

## **Bolortuya Sengeragchaа, Ph.D.**

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### **1. Education**

2007	B.S	Faculty of Chemistry, The National University of Mongolia, Ulaanbaatar
2011	M.S	School of Materials Technology, Mongolian University of Science and Technology, Ulaanbaatar
2019	Ph.D	Advanced Materials Science and Engineering, Kumoh National Institute of Technology, Korea

### **2. Professional appointments**

2008 – 2010	Teacher, at Lytseum high school, DaTS, MUST
2010 – 2012	Training master, DaTS, MUST
2012 – 2014 (spring)	Trainee teacher, DaTS, MUST
2019 – Until now	Senior lecturer, DaTS, MUST

### **3. Research interests**

Advanced materials study; superhydrophobic surfaces, fiber reinforced concrete

### **4. Publications**

#### **International Journal articles**

1. Synthesis and its Application of Fe<sub>2</sub>O<sub>3</sub> Nanoparticles on Basalt Powders for Removal of Arsenic from Water / Bolortuya Sengeragchaа, Ngo Hoang Ngoc, Heejun Kim, Sunil Babu Eadi, Choi Dong Jin, SoonWook Jeong, Sungjin Kim // Journal of Appropriate Technology.- Vol.4.- № 2. 2018.- P.149-153
2. Superhydrophobic Coating on PET Fabrics Grown ZnO Nanorods using Microwave / Bolortuya Sengeragchaа, Ngo Hoang Ngoc, Heejun Kim, Sunil Babu Eadi, Choi Dong Jin, SoonWook Jeong, Sungjin Kim // Journal of Appropriate Technology.- Vol.4.- № 2. 2018.- P.154-160
3. Fabrication of superhydrophobic surfaces based on PDMS coated hydrothermal grown ZnO on PET fabrics / Soon-Wook Jeong, Sengeragchaа Bolortuya, Sunil Babu Eadi, Sungjin Kim // Journal of Adhesion Science and Technology.- Vol.34.- 11/9/2019.- P.1-12. DOI: 10.1080/01694243.2019.1661609.

#### **National Journal articles**

1. Амьтны гаралтай ашигласан өөх тосноос биодизель гарган авах боломжийн судалгаа / С.Болортуяа, Ц.Батбаатар // Физик хими материал судлал-2011 э/ш бүтээлийн эмхэтгэл.- УБ., 2011.- №1/2011.- X.70-72.
2. Хоёрдогч түүхий эд ашиглан биодизель гарган авах боломжийн судалгаа / С.Болортуяа, Ц.Батбаатар // Эрдэм шинжилгээний бүтээл.- УБ., 2011.- №3/119.- X.53-55.
3. Concentration ratios of ZNT:HMTA effect on the morphology of ZnO nanorods and contact angle / Sengeragchaа Bolortuya, Sungjin Kim // ДаТС-ийн багш оюутны э/ш-ний бүтээлийн эмхэтгэл.- УБ., 2020.- №10/270.- X.36-42.

4. Micro-Analysis on Internal Structure Of Stabilized Soil /Batbaatar Tsegmid, Oyunbileg Dashdondog, Bolortuya Sengeragchaa, Khishigjargal Shatar // Khureltogoot-2020: International Journal of Technology and Innovation.- 2020.- X.95-98
5. Гидрофоб полиэстер даавуу гарган авах технологийн судалгаа / Сэнгэрагчаа Болортуяа, Ким Сангжин // ШУТИС-ийн профессор, багш, судлаачдын “ЭРДМИЙН ЧУУЛГАН-2021” хурлын эмхэтгэл.- УБ., 2021.- №21/(4)-281.- X.37-42.
6. Чацарганы үрийн нэмэлттэй талхны шинж чанарын судалгаа / Б.Хонгорзул, Ө.Уртнасан, С.Болортуяа, Н.Болорцэцэг, Б.Пүрэвжаргал // ДаТС-ийн багш оюутны э/ш-ний бүтээлийн эмхэтгэл.- УБ., 2021.- №21/(8)-285.- X.16-19.

## 5. Conferences

### International

1. Synthesis of VO<sub>2</sub> Coated TiO<sub>2</sub> Powders Glass using V<sub>2</sub>O<sub>5</sub> Solution and Its Thermal Properties / Eadi Sunil Babu<sup>1</sup>, Soon-Wook Jeong<sup>1</sup>, Sung-jin Kim<sup>1</sup>, Yong-sik Kim<sup>1</sup>, Mi-Seon Kim<sup>1</sup>, Chu Cuili<sup>1</sup>, Sengeragchaa Bolortuya<sup>1</sup>, Min-Kyu Song<sup>2</sup>, Cho Hyun Jeon<sup>2</sup>, Chang nd, Korea
2. Prerparation of Fe-Doped TiO<sub>2</sub> nanopowder and their applications for hydrogen gas sensing / Sunil Babu EADI (Kumoh National Institute of Technology, Korea), Cuili CHU, Yongsik KIM, Sengeragchaa BOLORTUYA, Mi Seon KIM, Min Kyu SONG, Cho Hyun JEON, Oh Kyung KWON, Heungwoo JEON, Sungjin KIM / 20<sup>th</sup> International Vacuum congress IVC-20, AUGUST 21-26, 2016 BUSAN, KOREA
3. Growth of VO<sub>2</sub> coated TiO<sub>2</sub> nanoparticles and application for gas sensor / 2016년 한국센서학회 종합학술대회, 2016년 11월 11일(금)~12일(토), 경북대학교, 한국
4. Mechanochemical preparation of Fe-Doped TiO<sub>2</sub> nanopowder and their application for hydrogen gas sensing / Sunil Babu EADI, Amir ABIDOV, Bolortuya SENGERAGCHAA, Jae Hong JEONG, Min Ji HONG, Mi Seon KIM, Sung Hyun PARK, Yong Sik KIM, Jin Hee LEE , Sungjin KIM / The 33<sup>rd</sup> International Korea-Japan Seminar on Ceramics, November 16<sup>th</sup> (Wed)-19<sup>th</sup> (Sat), 2016, Daejeon Convention Center, Korea
5. Chemical route synthesis of Vanadium oxide and Vanadium oxide coated TiO<sub>2</sub> nanoparticles for Thermochromic studies / Sunil Babu EADI, Amir ABIDOV, Bolortuya SENGERAGCHAA, Jae Hong JEONG, Min Ji HONG, Mi Seon KIM, Sung Hyun PARK, Yong Sik KIM, Jin Hee LEE , Sungjin KIM / The 33<sup>rd</sup> International Korea-Japan Seminar on Ceramics, November 16<sup>th</sup> (Wed)-19<sup>th</sup> (Sat), 2016, Daejeon Convention Center, Korea
6. Super hydrophobic sponge for the application of methane Capture / Sunil Babu Eadi, Bolortuya Sengeragchaa, Min Ji Hong, Sung Hyun Park, Yong Sik Kim, Hee Jin Kim and Sungjin Kim / The 6<sup>th</sup> nano-Imprint Molding Print Forum nano-IMP 2017/ 2017년 2월 15일(수), 연세대학교, 한국
7. 초소수성 스폰지를 이용한 메탄 포집 / 김용식, 김성진 Eadi Sunil Babu, Sengeragchaa Bolortuya, Azimov Farkhod, 김희준, 홍민지, 우영화, 김효진, 이성형, 전흥우 /한국재료학회 2017년 봄 학술대회, 2017년 5월17일(수) ~ 19일(금), 목포, 한국
8. Highly Efficient Arsenic removal from drinking water using porous Fe<sub>2</sub>O<sub>3</sub> flakes / Eadi Sunil Babu, Sengeragchaa Bolortuya, 홍민지, 파르코드, 김용식, 김희준, 우영화, 정순욱 / 한국재료학회 2017년 봄 학술대회, 2017년5월17일(수) ~ 19일(금), 목포, 한국
9. Visible light induced photocatalytic degradation of Phodamine B dye by Bi<sub>2</sub>O<sub>3</sub> nanoparticles synthesized using hydrothermal method / Eadi Sunil Babu, Sengeragchaa

- Bolortuya, 홍민지, 파르코드, 김용식, 김희준, 우영화, 정순욱 /한국재료학회 2017년 봄 학술대회, 2017년5월17일(수) ~ 19일(금), 목포, 한국
10. Carbon dioxide sequestering using chemically modified basalt mineral / Sengeragchaa Bolortuya, Sungjin Kim, Yong Sik Kim, Azimov Farkhod, Hee Jun Kim, Eadi Sunil Babu, Min Ji Hong, Soon-Wook Jeong, Suk Hwan Kim, Kyeong-Sik Cho /한국재료학회 2017년 봄 학술대회, 2017년5월17일(수) ~ 19일(금), 목포, 한국
  11. PS 중공볼에  $TiO_2$ 를 코팅한 가시광반응형 고효율의 광촉매 분해 / 김희준, 김성진, 전흥우, Eadi Sunil Babu, Sengeragchaa Bolortuya, Farkhod Azimov, 김용식, 홍민지, 우영화, 김효진, 이성형 /한국재료학회 2017년 봄 학술대회, 2017년5월17일(수) ~ 19일(금), 목포, 한국
  12. Synthesis of mesopores materials and modification of  $TiO_2$  with rare and noble metal nanoparticles and their application as a catalyst for DME formation / Farkhod Azimov, Sungjin Kim, 김용식, Sengeragchaa Bolortuya, 김희준, 홍민지, Eadi Sunil Babu, 우영화, 정순욱 / 한국재료학회 2017년 봄 학술대회, 2017년5월17일(수) ~ 19일(금), 목포, 한국
  13. Low-Cost Synthesis of  $Fe_2O_3$  Hollow sphere for Arsenic Removal from Water / Sengeragchaa Bolortuya (Kumoh National Institute of Technology), Min Ji Hong(Kumoh National Institute of Technology), Sung Hyun Park(Kumoh National Institute of Technology), Yong Sik Kim(Kumoh National Institute of Technology), Hee Jin Kim(Kumoh National Institute of Technology), Sungjin Kim (Kumoh National Institute of Technology), Sunil Babu Eadi(Kumoh National Institute of Technology) / International Symposium on Green Manufacturing and Applications ISGMA 2017, June 27 (Tue) ~ July 1 (Sat), 2017, HICO, Gyeongju, Korea
  14.  $Cu_2O/ZnO$  Nanorods Array Heterostructure Fabrication and their application for Photoelectrochemical water splitting / Sunil Babu Eadi(Kumoh National Institute of Technology), Sengeragchaa Bolortuya(Kumoh National Institute of Technology), Min Ji Hong(Kumoh National Institute of Technology), Sunghyun Park(Kumoh National Institute of Technology), Yong Sik Kim(Kumoh National Institute of Technology), Hee Jin Kim(Kumoh National Institute of Technology), Sungjin Kim(Kumoh National Institute of Technology) / International Symposium on Green Manufacturing and Applications ISGMA 2017, June 27 (Tue) ~ July 1 (Sat), 2017, HICO, Gyeongju, Korea
  15. Low cost and highly efficient Arsenic removal from drinking water using  $Fe_2O_3$  nanospheres / Eadi sunil babu, Sungjin Kim, Ngo Hoang Ngoc, Sengeragchaa Bolortuya, Azimov Farkhod, Hee Jun Kim, Young Hwa Woo (School of Advanced Materials & Engineering, Kumoh National Institute of Technology) / 2018년도 한국재료학회 춘계학술대회, 2018년 5월 16일(수) ~ 18일(금), 한국
  16. Novel  $NiWO_4$  nanoberry morphology effect on photoelectrochemical properties / Eadi suni babu, Sungjin Kim, Ngo Hoang Ngoc, Sengeragchaa Bolortuya, Azimov Farkhod, HeeJun Kim, Young Hwa Woo (School of Advanced Materials & Engineering, Kumoh National Institute of Technology) / 2018년도 한국재료학회 춘계학술대회, 2018년 5월 16일(수) ~ 18일(금), 한국
  17.  $TiO_2$  coated ZnO nanorods growth using NCD process and their gas sensing properties / Eadi Sunil Babu, Sungjin Kim, Ngo Hoang Ngoc, Sengeragchaa Bolortuya, Azimov Farkhod, Hee Jun Kim, Young Hwa Woo (School of Advanced Materials & Engineering,

- Kumoh National Institute of Technology) / 2018년도 한국재료학회 춘계학술대회, 2018년 5월 16일(수) ~ 18일(금), 한국
18. Methane gas capture using Superhydrophobic fabric container / Sengeragchaa Bolortuya, Sungjin Kim, Eadi Sunil Babu, Ngo Hoang Ngoc, Azimov Farkhod, Hee Jun Kim, Young Hwa Woo (School of Advanced Materials & Engineering, Kumoh National Institute of Technology) / 2018년도 한국재료학회 춘계학술대회, 2018년 5월 16일(수) ~ 18일(금), 한국
  19. Arsenic Removal from drinking Water using nanosphere shaped  $Fe_2O_3$  / Sunil Babu Eadi, Sengeragchaa Bolortuya, Farkhod Azimov, Ngo Hoang Ngoc, Hee Jun Kim, and Sungjin Kim / International Conference on Electronics Materials 2018, IUMRS-ICEM 2018, AUGUST 20-24, Daejeon, Korea.
  20. Methane gas capture using superhydrophobic PET fiber / Sengeragchaa Bolortuya (Kumoh National Institute of Technology), Hee Jun Kim (Kumoh National Institute of Technology), Young Jin Lee (Kumoh National Institute of Technology), Azimov Farkhod (Kumoh National Institute of Technology), Ngo Hoang Ngoc (Kumoh National Institute of Technology), Dong jin Choi (Hongik University), Sung jin Kim (Kumoh National Institute of Technology) / International Conference on Science and Technology ODA, 2018.11.23 Fri~ 24 Sat
  21. Synthesis and characterization of  $Fe_2O_3$  nanoparticles on basalt powders and its application as an adsorbent for removal of arsenic from water / Ngo Hoang Ngoc (Kumoh National Institute of Technology), Sengeragchaa Bolortuya (Kumoh National Institute of Technology), Hee Jun Kim (Kumoh National Institute of Technology), Young Jin Lee (Kumoh National Institute of Technology), Azimov Farkhod (Kumoh National Institute of Technology), Dong Jin Choi (Hongik University), Sung Jin Kim (Kumoh National Institute of Technology), In Soo Kim (Kumoh National Institute of Technology) / International Conference on Science and Technology ODA, 2018.11.23 Fri~ 24 Sat
  22. Coal mine methane gas capture using superhydrophobic polyester textilecoated with zinc oxid / Sengeragchaa Bolortuya, Hee Jun Kim, Young Jin Lee, Azimov Farkhod, Ngo Hoang Ngoc, Dongjin Choi, Nguyen Duc Hoa, Soon Wook Jeong, Sungjin Kim / 2018년도 대한금속, 재료학회, 2018.11.29 Daegu, Korea.
  23. Nanocomposites modification by  $Fe_2O_3$  on basalt powders for efficient removal of arsenic from drinking water / Ngo Hoang Ngoc, Sengeragchaa Bolortuya, Hee Jun Kim, Young Jin Lee, Azimov Farkhod, Dong Jin Choi, Nguyen Duc Hoa, Sungjin Kim, In Soo Kim / 2018년도 대한금속, 재료학회, 2018.11.29 Daegu, Korea.
  24. Fabrication of ammonia sensors using sputter and thermal evaporator / Azimov Farkhod, Hee Jun Kim, Young Jin Lee, Ngo Hoang Ngoc, Sungjin Kim, Sengeragchaa Bolortuya, Dongjin Choi, Duc Hoa Nguyen and Bee-Lyong Yang / 2018년도 대한금속, 재료학회, 2018.11.29 Daegu, Korea.

## National

1. Superhydrophobic coating on PET fabrics using by ZnO growth / С.Болортуяа / ШУТИС. ДаТС-ийн Багш нарын Эрдэм шинжилгээний хурал 2021.04.07
2. Цайрын оксидын (ZnO) нанородод суурилсан супергидрофоб гадаргуу үүсэхэд ZnO-ын ургах хугацаа нөлөөлөх нь / Сэнгэрагчаа Болортуяа, Ким Сангжин // “ХИМИ-2023” Эрдэм шинжилгээний бага хурлын илтгэлийн хураангуй.- УБ., 2023.- Х.64, 68
3. Дайрга үйлдвэрлэхэд үүссэн хаягдал чулууг боловсруулан бетонд хэрэглэх судалгаа / Гэнзэнхүү Бямбадорж, Хадаа Анхбаяр, Сэнгэрагчаа Болортуяа // “ХИМИ-2023” Эрдэм шинжилгээний бага хурлын илтгэлийн хураангуй.- УБ., 2023.- Х.64, 68

## **6. Published books, textbooks, monograph**

### **Monograph**

1. Superhydrophobic Coating on PET Fabrics Using by ZnO Growth, UB, 2019, 8.9p.p.- ISBN 978-9919-0-1224-3.

### **Handbooks**

1. Ерөнхий хими: Гарын авлага / Ц.Батбаатар, Д.Оюунбилэг, С.Пүрэвсүрэн ба бус.; Ред. П.Эрдэнэбат.- Дархан: 2010.- 135х.- ISBN 978-99962-51-40-5.
2. Ерөнхий химийн бодлого дасгал: Гарын авлага / Ц.Булган, С.Пүрэвсүрэн, С.Болортуяа; Ред. Д.Оюунбилэг.- Дархан: 2013.- 93х.- DDC 540.023 Б-559.

I hereby declare that all the publication records mentioned above are in accordance with the truth and fact as per my knowledge and I hold the responsibility for the correctness of the above mentioned particulars.