

Proiectul: PN-IV-P2-2.1-TE-2023-0666 - Soluții durabile pentru reducerea impactului ambiental a stațiilor de epurare a apei uzate utilizând modelare integrată hibridă și control de proces, REWAT –

Poziția: Inginer chimist

Lista cuprinzând tematica și bibliografia

Tematica

- Monitorizarea apelor de suprafață
- Prelucrarea datelor experimentale în vederea utilizării pentru dezvoltarea de unelte software
- Programare în MATLAB pentru modelare matematică și control de proces
- Tehnologia epurării apelor uzate
- Utilizarea modelelor de tip ASM (Activated Sludge Model)

Bibliografia

1. Bartram, J., & Ballance, R. (Eds.). (1996). *Water quality monitoring: A practical guide to the design and implementation of freshwater quality studies and monitoring programmes*. United Nations Environment Programme & World Health Organization. <https://www.researchgate.net/publication/253953121>
2. Henze, M., Gujer, W., Mino, T., & van Loosdrecht, M. C. M. (2000). *Activated Sludge Models ASM1, ASM2, ASM2d and ASM3*. IWA Publishing. <https://iwaponline.com/ebooks/book/96/Activated-Sludge-Models-ASM1-ASM2-ASM2d-and-ASM3>
3. Brdjanovic, D. (Ed.). (2015). *Applications of Activated Sludge Models*. IWA Publishing. <https://iwaponline.com/ebooks/book/244/Applications-of-Activated-Sludge-Models>
4. Tchobanoglous, G., Burton, F. L., & Stensel, H. D. (2003). *Wastewater engineering: Treatment and reuse* (4th ed.). McGraw-Hill. <https://www.wiley.com/en-us/Wastewater+Quality+Monitoring+and+Treatment-p-9780471499299>
5. U.S. Geological Survey. (2006). *National field manual for the collection of water-quality data (Techniques of Water-Resources Investigations, Book 9)*. U.S. Department of the Interior. <https://www.usgs.gov/mission-areas/water-resources/science/national-field-manual-collection-water-quality-data-nfm>
6. Pennsylvania Department of Environmental Protection. (2016). *Water quality monitoring protocols for streams and surface waters*. https://files.dep.state.pa.us/water/Drinking%20Water%20and%20Facility%20Regulation/WaterQualityPortalFiles/Technical%20Documentation/MONITORING_BOOK.pdf
7. U.S. Environmental Protection Agency (EPA). (1982). *Handbook for sampling and sample preservation of water and wastewater*. EPA-600/4-82-029. <https://nepis.epa.gov/Exe/ZyPURL.cgi?Dockkey=30000QSA.TXT>

8. Hangos K.M., Cameron I.T., 2001, Process Modelling and Model Analysis, Volume 4, 1st Edition, Academic Press. Paperback ISBN: 9780123994776
https://books.google.ro/books/about/Process_Modelling_and_Model_Analysis.html?id=1zkfhayLD7gC&redir_esc=y
9. Russell, S., Norvig, P., 2021. Artificial Intelligence: A Modern Approach 4th edition [AIMA], Pearson Education, <http://aima.eecs.berkeley.edu/>
10. Agachi, P.S., Cristea, V.M., Csavdari, A., Szilagyi, B., 2024. Advanced Process Engineering Control. Berlin, Boston: De Gruyter.
<https://doi.org/10.1515/9783110789737>
11. Howard, P., 2005. Partial Differential Equations in MATLAB 7.0. Lecture Notes. Course at Texas A&M University, <http://www.tem.uoc.gr/~marina/pdemat.pdf> and also <https://www.math.tamu.edu/~phoward/>
12. Simon Haykin, Neural Networks A Comprehensive Foundation, Mcmillan Publishing Company, Englewood Cliffs, NJ 07632, 1999.ISBN 81-7808-300-0.
13. Xue, D., Chen Y., 2009. Solving applied mathematical problems with MATLAB. Chapman & Hall/CRC, Boca Raton, USA.
14. Partial Differential Toolbox, MATLAB, User Guide.
15. Neural Network Toolbox, MATLAB, User Guide.