

Dr. Oleg Rud
Department of Physical and Macromolecular Chemistry
Faculty of Science, Charles University
Hlavova 8, 128 43 Prague, Czech Republic
E-mail: oleg.rud@natur.cuni.cz

Prague, July 19, 2022

Dear Professor Ravi Naidu,

Herewith we would like to submit our manuscript: *Water desalination using polyelectrolyte hydrogel. Gibbs ensemble modeling* authored by Mikhail Laktionov, Lucie Nová and Oleg V. Rud, to be considered for publication in *Environmental Technology & Innovation*. In the submitted manuscript we modeled hydrogel in Gibbs ensemble, *i. e.* in equilibrium with a small amount of aqueous solution, and demonstrated that the compression of the gel in such an ensemble slightly decreases the salinity of the outside solution. We employed this phenomenon and modeled the process of water desalination as a cascade of hydrogel swellings and compressions changing the outside salinity from ~ 0.1 to 0.01 mol/l.

We believe that our work brings new insights into the complex problem of seawater desalination that fits within the scope of *Environmental Technology & Innovation*, and that it will be of interest to its broad readership.

Yours sincerely,
on behalf of all co-authors,

O.V. Rud