



Considering the future of Integrated Water Resources Management (IWRM) in Central Asia

# **IWRM Model Region Mongolia Wrap-up and Relay Conference**

**-International Conference and Symposium-**

**AGENDA and List of Posters**

**29 -30 May 2018**

**Red Rock Resort**

**Gorkhi Terelj National Park, Mongolia**

## IWRM MoMo Wrap-up and Relay Conference 29 – 30 May 2017

<b>DAY 1- 29.05.2018, TUESDAY</b>	
<b>Moderation: Mr. Lkhagva</b>	
09:00	<b>Reception</b>
10:00	<b>Opening ceremony:</b> Traditional Mongolian music
10:10	Opening address by <b>Mr. Tsengel, Ts.</b> , State Secretary of Mongolian Ministry of Environment and Tourism
10:20	Opening address by <b>Mrs. Lkhagvatseden, O.</b> , Mongolian Ministry of Urban Development and Construction
10:30	Opening address by <b>Acad. Prof. Dr. Regdel, D.</b> , President of Mongolian Academy of Sciences
10:40	Opening address by <b>Dr. Christian Alecke</b> , German Federal Ministry for Education and Research
10:50	Opening address by <b>Dr. Battogtokh, D.</b> , Director of the Institute of Geography and Geoecology, MAS
11:00	<b>Welcome Address &amp; Talk: “Integrated Water Resources Management in Mongolia and beyond: my personal lessons learned”</b> Prof. Dr. Borchardt, Helmholtz Centre for Environmental Research-UFZ, MoMo Project
11:20	<b>Honorary Doctor Ceremony</b> for Prof. Dr. Borchardt
11:40	<b>Presentation of IWRM River Basin Management Plan</b> Mrs. Dolgorsuren, G., independent consulting
11:50	<b>Presentation &amp; Film “Decentralized Waste Water Treatment Technology”</b> Dr. Buren Scharaw, Fraunhofer IOSB-AST, MoMo Project
12:00	<b>Handing over of MoMo Policy briefs</b> Dr. Ines Dombrowsky, German Development Institute, MoMo Project <ul style="list-style-type: none"> <li>• MoMo Policy brief 1: <b>Urban water management in Mongolia</b></li> <li>• MoMo Policy brief 2: <b>Strengthening environmental monitoring and data accessibility</b></li> <li>• MoMo Policy brief 3: <b>Improvements to Mongolia’s fisheries management and conservation</b></li> <li>• MoMo Policy brief 4: <b>Geodata management using Free and Open Source</b></li> <li>• MoMo Policy brief 5: <b>Water education</b></li> <li>• MoMo Policy brief 6: <b>Implementing River Basin Management in Mongolia: Administrative and financial dimensions</b></li> </ul>
12:15	<b>"Effective Human Resources Development strategy in IWRM"</b> Dr. Saulyegul, A., Helmholtz Centre for Environmental Research-UFZ and Institute of Geography and Geoecology, Mongolian Academy of Sciences; MoMo Project

12:25	<p><b>“Kharaa Yeröö River Basin Atlas: perspectives for future contents and applications”</b></p> <p>Dr. Jürgen Hofmann, Leibniz Institute of Freshwater Ecology and Inland Fisheries, Berlin , MoMo Project &amp; Dr. Battogtokh, D., Institute of Geography and Geoecology, Mongolian Academy of Sciences</p>
12:35	<p><b>“MoMo-Geoportal: Data management using Free and Open Source Software”</b></p> <p>H. Paulsen, terrestris GmbH &amp; Co. KG, Bonn, Germany, MoMo Project &amp; Dr. Sarantuya, G., Information and Research Institute of Meteorology, Hydrology and Environment</p>
12:45	<b>Conference group photo</b>
13:00	<b>Lunch Break</b>
14:00	<p><b>Keynote Talk 1: “The “I” in MoMo: an integrated consideration of more than a decade of environmental research in the basins of Kharaa, Shariin Gol and Yeröö”</b></p> <p>Prof. Dr. Daniel Karthe, German Mongolian Institute for Technology, Ulaanbaatar, MoMo Project</p>
14:30	<p><b>Three Parallel Sessions about Scientific Topics and Water Management</b></p> <p>(program see below)</p>
15: 30	<b>Coffee break</b>
16:00	<p><b>Three Parallel Sessions about Scientific Topics and Water Management</b></p> <p>(program see below)</p>
18:00	<p><b>Short summary of the day</b></p> <p>Bus transport to and from World Terelj Hotel (12 min away)</p>
19:15	<b>Conference Dinner at Red Rock Resort</b>
22:00	Bus to and from World Terelj Hotel (12 min away)

<b>DAY 2- 30.05.2018, WEDNESDAY</b>	
09.00	<b>Keynote Talk 2: “Integrated approach to higher education in the water sector as a leverage for its sustainable management. Lessons learned from Central Asia”</b> Prof. Dr. Barbara Janusz-Pawletta, UNESCO Chair in Water Management in Central Asia
9:30	<b>Three Parallel Sessions about Scientific Topics and Water Management</b> (program see below)
10:30	<b>Coffee Break</b>
11:00	<b>Three Parallel Sessions about Scientific Topics and Water Management</b> (program see below)
13:00	<b>Lunch break</b>
14:00	<b>Keynote 3: “Urgent issues in the development of the Water sector in Mongolia”</b> Dr. D. Dorjsuren, 2030 Water Resources Group and Freshwater Institute
14:30	<b>Panel Discussion (Panelists will be announced during the conference)</b>
15:00	<b>Open Forum (everybody is invited to discuss)</b>
16:00	<b>Coffee Break/Poster Session</b>
16:30	<b>Closing Ceremony</b>

## Session 1: Integrated Water Resource Management

<b>DAY 1- 29.05.2018, TUESDAY</b>	
<b>Chair: Prof. Dr. Barbara Janusz-Pawletta, Sc. Dr. Anna Mikheeva</b>	
14:30	<b>River basin management and fiscal decentralisation: mutually supportive or counterproductive? A case study of Mongolia; Part 1</b> Dr. Ines Dombrowsky et al., German Development Institute (DIE)
15:00	<b>River basin management and fiscal decentralisation: mutually supportive or counterproductive? A case study of Mongolia; Part 2</b> Prof. Dr. Ariunaa Lkhagvadorj et al., Mongolian Academy of Governance
15:30	<b>Coffee Break</b>
16:00	<b>Reflections on implementing River Basin Management in Mongolia</b> Dr. Jean Carlo Rodriguez de Francisco and Dr. Ines Dombrowsky, Department Environmental Governance and Transformation to Sustainability; German Development Institute (DIE)
16:30	<b>Water use and wastewater discharge licenses as coordination mechanisms – theory and practice in Mongolia</b> Mirja Schoderer, Program <i>Environmental Governance and Transformation to Sustainability</i> , German Development Institute (DIE)
17:00	<b>Estimation of the economic damage to recreational water use on the Lake Baikal coast (the case of the Republic of Buryatia)</b> Dr. Erdeni Sanzheev, Baikal Institute of Nature Management SB RAS, Ulan-Ude, Russia
17:30	<b>Problems faced in Shishkhed River Basin and a way forward</b> Dr. D. Dorjsuren et al., Freshwater and Ecosystem Research Institute, Ulaanbaatar
<b>DAY 2- 30.05.2018, WEDNESDAY</b>	
<b>Chair: Dr. Erdeni Sanzheev, Dr. Ines Dombrowsy</b>	
9:30	<b>Water policy of Mongolia considering the regional geo-ecological character</b> Prof. Dr. Nyamdavaa, .G., Ministry of Environment and Tourism, Mongolia
10:00	<b>Economic instruments for water management in the region: Practice of application and prospects of development</b> Dr. Taisiya Bardakhanova & Dr. Anna Mikheeva, Baikal Institute of Nature Management, Siberian Branch of the Russian Academy of Sciences, Ulan-Ude
10:30	<b>Coffee Break</b>
11:00	<b>A City at Baikal: Problems and prospects of development</b> O. V. Gagarinova, N. V. Emelianova; V.B. Sochava Institute of Geography SB RAS, Irkutsk
11:30	<b>Application of the City Blueprint approach in Ulaanbaatar city, Mongolia</b> Enkh-Uur Munkhsuld et al., Department of Environment and Forest Engineering, School of Engineering and Applied Science, National University of Mongolia,

	Ulaanbaatar, Mongolia
12:00	<b>Introduction to the Umard Govi Guveet-Khalkh River Basin Council and its implemented activities.</b> Enkhmaa, Umard Govi Guveet-Khalkh River Basin Council

## Session 2: Hydrology and Biology

<b>DAY 1- 29.05.2018, TUESDAY</b>	
<b>Chair: Prof. Dr. Altansukh Ochir, Dr. Dr. h. c. Martin Pfeiffer</b>	
14:30	<b>Present day ecological status of the Ob-Irtysh River Basin</b> Prof. Dr. Viktor Abramovich Puzanov, Institute for Water and Ecological Problems SB, RAS, Russia
15:00	<b>Ecological assessment of threatened salmonids populations (<i>Hucho taimen</i>, <i>Brachymystax lenok</i>, <i>Thymallus baicalensis</i>) across Mongolia</b> Dr. Andrew Kaus et al., Helmholtz Centre for Environmental Research, Magdeburg, Germany
15:30	<b>Coffee Break</b>
16:00	<b>Aquatic macroinvertebrate communities in the Kharaa river basin, North Mongolia: pressures, assessment and future challenges</b> Michael Schäffer et al., Department of Aquatic Ecosystem Analysis and Management, Helmholtz Centre for Environmental Research, Magdeburg, Germany
16:30	<b>An estimation of the efficiency of fresh-water ecosystems of the Baikal Region on an example of fish resources</b> Daba Zhamyanov, Baikal Institute of Nature Management SB RAS, Ulan-Ude, Republic of Buryatia, Russia
17:00	<b>Importance of forests for keeping water in landscape: Development of forests and the gene pool of local forest tree ecotypes in Mongolia</b> Oldřich Zajíček, Embassy of the Czech Republic in Ulaanbaatar, Mongolia
17:30	<b>Flood risks' maps – effective management instruments</b> Dr. Tatiana A. Borisova, Laboratory of Geographic Information Systems, Baikal Institute of Nature Management, Siberian Branch of the Russian Academy of Sciences (BINM SB RAS)

## Session 2: Hydrology and Biology

<b>DAY 2- 30.05.2018, WEDNESDAY</b>	
<b>Chair: Dr. Tatiana A. Borisova, Dr. Saulyegul Avlyush</b>	
9:30	<p><b>Land use classification of river floodplains in Kharaa River Basin based on ESA Copernicus mission data</b></p> <p>Prof. Dr. Martin Oczipka, University of Applied Sciences (HTW), Faculty of Geoinformation, Dresden</p>
10:00	<p><b>Monitoring of riparian vegetation in Kharaa river basin</b></p> <p>Dr. Jürgen Hofmann (IGB) &amp; Ts. Bolormaa (IGG) -Institut für Gewässerökologie und Binnenfischerei, Berlin &amp; Institute of Geography &amp; Geoecology, Mongolian Academy of Sciences, Ulaanbaatar, Mongolia</p>
10:30	<p><b>Coffee Break</b></p>
11:00	<p><b>An overview of studies from the headwater catchment Sugnugur</b></p> <p>Munkhjargal Munkhdavaa et al., Chair in Hydrology and Climatology, Department of Geography, Heidelberg University, Germany</p>
11:30	<p>Accurate estimation of river catchment boundary using the Digital Elevation Model</p> <p>Prof. Dr. Altansukh Ochir &amp; Enkh-Uur Munkhsuld, Department of Environment and Forest Engineering, School of Engineering and Applied Sciences, National University of Mongolia</p>
12:00	<p><b>Factors controlling groundwater recharge and baseflow in semi-arid region: a case study on upstream of the Tuul River Basin, Mongolia</b></p> <p>Dr. Chinzorig Sukhbaatar et al., Division of Water Resource and Water Utilization, Institute of Geography &amp; Geoecology, Mongolian Academy of Sciences, Ulaanbaatar, Mongolia</p>
12:30	<p><b>Site selection methodology for water harvesting in Jargalan Soum, Tuv Aimag</b></p> <p>Davaajargal Boldbaatar &amp; Prof. Dr. Altansukh Ochir; Department of Environment and Forest Engineering, School of Engineering and Applied Sciences, National University of Mongolia, Ulaanbaatar, Mongolia</p>

## Session 3: Urban Water Management

<b>DAY 1- 29.05.2018, TUESDAY</b>	
<b>Chair: Prof. Dr. Prof. Basandorj, Dr. Jens Illian</b>	
14:30	<b>Urban Water Management in city Darkhan and small villages in the Kharaa River Basin, Mongolia</b> Dr. B. Scharaw; Fraunhofer IOSB-AST, Ilmenau, Germany
15:00	<b>Czech ODA: Hydrogeological projects in Mongolia</b> Oldřich Zajíček, Embassy of the Czech Republic in Ulaanbaatar, Mongolia
15:30	<b>Coffee Break</b>
16:00	<b>Mongolia Water security and water resources challenges</b> Batimaa et al.; Mongolia Water Forum Uskhelts
16:30	<b>Resilience of urban water security in Mongolia</b> Elisabeth Krueger et al.: Helmholtz Centre for Environmental Research – UFZ & Purdue University
17:00	<b>Sanitation in peri-urban Ulaanbaatar - constraints and opportunities</b> Dr. Shinenemekh Voloj et al.. Global Green Growth Institute, Ulaanbaatar.
17:30	<b>Sustainable Algae Biodiesel Production and Wastewater Treatment</b> Batsuren Sundui, Asian Institute of Technology, Thailand

**Next day to continue with Session 4 (next page)**



## Session 4: Water Monitoring

<b>DAY 2- 30.05.2018, WEDNESDAY</b>	
<b>Chair: Prof. Dr. Daniel Karthe, Dr. Bolormaa Idesh</b>	
9:30	<b>Drinking water and water container hygienic assessment among residents ger district of Ulaanbaatar city</b> Unurtsetseg, Ch. et al., School of Public Health, MNUMS, Ulaanbaatar
10:00	<b>Ecological and hygienic ranking of the Selenga River basin territories when consuming water contaminated with inorganic toxicants, based on the concept of risk</b> Dr. I.D. Ulzetueva et al., Baikal Institute of Nature Management of the Siberian branch of the Russian Academy of sciences (BINM SB RAS), Ulan-Ude, Russia
10:30	<b>Coffee Break</b>
11:00	<b>Suspended sediments in the Kharaa River, sources and impacts</b> Dr. Philipp Theuring, SEBA Hydrometrie GmbH & Co. KG, Kaufbeuren, Germany
11:30	<b>Chemical composition of water in the river Khiyagt and Khuder</b> Auigul Minap, Central Laboratory of Environment, Information and Research Institute of Meteorology, Hydrology & Environment, Ulaanbaatar, Mongolia
12:00	<b>Distribution and concentration of heavy metals in water and sediment affected by mining activity in Mongolia</b> Ariuntungalag Yunden et al.; Department of Environment and Forest Engineering, School of Engineering and Applied Sciences, National University of Mongolia, Ulaanbaatar, Mongolia
12:30	<b>Flow regime changes in the Kharaa River Basin</b> Dr. Sodnom Tumurchudur & Munkhtsetseg Zorigt Egiin Gol HPP, State owned company

# Scientific Posters<sup>1</sup>

(Poster Board spaces allow for A0 format (1189 x 841 mm))

<b>1</b>	<b>Shishhed River Basin RBMP and challenges and measures</b> Altankhuyag Avirmed, Anar Ganbat, Ankhbayar Ochirbat
<b>2</b>	<b>Estimation of active layer thickness in discontinuous permafrost area</b> Anarmaa Sharkhuu, Munkhtsetseg Zorigt, Otgonsuren Shar, Munkhtsetseg Erdenebayar
<b>3</b>	<b>Estimation of groundwater recharge using soil water balance method: Application to Kharaa River Basin, Mongolia</b> Ariunaa Chinbat, Enkhbayar Dandar
<b>4</b>	<b>Mongolia Water Security: Urban Water Security</b> Bilguun-ochir B. & Tsedendamba U.
<b>5</b>	<b>Hygienic assessment of surface, ground and drinking water in the Kharaa River Basin</b> Bolor-Erdene Ochirbold, Katja Westphal, Renchinbud Badrakh, Saulyegul Avlyush, Daniel Karthe
<b>6</b>	<b>Riparian vegetation communities along the Kharaa River</b> Ts. Bolormaa, J. Unurnyam, A. Saulyegul
<b>7</b>	<b>Irrigation schemes constructed on Kharaa river basin, its structure design</b> Baranchuluun Shirchin & Amartaivan Baranchuluun
<b>8</b>	<b>Groundwater monitoring system in sources of water supply Ulaanbaatar city</b> Byambasuren Z, Oyunerdene B, Enkhjargal T, Odontsetseg D
<b>9</b>	<b>Mongolia Water Security: Household Water Security</b> Davaadalai B. & Bekhbat T.
<b>10</b>	<b>Estimation of water loss in irrigation canals</b> Dorjiimaa.G, Munkhtuya.Kh
<b>11</b>	<b>Water quality monitoring research of the River Kharaa and Yeruu</b> Ts. Erdenetsetseg & Ch. Javzan
<b>12</b>	<b>Relationship between rainfall-runoff in the Khyargas Lake-Zavkhan River Basin</b> Ganbold B. & Otgonsuren Sh.
<b>13</b>	<b>The research on fish heavy metal in Kharaa and Yuruu river basin</b> Gantsooj Bavuukhand

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<sup>1</sup> Strictly scientific format. Titles and honors of authors are not listed here

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<b>14</b>	<b>Macroinvertebrate communities in the forested Tunkhel River catchment, Mongolia</b> Georg Küstner, Erdenetsetseg Erdenesukh, Narangarvuu Dashdondog, Martin Pfeiffer
<b>15</b>	<b>Decentralized Wastewater Management</b> J. Ilian and B. Scharaw
<b>16</b>	<b>Water quality research of Boroo River</b> Javzan Ch. & Renchinbud B.
<b>17</b>	<b>Centralized Wastewater Treatment</b> Jörn Heppeler
<b>18</b>	<b>Industrial Wastewater Pre-Treatment</b> Jörn Heppeler
<b>19</b>	<b>Land use classification of river floodplains in Kharaa River Basin based on ESA Copernicus mission data</b> Sven Hoser Martin Oczipka Jürgen Hofmann
<b>20</b>	<b>Protection of forest and riparian zone is essential for maintaining chemical water quality in Kharaa River Basin</b> Martin Pfeiffer, Gunsmaa Batbayar, Martin Kappas, Daniel Karthe
<b>21</b>	<b>Change detection water body of Orog lake using multitemporal satellite images, Mongolia</b> Munkh-Erdene.A, Byambadolgor.B, Nyamjargal.E
<b>22</b>	<b>Effects of mining activities on river macroinvertebrate communities</b> Dashdondog Narangarvuu, Tuuguu Enkhdul, Erdenesukh Erdenetsetseg, Enkhbat Enkhrii-Ujin, Batbayar Gunsmaa, Oyundelger Khurelpurev, Martin Pfeiffer
<b>23</b>	<b>Turbidity dynamics during storm events – What hysteresis patterns tell us about the characteristics of the Kharaa River Basin</b> Nergui Sunjidmaa, Katja Westphal, Martin Pfeiffer, Dietrich Borchardt
<b>24</b>	<b>Characteristics and changes of streamflow over the Terelj river watershed</b> Otgonsuren Sh. & Ganbold. B.
<b>25</b>	<b>Water quality changes around Balgas Red Lake Basin</b> Oyun-Erdene B., Janchivdorj L.
<b>26</b>	<b>NDWI water area change of Mongolian Arctic basin</b> A. Zolzaya, Bao Yu Hai

Posters hang at the poster board with the respective number