

# EEngineering Institute of Membrane Technologies

## Scientific Report

2016

### I. 1. Scientific-Research Works Planned and Implemented in 2016 Funded by the State Budget of Georgia

#	Implemented work with the indication of scientific field and direction	Work Supervisor	Work Performers
1	<b>Topic 1.</b> Theoretical and experimental research of molecular and ionic systems of some mineral water of Georgia for the purpose of obtaining ecologically clean, high quality, sterile and medicinal products. Processing of membrane technology for sterile filtration of Borjomi mineral water and production of manufacturing sample; Research of membrane processes and processing of nanotechnologies.	G. Bibileishvili	Head of the department of membrane process research and elaboration of nanotechnologies - M. Kezherashvili
2	<b>Topic 2.</b> De-bariumisation of molecular and ion systems (B), nanochemistry of defluoridation (F), processing and creation of membrane	G. Bibileishvili	Department of membrane process research and elaboration of nanotechnologies. Head of the department - M. Kezherashvili

	<p>nanotechnologies and nanosystems and manufacturing of the sample of the mineral water of Borjomi;</p> <p>Research of membrane processes and processing of nanotechnologies.</p>		<p>Laboratory of physical and chemical analysis Head of the laboratory – E. Kakabadze</p>
3	<p><b>Topic 3.</b> Research of the phase inversion process of celluloseacetat polymer composites;</p> <p>Chemistry and chemical technology</p> <p>ISBN 66.081.6, 678.744</p>	N. Gogesashvili	<p>Department of processing nanocomposite material</p> <p>Head of department- N. Gogesashvili</p>
4	<p><b>Topic 4.</b> Research of solvent-non-solvent system of polymer materials;</p> <p>Chemistry and chemical technology,</p> <p>ISBN 66.081,6, 678.744</p>	N. Gogesashvili	<p>Department of processing nanocomposite material</p> <p>Head of department- N. Gogesashvili</p>
5	<p><b>Topic 5.</b> Chlorine containing substances present in natural water.</p> <p>Chemistry and science;</p> <p>Research of membrane processes and processing of nanotechnologies.</p>	M. Kezherashvili	<p>Department of membrane process research and elaboration of nanotechnologies.</p> <p>Head of the department - M. Kezherashvili</p>

6	<p><b>Topic 6.</b> Membrane technologies for the improvement of natural water quality.</p> <p>Chemistry and science;</p> <p>Research of membrane processes and processing of nanotechnologies.</p>	M. Kezherashvili	<p>Department of membrane process research and elaboration of nanotechnologies.</p> <p>Head of the department</p> <p>- M. Kezherashvili</p>
7	<p><b>Topic 7.</b> The possibilities of using underground waters of Tbilisi as technical water by means of ultra and nanofiltration;</p> <p>Analytical chemistry, environmental chemistry</p>	E. Kakabadze	<p>Laboratory of physical and chemical analysis.</p> <p>Head of Laboratory</p> <p>E. Kakabadze</p>
8	<p><b>Topic 8.</b> Monitoring of heavy metal pollution in the city environment.</p> <p>Environmental protection and engineering ecology;</p> <p>Monitoring of environmental objects.</p>	N. Mumladze	<p>Laboratory of physical and chemical analysis.</p> <p>Head of Laboratory</p> <p>E. Kakabadze</p>
9	<p><b>Topic 9.</b> Determination of speeds at the head and end of the apparatus pressure cell;</p> <p>Mathematics - Hydromechanics, Hydraulics.</p>	L. Kuparadze	<p>Department of membrane process research and elaboration of nanotechnologies.</p> <p>Head of the department</p> <p>- M. Kezherashvili</p>
10	<p><b>Topic 10.</b> Theoretical calculation formulas for membraneless pressure apparatus;</p> <p>Hydromechanics, differential</p>	L. Kuparadze	<p>Department of membrane process research and elaboration of nanotechnologies.</p> <p>Head of the department</p> <p>- M. Kezherashvili</p>

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