

## Curriculum Vitae

### Shazid Md. Sharker, PhD

#### *Present address:*

Associate Professor  
Department of Pharmaceutical Sciences  
North South University  
Plot # 15, Block # B, Bashundhara R/A,  
Dhaka-1229, Bangladesh

#### *Permanent address:*

Village: Folvaria, P.O: Parulia, Thana: Palash  
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### Major Education

#### Visiting Scholar

June, 2018 – September,  
2018

Department of Radiology, School of Medicine, Stanford University,  
Stanford, California 94305-5614, USA.

**Advisor:** Professor Heike E. Daldrup-Link

Department of Radiology, Stanford School of Medicine, Stanford  
University, California, USA.

*Project:* Large scale batch size Synthesis of Theranostic Nanoparticles

#### Ph.D.

2012 - 2016

Department of Chemistry, College of Natural Science, Korea Advanced  
Institute of Science and Technology (KAIST), Daejeon 305-701, Republic  
of Korea.

**Advisor:** Professor Haeshin Lee

Department of Chemistry, KAIST, Republic of Korea

Lab Homepage: [sticky.kaist.ac.kr](http://sticky.kaist.ac.kr)

*Dissertation:* Stimulus-responsive Fluorescent Nanoparticles for Theragnosis

#### M. Phil.

2009 - 2011

Department of Pharmaceutical Chemistry, Faculty of Pharmacy, University  
of Dhaka, Dhaka-1000, Bangladesh.

**Advisor:** Professor Md Khalid Hossain and Professor. Mohammad A.  
Rashid, Department of Pharmaceutical Chemistry, Faculty of Pharmacy,  
University of Dhaka, Dhaka –1000, Bangladesh.

*Dissertation:* Chemical and Biological Studies of Two Crassulaceous Species  
Available in Bangladesh

#### B. Pharm. (Hons.)

2003 – 2007

Pharmacy Discipline, Life Science School. Khulna University, Khulna-9208,  
Bangladesh.

## **Awards & Honors**

<b>June, 2012</b>	International Student Scholarship Program, Korea Advanced Institute of Science and Technology (KAIST), South Korea
<b>January, 2018</b>	Stanford Neurosciences Institute Visiting Scholar Award, Stanford University, California, USA
<b>September, 2021</b>	MERCK Life Science Publication Award Bangladesh
<b>June, 2022</b>	Best Poster Awardees, ICGNB-2022
<b>November, 2022</b>	Best presenter, Health Nutrition & Pharmaceutical Science, 5 <sup>th</sup> Young Scientist Congress, Bangladesh Academy of Sciences

## **Work and Research Experiences**

<b>Acting as a referee of</b>	International Journal of Pharmaceutics (Elsevier), Chemical Physics Letters (Elsevier), Materialia (Elsevier), Journal of Cleaner Production (Elsevier), Diamond & Related Materials (Elsevier), CARBON (Elsevier), Colloids and Surfaces B: Biointerfaces (Elsevier), Colloids and Surfaces A: Physicochemical and Engineering Aspects (Elsevier), Chemical Engineering Journal (Elsevier), Journal of Drug Delivery Science and Technology (Elsevier), Cancers (MDPI), Micromachines (MDPI), Molecules (MDPI), Materials (MDPI), Journal of International Medical Research (MDPI), Polymers (MDPI), International Journal of Nanomedicine (Dove Medical Press), ACS Applied Nano Materials (ACS publications), Journal of Materials Chemistry B (RSC), Chemical Society Reviews (RSC).
<b>Guest Editor</b>	Materials, MDPI (Impact Factor: 3.62) Special Issue "Drug Delivery Carriers and Application of Nanomaterials"
<b>Associate Professor</b> April, 2022 – Present	Department of Pharmaceutical Sciences, North South University, Plot # 15, Block # B, Bashundhara R/A, Dhaka-1229, Bangladesh
<b>Assistant Professor</b> January, 2017 – March, 2022	Department of Pharmaceutical Sciences, North South University (NSU), Plot # 15, Block # B, Bashundhara R/A, Dhaka-1229, Bangladesh
<b>Assistant Professor</b> August, 2016 – December, 2016	Department of Pharmacy, State University Bangladesh, 77, Satmasjid Road Dhanmondi, Dhaka 1205, Bangladesh

## List of Selected Publications

1. Tunazzina Zaman Khan, Shekh Md Newaj, Ashikur Rahman, Rahnuma Tabassum, Khandaker Nujhat Tasnim, Hasan Mahmud Reza, Md. Selim Reza, Seonki Hong, **Shazid Md. Sharkar \***, NIR-light-triggered delivery of doxorubicin-loaded PLGA nanoparticles for synergistic cancer therapy on DMBA/TPA induced tumor-bearing mice. *Materials Advances*. **2023**, 4, 5175-5183
2. **Shazid Md Sharkar\***. Interaction of microwave and nanomaterials for thermoresponsive drug delivery and hyperthermal cancer therapy. *Inorganic Chemistry Communications*. **2023**, 1:111152.
3. Fatima Tuj Johra, Sukria Hossain, Preeti Jain, Anika Tabassum Bristy, Tushar Emran, Rezwana Ahmed, **Shazid Md Sharkar**, Asim Kumar Bepari, Hasan Mahmud Reza. Amelioration of CCl<sub>4</sub> -induced oxidative stress and hepatotoxicity by Ganoderma lucidum in Long Evans rats. *Scientific Reports*. **2023**, 13 (1): 9909.
4. Muntasir Rahman, Fariha Chowdhury, Kamal Uddin, Khondoker Shahin Ahmed, Hemayet Hossain, Preeti Jain, Hasan Mahmud Reza, Kyueui Lee, **Shazid Md. Sharkar\***, Nanostructured chitosan-polyphenolic patch for remote NIR-photothermal controlled dermal drug delivery, *International Journal of Biological Macromolecules*, **2023**, 241, 124701
5. Fariha Chowdhury, SakibaAhmed, Muntasir Rahman, Md. Alomgir Ahmed, Md. Delower Hossain, Hasan Mahmud Reza, Sung Young Park, **Shazid Md. Sharkar\***, Chronic wound-dressing chitosan-polyphenolic patch for pH responsive local antibacterial activity, *Materials Today Communications*, **2022**, 3, 103310.
6. Gareeballah Osman Adam, **Shazid Md. Sharkar \***, Ji Hyun Ryu \*. Emerging Biomedical Applications of Carbon Dot and Polymer Composite Materials. *Applied Sciences*. **2022**;12(20):10565.
7. Syed Abul Layes Gausuzzaman, Mithun Saha, Shahid Jaman Dip, Shaiful Alam, Arup Kumar, Harinarayan Das, **Shazid Md. Sharkar**, Md Abdur Rashid, Mohsin Kazi, Hasan Mahmud Reza. A QbD Approach to Design and to Optimize the Self-Emulsifying Resveratrol-Phospholipid Complex to Enhance Drug Bioavailability through Lymphatic Transport. *Polymers*. **2022**; 14(15):3220.
8. Mithun Saha, Pallabi Sikder, Aditi Saha, Sharha Shah, Sharmin Sultana, Tushar Emran, Ananna Banik, **Shazid Md. Sharkar**, Hasan Mahmud Reza, QbD Approach towards Robust Design Space for Flutamide/PiperineSelf-Emulsifying Drug Delivery System with Reduced Liver Injury. *AAPS Pharm Sci Tech*, **2022**, 23, 1-14.
9. Shahrukh Zaman Akash, Farjana Yesmin Lucky, Murad Hossain, Asim Kumar Bepari, G. M. Sayedur Rahman, Hasan Mahmud Reza and **Shazid Md. Sharkar \***. Remote Temperature-Responsive Parafilm Dermal Patch for On-Demand Topical Drug Delivery. *Micromachines*,

- 2021, 12(8), 975.
10. **Shazid Md Sharker \***, Minjae Do. Nanoscale Carbon-Polymer Dots for Theranostics and Biomedical Exploration. *Journal of Nanotheranostics*, **2021**, 2(3), 118-130.
  11. Eunus S. Ali, **Shazid Md. Sharker**, Muhammad Torequl Islam, Ishaq N. Khan, Subrata Shaw, Md Atiqur Rahman, Shaikh Jamal Uddin *et al.* Targeting cancer cells with nanotherapeutics and nanodiagnosics: Current status and future perspectives. *Seminars in Cancer Biology*. **2021**, 69, 52-68
  12. **Shazid Md. Sharker \***, Md. Atiqur Rahman. A Review on the Current Methods of Chinese Hamster Ovary (CHO) Cells Cultivation for the Production of Therapeutic Protein. *Current Drug Discovery Technologies*, **2021**, 18(3), 354 – 364
  13. Mithun Saha, Diti Rani Saha, Tahamina Ulhosna, **Shazid Md. Sharker**, Md Hasanuzzaman Shohag, Muhammad Saiful Islam, Swapan K. Ray, G.M Sayedur Rahman, Hasan Mahmud Reza. QbD based development of resveratrol-loaded mucoadhesive lecithin/chitosan nanoparticles for prolonged ocular drug delivery. *Journal of Drug Delivery Science and Technology*. **2021**; 63:102480.
  14. Manik Chandra Shill, Asim Kumar Bepari, Mahi Khan, Zarin Tasneem, Tania Ahmed, Md Asif Hasan, Md Jahir Alam, Murad Hossain, Md Ashrafur Rahman, **Shazid Md Sharker**, Masum Shahriar, Ghazi Muhammad Sayedur Rahman, Hasan Mahmud Reza. Therapeutic Potentials of Colocasia affinis Leaf Extract for the Alleviation of Streptozotocin-Induced Diabetes and Diabetic Complications: In vivo and in silico-Based Studies. *Journal of Inflammation Research*. **2021**; 14:443.
  15. Pintu Miah, Surovi Binte Sharmin Mohona, Md. Mizanur Rahman, Nusrat Subhan, Ferdous Khan, Hemayet Hossain, **Shazid Md. Sharker**, Md. Ashraful Alam. Supplementation of cumin seed powder prevents oxidative stress, hyperlipidemia and non-alcoholic fatty liver in high fat diet fed rats. *Biomedicine & Pharmacotherapy*. **2021**; 141:111908.
  16. Sumiya Haque Adrita, Khandaker Nujhat Tasnim, Ji Hyun Ryu, **Shazid Md. Sharker \***. Nanotheranostic Carbon Dots as an Emerging Platform for Cancer Therapy. *Journal of Nanotheranostics*. **2020**; 1(1), 59-78.
  17. Md Lukman Hakim, Nazmun Nahar, Mithun Saha, Muhammad Saiful Islam, Hasan Mahmud Reza and **Shazid Md Sharker \***. Local drug delivery from surgical thread for area-specific anesthesia. *Biomedical Physics & Engineering Express*, **2020**, 6, 1, 015028.
  18. Khandaker Nujhat Tasnim, Sumiya Haque Adrita, Shahadat Hossain, Shahrukh Zaman Akash, **Shazid Md. Sharker \***. The Prospect of Stem Cells for HIV and Cancer Treatment: A Review. *Pharmaceutical and Biomedical Research*. **2020**, 6 (1), 17-26.

19. **Shazid Md Sharker \***. Hexagonal Boron Nitrides (White Graphene): A Promising Method for Cancer Drug Delivery. *International Journal of Nanomedicine*, **2019**, 14, 9983-9993.
20. Tanjima Rahman Prianka, Nusrat Subhan, Hasan Mahmud Reza, Md Khalid Hosain, Md Aminur Rahman, Haeshin Lee, and **Shazid Md Sharker\***. Recent exploration of bio-mimetic nanomaterial for potential biomedical applications. *Materials Science and Engineering: C*, **2018**, 93, 1104-1115.
21. **Shazid Md. Sharker\***, Md Ashraful Alam, Manik Chandra Shill, GM Sayedur Rahman, and Hasan Mahmud Reza. Functionalized hBN as Targeted Photothermal Chemotherapy for Complete Eradication of Cancer cells. *International Journal of Pharmaceutics*, **2017**, 534, 1–2, 206–212.
22. Young Kwang Kim, **Shazid Md. Sharker**, Insik In, Sung Young Park. Surface Coated Fluorescent Carbon Nanoparticles/TiO<sub>2</sub> as Visible-light Sensitive Photocatalytic Complexes for Antifouling Activity. *Carbon*, **2016**, 103, 412-420.
23. Soo Jeong Park, Eun Bi Kang, **Shazid Md. Sharker**, Gibaek Lee, Insik In, and Sung Young Park. NIR-Mediated Antibacterial Clay Nanocomposites: Exfoliation of Montmorillonite Nanolayers by IR825 Intercalation. *Macromolecular Materials and Engineering*, **2016**, 301, 141-148.
24. Sung Han Kim, **Shazid Md. Sharker**, Insik In, Sung Young Park, Surface Patterned pH-Sensitive Fluorescence Using  $\beta$ -Cyclodextrin Functionalized Poly (Ethylene Glycol), *Carbohydrate Polymers*, **2016**, 147, 436-443.
25. **Shazid Md. Sharker**, Eun Bi Kang, Chun-im Shin, Sung Han Kim, Gibaek Lee, Sung Young Park. Near-infrared-active and pH-responsive fluorescent polymer-integrated hybrid graphene oxide nanoparticles for the detection and treatment of cancer. *Journal of Applied Polymer Science*, **2016**, 133, 43791.
26. Sung Han Kim, **Shazid Md. Sharker**, Haeshin Lee, Insik In, Kang Dae Lee and Sung Young Park. Photothermal Conversion upon Near-infrared Irradiation of Fluorescent Carbon Nanoparticles Formed from Carbonized Polydopamine. *RSC Advances*, **2016**, 6, 61482-61491.
27. Eun Bi Kang, **Shazid Md. Sharker**, Insik In, Sung Young Park, Pluronic Mimicking Fluorescent Carbon Nanoparticles Conjugated with Doxorubicin via Acid-Cleavable Linkage for Tumor-targeted Drug Delivery and Bioimaging, *J. Ind. Eng. Chem.* **2016**, 43, 150-157.
28. Young Kwang Kim, Eun Bi Kang, Sung Han Kim, **Shazid Md. Sharker**, Beyung Youn Kong, Insik In, Kang-Dae Lee, Sung Young Park, Visible Light-Driven Photocatalysts of Perfluorinated Silica-Based Fluorescent Carbon Dot/TiO<sub>2</sub> for Tunable Hydrophilic-Hydrophobic Surfaces, *ACS Appl. Mater. Interfaces*, **2016**, 8, 29827–29834.
29. **Shazid Md. Sharker**, Sung Min Kim, Jung Eun Lee, Ji Hoon Jeong, Insik In, Kang Dae Lee,

- Haeshin Lee, and Sung Young Park. In situ synthesis of luminescent carbon nanoparticles toward target bioimaging. *Nanoscale*, **2015**, 7, 5468-5475.
30. **Shazid Md. Sharkar**, Sung Min Kim, Sung Han Kim, Insik In, Haeshin Lee, and Sung Young Park. Target delivery of  $\beta$ -cyclodextrin/paclitaxel complexed fluorescent carbon nanoparticles: externally NIR light and internally pH sensitive-mediated release of paclitaxel with bio-imaging. *Journal of Materials Chemistry B*, **2015**, 3, 5833-5841.
  31. **Shazid Md. Sharkar**, Sung Min Kim, Jung Eun Lee, Kyung Ho Choi, Gyojic Shin, Sangkug Lee, Kang Dae Lee, Ji Hoon Jeong, Haeshin Lee, and Sung Young Park. Functionalized biocompatible  $WO_3$  nanoparticles for triggered and targeted in vitro and in vivo photothermal therapy. *Journal of Controlled Release*, **2015**, 217, 211-220.
  32. **Shazid Md. Sharkar**, Jung Eun Lee, Sung Han Kim, Ji Hoon Jeong, Insik In, Haeshin Lee, and Sung Young Park. pH triggered in vivo photothermal therapy and fluorescence nanoplatform of cancer based on responsive polymer-indocyanine green integrated reduced graphene oxide. *Biomaterials*, **2015**, 61, 229-238.
  33. Sung Han Kim, Eun Bi Kang, Chan Jin Jeong, **Shazid Md. Sharkar**, Insik In, and Sung Young Park. Light Controllable Surface Coating for Effective Photothermal Killing of Bacteria. *ACS applied materials & interfaces*, **2015**, 7, 15600-15606.
  34. Chan Jin Jeong, **Shazid Md. Sharkar**, Insik In, and Sung Young Park. Iron Oxide@ PEDOT Based Recyclable Photothermal Nanoparticles with Poly (vinyl pyrrolidone) sulfobetaines for Rapid and Effective Antibacterial Activity. *ACS applied materials & interfaces*, 2015, 7, 9469–9478.
  35. Yeon Jeong Oh, Chan Jin Jeong, **Shazid Md. Sharkar**, So Yeong Lee, Insik In, and Sung Young Park. Synthesis and antibacterial activity of versatile substrate-coated biocidal material via catechol chemistry. *Surface and Interface Analysis*, **2015**, 47, 259-264.
  36. Sung Han Kim, Jung-Eun Lee, **Shazid Md. Sharkar**, Ji Hoon Jeong, Insik In, and Sung Young Park. In Vitro and In Vivo Tumor Targeted Photothermal Cancer Therapy Using Functionalized Graphene Nanoparticles. *Biomacromolecules*, **2015**, 16, 3519-3529.
  37. **Shazid Md. Sharkar**, Chan Jin Jeong, Sung Min Kim, Jung-Eun Lee, Ji Hoon Jeong, Insik In, Haeshin Lee, and Sung Young Park. Photo-and pH-Tunable Multicolor Fluorescent Nanoparticle-Based Spiropyran-and BODIPY-Conjugated Polymer with Graphene Oxide. *Chemistry—An Asian Journal*, **2014**, 9, 2921-2927.
  38. **Shazid Md. Sharkar**, Md Khalid Hossain, Mohammad R. Haque, A. N. M. H. Kabir, C. M. Hasan, and M. A. Rashid. Phytochemical and pharmacological studies of *Bryophyllum daigremontianum* (Raym.). *Am. J. Pharm. Tech. Res.*, 2013, 3, 484-492.
  39. **Shazid Md. Sharkar**, Mohammad K. Hossain, Mohammad R. Haque, Abu A. Chowdhury, A. Kaisar, Choudhury M. Hasan, and Mohammad A. Rashid. Chemical and biological studies of

Kalanchoe pinnata (Lam.) growing in Bangladesh. *Asian Pacific Journal of Tropical Biomedicine*, **2012**, 2, S1317-S1322.

40. **Shazid Md. Sharker**, Monoara Khatun, Nazim Uddin, M. Shafiqul Hasan, Shomabash Chakma and Ahmed Ayedur Rahman. Studies on Drug-Drug Interactions, Presence and Absence of Diazepam (Site-II Specific Probe) Propranolol and Amitriptyline at Binding Sites of Bovine Serum Albumin. *Current Drug Therapy*, **2009**, 4, 144-147.
41. Ahmed Ayedur Rahman, **Shazid Md. Sharker \***. Determination of the Binding Sites of Propranolol HCl on Bovine Serum Albumin by direct & reverse procedures. *Saudi Pharmaceutical Journal*, **2009**, 17, 253-258.

### Poster presentations

1. Cancer targeted fluorescent carbon nanoparticles derived from hyaluronic acid. *KSIEC*, Fall Meeting (Daegu, Korea), 12-14 November 2014, 1P-48.
2. Fluorescent carbon nanoparticles derived from hyaluronic acid for cancer targeted imaging. *KSIEC*, Spring Meeting (Busan, Korea), 29 April- 1 May 2015, 1P-389.
3. pH triggered photothermal therapy and fluorescence nanoplatfrom based on responsive polymer-indocyanine green integrated graphene oxide. *KSIEC*, Spring Meeting (Busan, Korea), 29 April- 1 May 2015, 1P-389.
4. Surface functionalization via catechol conjugated polymer coated substrate. *KSIEC*, Spring Meeting (Busan, Korea), 29 April- 1 May 2015, 1P-389.
5. Remote control target delivery of paclitaxel-cyclodextrin complexed fluorescence carbon nanoparticles using photothermal NIR light and intracellular pH regulator. *KSIEC*, Fall Meeting (Jeju, Korea), 04-06 November 2015, 1P-365.

### Publications – Domestic Journals / Proceedings

1. Triggered Target *In Vitro* and *In Vivo* Photothermal Therapy from Functionalized Biocompatible WO<sub>3</sub> Nanoparticles, *The Society of Adhesion and Interface*, Korea, 2016, 17, 91-92.

### Book Chapter

1. **Book**: Cancer Nanotheranostics, **Shazid Md. Sharker \***, Springer publisher, 2021, Vol-2, Chaper-8; [https://link.springer.com/chapter/10.1007/978-3-030-76263-6\\_8](https://link.springer.com/chapter/10.1007/978-3-030-76263-6_8) (**Hardcover ISBN: 978-3-030-76262-9; eBook ISBN: 978-3-030-76263-6; ISSN: 2523-8027**)

### Research Interests

- Cancer Theragnostic & Drug deliver
- Nano-bio interfaces & Nano-pharmaceuticals
- Photothermal heat & Cancer Therapy
- Fluorescence carbon nanoparticles & Bioimaging
- Nanocarriers synthesis (Liposomes, PLGA nanoparticles, Gelatin, etc)
- CHO cells line developments (Therapeutic r-Protein Production)

### Personal Information

Gender - Male; Citizenship - Bangladeshi.

[Last update: 31<sup>st</sup> October, 2023]