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## Nanofiltration and Ultrafiltration- the next generation Environmental engineering tool and a vision for the future

Sukanchan Palit\*

## Department of Chemical Engineering, University of Petroleum and Energy Studies, Post Office- Bidholi via Premnagar, Dehradun-248007,Uttarakhand, India

**Abstract**: Environmental engineering science is moving towards the newer scientific realm at a drastic pace. The vision, aim and the purpose of membrane separation processes is wide, farreaching and scientifically inspiring. Environmental restrictions and stringent regulations are transforming the environmental engineering scenario. In such a critical juncture of human scientific progress, the author delineates novel separation processes and subsequently membrane separation processes. The author strives forward towards the intricacies and barriers towards membrane science particularly nanofiltration and ultrafiltration. In today's scientific world, environmental engineering techniques and environmental sustainability have an unsevered umbilical cord. Loeb- Sourirajan model revolutionized the field of membrane science. The author with deep comprehension also delineates the barrier of concentration polarization to membrane separation processes. The state of environment in today's world is disastrous and catastrophic. Novel separation processes are the torchbearers of the new environmental engineering world order. Scientific vision, scientific truth and deep scientific understanding stands in the midst of visionary world order. The author strives to bring forward towards the scientific horizon the efficacy of membrane separation processes especially nanofiltration and ultrafiltration. Vision of science, the wide vistas of engineering science and the human scientific progress all will lead a long way in true emancipation of environmental engineering. Membrane science such as nanofiltration, ultrafiltration and reverse osmosis are the forerunners of a new world order in environmental engineering. The author with deep comprehension also lucidly delineates the future vision arsenic and heavy metal groundwater remediation and the relevant novel separation techniques associated with it.

**Keywords :** environment, membrane, nanofiltration, ultrafiltration, sustainability, engineering, science, vision.

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