 – present)

Leadership training in the Biomimicry Professional Certification Program (2016 – 2018)

Communications officer in the Marketing and Communications Department of the Catalan Institute of Nanoscience and Nanotechnology (2014)

Project Founder and Leader, *Water and Sanitation in Tsuraku, Ecuador*, Engineers Without Borders, Arizona State University (2007)

LANGUAGES | English, fluent (native language)

French, upper intermediate (B2)

Turkish, conversational