



ZELLCHEMING-CONFERENCE

CELLULOSE-BASED MATERIALS –  
FROM SCIENCE TO TECHNOLOGY

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### **Investigation the suitability of the Duckweed Test as a monitoring parameter in paper mill effluents**

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#### **Abstract**

Duckweed (Lemna Minor) is an easily to handle water plant which reacts very sensible to pollutants in water and wastewater. The resulting growth inhibition of duckweeds is determined based on observation parameters (frond number, frond surface area) in the diluted samples and the reference samples in comparison to the samples with nutrition solutions.

The objective of the current project is to investigate the suitability of the Duckweed Test for measuring the phytotoxic effects of paper mill effluents. For this purpose, the influence of wastewater samples from paper mills with different products and wastewater treatment technologies on the growth rate of duckweeds is investigated. Moreover, the quality of wastewater by measuring different parameters will be investigated and their influence on the test result will be evaluated. In addition, different techniques and methods for sample preparation will be tested to optimize the duckweed test implementation.



#### **KEYWORDS:**

Wastewater  
Toxicity  
Monitoring  
Duckweed  
Lemna Minor



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### Biography



Pegah Azizian studied chemical engineering at the University of Science and Research in Iran and specialized in chemical and bioengineering at the Friedrich-Alexander-University Erlangen-Nuremberg. Since 2018, she works as a Research Assistant at the Department of Paper Technology and Mechanical Process Engineering (PMV) at Technical university of Darmstadt. The focus of her research work is on the investigation of wastewater from paper mills.