

Professor Satyajit D Sarker BPharm (Hons) MPharm PhD FHEA

Official contact details:

Director (Executive Head) of the School of Pharmacy and Biomolecular Sciences at LJMU
Professor of Pharmacy
Founding Head of the Centre for Natural Products Discovery (CNPD)

Recipient of the ISE-SFE Outstanding International Ethnopharmacologist 2023 Award

Honorary Professor, University of East Anglia
Former Guest Professor, The Chinese Academy of Sciences
Former Visiting Professor, Taylor's University Malaysia
Former Visiting Professor, Mae Fah Luang University Thailand

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Current role:

As the Director of the School of Pharmacy and Biomolecular Sciences at LJMU, I provide strategic, operational, financial, academic and research leadership to this large multidisciplinary School. In addition to chairing various committees within the School, I sit on various committees at the Faculty and University levels. I am a member of the Pharmacy Schools Council (PhSC) Executive, Editor-in-Chief of *Phytochemical Analysis* and *Journal of Natural Products Discovery* and former President of the Phytochemical Society of Europe (PSE).

Academic background:

- PhD in Pharmaceutical Sciences, University of Strathclyde, UK
- MPharm, 1st class and 1st in order of merit, University of Dhaka, Bangladesh
- BPharm (Hons), 1st class and 1st in order of merit, University of Dhaka, Bangladesh

Employment history:

- Director of School of Pharmacy and Biomolecular Sciences & Professor of Pharmacy (2013-present), Faculty of Science, Liverpool John Moores University
- Professor of Pharmacy, Deputy Head of Department of Pharmacy & Pharmacy Research Group Leader (2008-2013), Department of Pharmacy, University of Wolverhampton
- Reader in Pharmacy, Course Director and Chair of the MPharm Course Planning Team, Course Director of the BSc (Hons) Pharmacology and MSc in Pharmaceutical Sciences courses (2004-2008), School of Pharmacy and Pharmaceutical Sciences, University of Ulster
- Lecturer in Pharmaceutical Sciences, and Medicinal and Natural Products Chemistry Research Group Leader (2000-2004), School of Pharmacy, The Robert Gordon University
- Senior Research Scientist and Head of Spectroscopy Group (1998-2000), MolecularNature Ltd., Institute of Grassland and Environmental Research (IGER)
- BBRSC Post-Doctoral Research Fellow (1995-1998), University of Exeter

External examiner:

2023-2027: MPharm programme, De Montfort University
2020-2024: MPharm programme, University of Sunderland
2017-2022: MSc Biotechnology programme, Ulster University
2012-2016: BSc and MSc Pharmaceutical Sciences programmes, East London University
2009-2012: MPharm programme, De Montfort University

Research interests and expertise:

- Drug Discovery, Design and Delivery: Pharmaceutical, Medicinal and Natural Products Chemistry
- Ethnopharmacology, Phytomedicine, Phytotherapy and Phytochemistry
- Phytocosmetics and Natural Cosmeceuticals
- Application of hyphenated techniques in natural products research
- Toxicological and pharmacological evaluation and quality control of herbal medicine
- Development of bioassays for screening plant extracts and isolated compounds
- Nanoparticle-based formulation of bioactive natural products

Current research projects:

- Extraction, isolation, identification, structural modification (synthesis), bioactivity and mode of action of pharmaceutically important natural products, especially focussing on novel anticancer, antimicrobial, antimalarial, antioxidant and anti-inflammatory compounds and chemopreventive phytochemicals
- Nanotechnology-assisted natural products formulation and delivery
- Computational phytochemistry
- Structure-Activity-Relationships (SAR) studies on bioactive compounds and their analogues
- Bioactivity and phytochemical studies on plants from the Bangladeshi, British, Cameroonian, Iranian, Iraqi, Kenyan, Libyan, Nigerian, Pakistani, Sudanese, Syrian, Thai and Turkish flora

Membership of professional bodies:

Fellow of the Higher Education Academy (FHEA)

Member of the American Society of Pharmacognosy (ASP), USA and the Botanical Society of Scotland, UK

Life member of the Phytochemical Society of Europe (PSE)

Treasurer of the Phytochemical Society of Europe (PSE) (2008-2013)

Vice-President of the Phytochemical Society of Europe (2016-2018 and 2020-2022)

President of the Phytochemical Society of Europe (2018-2020)

PhD supervision:

Supervised 28 PhD students, and currently supervising 3 full-time PhD students

External examiner for PhD thesis:

Examined a total of 110 PhD theses to date

Membership of the journal editorial board:

- Editor-in-Chief, *Phytochemical Analysis* (2010-present)
- Editor-in-Chief, *Journal of Natural Products Discovery* (2022-present)
- Editor, *International Journal of Biochemistry and Physiology* (October 2016-present)
- Associate Editor, *TANG Journal* (May 2011-present)
- Guest Editor of the special issues:
 - Natural Product Communications* in the honour of Professor Peter G Waterman (2008)
 - Advances in Pharmacological Sciences* on 'Anti-inflammatory, antinociceptive and antipyretic activities of medicinal plants and their constituents' (2012)
 - Medicines* on 'Essential Oils: Chemistry and Bioactivity' (2015-16)
 - Evidence-Based Complementary and Alternative Medicine* on 'Pain Management and Wound Care with Traditional Medicine' (2016-17)
- Member of the Editorial/Editorial Advisory Board: currently in >40 journals, and previously served >10 journals
For example, *Biochemical Systematics and Ecology* (2018-present); *Current Medicinal Chemistry* (2016-present); *Molecules* (2017-present); *Journal of Pharmacy and Pharmacology* (2021-present); *DARU* (2009-present); *Phytomedicine Plus* (2021-present); *Pharmaceutical Sciences* (2017-present); *Diversity – An Open Access Biodiversity Journal* (2016-present); *Current Trends in Medicinal Chemistry* (2016-present); *Journal of Pharmaceutical Microbiology* (2015-present); *Chronicles of Pharmacy* (2014-present); *Pharmacology and Alternative Medicine Therapeutics* (2014-present); *Pharmacognosy Research* (2010-present); *Systematic Reviews in Pharmacy* (2010-present) and many more.

Publications:

Total number of publications: **727**; Total citations: Over **22,120** (source: Google Scholar)

h-index: **72** (source: Google Scholar); *i10-index*: 375 (source: Google Scholar) (Accessed on 07 February 2024)

Books: 16; Book chapters: 61

Most recent books:

Sarker SD and Nahar L (2024) *Computational Phytochemistry*, 2nd Edition, Elsevier, London.

Talukdar AD, **Sarker SD** and Patra JK (2022) *Recent Advances in Nanotechnology-based Drug Delivery Systems*, Elsevier, UK.

Gupta V, **Sarker SD**, Sharma M, Pirovani ME, Usmani . and Jayabaskaran C (2022) *Biomolecules from Natural Sources: Advances and Applications*, Wiley and Sons.

Xiao J, **Sarker SD** and Asakawa Y (2021) *A Handbook of Dietary Phytochemicals*, Nature-Springer, USA.

Sarker SD and Nahar L (2020) *Medicinal Natural Products – A Disease-focused Approach*, Elsevier, UK.

Most popular book:

Nahar L and **Sarker SD** (2019) *Chemistry for Pharmacy Students: General, Organic and Natural Product Chemistry*, 2nd Edition, John Wiley & Sons, London (the first edition was translated into Greek, Japanese, Portuguese and Indonesian languages).

First in the area:

Sarker SD and Nahar L (2018) *Computational Phytochemistry*, First Edition, Elsevier, London.

Nahar L and **Sarker SD** (2012) *Steroid Dimers: Chemistry and Applications in Drug Design and Delivery*, 1st Edition, John Wiley & Sons, London.

Selected journal publications since 2017

- Shawky E, Nahar L, Abdu S, **Sarker SD** and Ibrahim RS (2024) Dairy products authentication with biomarkers: A comprehensive review, *Trends in Food Science and Technology* (in press) [IF 15.3](#)
- Adekunle YA, Samuel BB, Nahar L, Fatokun AA and **Sarker SD** (2023) Cytotoxic triterpenoid saponins from the root of *Ola subscorpioidea* Oliv. (Oleaceae), *Phytochemistry* **215**, article number: 113853. [IF 3.8](#)
- Aamir K, Sethi G, Hussain CF, Jusuf PR, **Sarker SD** and Arya A (2023) Arjunolic acid modulate pancreatic dysfunction by ameliorating pattern recognition receptor and canonical Wnt pathway activation in type 2 diabetic rats, *Life Sciences* **327**, article number: 121856. [IF 6.1](#)
- Algellay M, Roberts M, Bosworth L, **Sarker SD** and Ehtezazi T (2023) The use of micro-ribbons and micro-fibres in the formulation of 3D printed fast dissolving oral films, *Pharmaceuticals* **16**, article number: 79. [IF 4.6](#)
- Ogunrinade FA, Iwuanyanwu VU, **Sarker SD** and Olajide OA (2023) Neuroprotection by skimmianine in lipopolysaccharide-activated BV-2 microglia, *Molecules* **28**, article number: 1317. [IF 4.6](#)
- Shajib MS, Islam S, Bin Rashid R, Afroze M, Khan M, Datta BK, Nahar L, **Sarker SD** and Rashid MA (2023) GC-MS analysis and pharmacological evaluations of *Phoenix sylvestris* (Roxb.) seeds provide new insights into the management of oxidative stress and hyperglycaemia, *Food Science & Nutrition* **11**, 1553-1562. [IF 3.9](#)
- Nahar L, Nath S and **Sarker SD** (2022) "Malancha" [*Alternanthera philoxeroides* (Mart.) Griseb.]: A potential therapeutic option against viral diseases, *Biomolecules* **12**, article number: 582. [IF 5.5](#)
- Nahar L, Al-Groshi A, Kumar A and **Sarker SD** (2022) Arbutin: Occurrence in plants and its potential as an anticancer agent, *Molecules* **27**, article number: 8786. [IF 4.6](#)
- Ogurinade FA, Guetchueng ST, Katola FO, Aderogba MA, Akande IS, **Sarker SD** and Olajide OA (2021) *Zanthoxylum zanthoxyloides* inhibits lipopolysaccharide- and synthetic hemozoin-induced neuroinflammation in BV-2 microglia: roles of NF- κ B transcription factor and NLRP3 inflammasome activation, *Journal of Pharmacy and Pharmacology* **73**, 118-134. [IF 3.3](#)
- Wangsawat N, Nahar L, **Sarker SD**, Phosri C, Evans AR, Whalley AJS, Choowongkamon K and Suwannasai N (2021) Antioxidant activity and cytotoxicity against cancer cell lines of the extracts from novel *Xylaria* species associated with termite nests and LC-MS analysis, *Antioxidants* **10**, article number: 1557. [IF 7.0](#)
- Akramov DK, Bacher M, Bohmdorfer S, Rosenau T, Zengin G, Potthast A, Nahar L, **Sarker SD** and Mamadalieva NZ (2020) Phytochemical analysis and biological evaluation of *Lagochilus* species from Uzbekistan, *Industrial Crops and Products* **154**, article number: 112715. [IF 5.9](#)
- Fan M, Chen G, Zhang Y, Nahar L, **Sarker SD**, Hu G and Guo M (2020) Antioxidant, antiproliferative properties of *Hagenia abyssinica* roots and their potentially active components, *Antioxidants* **9**, article number: 143. [IF 7.0](#)
- Fan M, Chen G, Sun B, Wu J, Li N, **Sarker SD**, Nahar L and Guo M (2020) Screening for natural inhibitors of human topoisomerases from medicinal plants with bio-affinity ultrafiltration and LC-MS, *Phytochemistry Reviews* **19**, 1231-1261. [IF 7.7](#)
- Li M, Zhang C-Y, Chen G, Nahar L, **Sarker SD** and Guo M (2020) Headspace gas chromatographic method for antimicrobial screening: minimum inhibitory concentration determination, *Journal of Pharmaceutical and Biomedical Analysis* **181**, article number: 113122. [IF 3.4](#)
- Nahar L, Talukdar AD, Nath D, Nath S, Mehan A, Ismail FMD and **Sarker SD** (2020) Naturally occurring calanolides: Occurrence, biosynthesis, and pharmacological properties including therapeutic potential, *Molecules* **25**, article number: 4983. [IF 4.6](#)
- Nahar L, Guo M. and **Sarker SD** (2020) A review on the latest advances in extraction and analysis of artemisinin, *Phytochemical Analysis* **31**, 5-14. [IF 3.3](#)
- Nahar L, Guo M and **Sarker SD** (2020) Gas chromatographic analysis of naturally occurring cannabinoids: A review of literature published during the past decade, *Phytochemical Analysis* **31**, 135-146. [IF 3.3](#)
- Nahar L, Onder A and **Sarker SD** (2020) A review on the recent advances in HPLC, UHPLC and UPLC analyses of naturally occurring cannabinoids (2010-2019), *Phytochemical Analysis* **31**, 409-412. [IF 3.3](#)
- Radapong S, **Sarker SD** and Ritchie KJ (2020) Oxyresveratrol possesses DNA damaging activity, *Molecules* **25**, article number: 2577. [IF 4.6](#)
- Rouf R, Uddin JA, Sarker DK, Islam MT, Ali ES, Shilpi JA, Nahar L, Tiralongo E and **Sarker SD** (2020) Antiviral potential of garlic (*Allium sativum*) and its organosulfur compounds: A systematic update of pre-clinical and clinical data, *Trends in Food Science & Technology* **104**, 219-234. [IF 15.3](#)
- Sarfraz A, Javeed M, Shah MA, Hussain G, Shafiq N, Sarfraz O, Riaz A, Sadiqa A, Zara R, Zafar S, Kanwal L, **Sarker SD** and Rasul A (2020) Biochanin A: A novel bioactive multifunctional compound from nature, *Science of the Total Environment* **722**, article number: 137907. [IF 9.8](#)
- Sarfraz A, Rasul A, Sarfraz I, Shah MA, Hussain G, Shafiq N, Masood M, Adem S, **Sarker SD** and Li X (2020) Hispolon: A natural polyphenol and emerging cancer killer by multiple cellular signalling pathways, *Environmental Research* **190**, article number 110017. [IF 8.3](#)
- Sarfraz I, Rasul A, Hussain G, Shah MA, Zahoor AF, Asrar M, Selamglu Z, Ji X-Y and **Sarker SD** (2020) 6-Phosphogluconate dehydrogenase fuels multiple aspects of cancer cells: from cancer initiation to metastasis and chemoresistance, *BioFactors* **46**, 550-562. [IF 6.0](#)
- Seukep AJ, Kuete V, Nahar L, **Sarker SD**, Guo M (2020) Plant-derived secondary metabolites as the main source of efflux pump inhibitors and methods for identification, *Journal of Pharmaceutical Analysis* **10**, 277-290. [IF 8.8](#)
- Wu L, Georgiev MI, Cao H, Nahar L, El-Seedi HR, **Sarker SD**, Xiao J and Lu B (2020) Therapeutic potential of phenylethanoid glycosides: A systematic review, *Medicinal Research Reviews*, **40**, 2605-2649. [IF 13.3](#)
- Aboulwafa MM, Youssef FS, Gad HA, **Sarker SD**, Nahar L, Al-Azizi MM and Ashour ML (2019) Authentication and discrimination of green tea samples using UV-Visible, FTIR and HPLC techniques coupled with chemometrics analysis, *Journal of Pharmaceutical and Biomedical Analysis* **164**, 653-658. [IF 3.4](#)
- Afroz M, Zihad SMNK, Uddin SJ, Rouf R, Rahman MS, Islam MT, Khan IN, Ali ES, Aziz S, Shilpi JA, Nahar L and **Sarker SD** (2019) A systematic review on antioxidant and anti-inflammatory activity of Sesame (*Sesamum indicum* L.) oil and further

- confirmation of anti-inflammatory activity by chemical profiling and molecular docking, *Phytotherapy Research* **33**, 2585-2608. [IF 7.2](#)
- Al Groshi A, Jasim HA, Evans AR, Ismail FMD, Dempster NM, Nahar L and **Sarker SD** (2019) Growth inhibitory activity of biflavonoids and diterpenoids from the leaves of the Libyan *Juniperus phoenicea* against human cancer cells, *Phytotherapy Research* **33**, 2075-2082. [IF 7.2](#)
- Fan M, Tian Y, Chen G, **Sarker SD**, Nahar L, Wu J, Li N and Guo M (2019) Enrichment and analysis of quaternary alkaloids from *Zanthoxylum simulans* using weak cation exchange solid-phase extraction coupled with LC-MS, *Phytochemical Analysis* **30**, 727-734. [IF 3.3](#)
- Jiang X, Cao C, Sun W, Chen Z, Li X, Nahar L, **Sarker SD**, Georgiev MI and Bai W (2019) Scandanolone from *Cudrania tricuspidata* fruit extract suppresses the viability of breast cancer cells (MCF-7) *in vitro* and *in vivo*, *Food and Chemical Toxicology* **126**, 56-66. [IF 4.3](#)
- Makong YS, Happi GM, Djouka JL, Wansi JD, Nahar L, Waffo AFK, Martin C, Sewald N and **Sarker SD** (2019) Cytotoxic stilbenes and canthinone alkaloids from *Brucea antidysenterica* (Simaroubaceae), *Molecules* **24**, article number: 4412. [IF 4.6](#)
- Mohammadhosseini M, Venditti A, **Sarker SD**, Nahar L and Akbarzadeh A (2019) The genus *Ferula*: ethnobotany, phytochemistry and bioactivities – a review, *Industrial Crops and Products* **129**, 350-394. [IF 5.9](#)
- Segun PA, Ogbole OO, Ismail FMD, Nahar L, Evans AR, Ajaiyeoba EO and **Sarker SD** (2019) Resveratrol derivatives from *Commiphora africana* (A. Rich.) Endl. display cytotoxicity and selectivity against several human cancer cell lines, *Phytotherapy Research* **33**, 159-166. [IF 7.2](#)
- Jibril S, Basar N, Sirat HM, Wahab RA, Mahat NA, Nahar L and **Sarker SD** (2019) Application of Box-Behnken design for ultrasound-assisted extraction and recycling preparative HPLC for isolation of anthraquinones from *Cassia singueana*, *Phytochemical Analysis* **30**, 101-109. [IF 3.3](#)
- Guetchueng ST, Nahar L, Ritchie KJ, Ismail FMD, Evans AR and **Sarker SD** (2018) *ent*-Clerodane diterpenes from the bark of *Croton oligandrum* Pierre ex. Hutch. and assessment of their cytotoxicity against human cancer cell lines, *Molecules* **23**, article number: 410. [IF 4.6](#)
- Nurunnabi TR, Nahar L, Al-Majmaie S, Rahman SMM, Sohrab MH, Billah MM, Ismail FMD, Rahman MM, Sharples GP and **Sarker SD** (2018) Anti-MRSA activity of oxysporone and xylitol from the endophytic fungus *Pestalotia* sp. growing on the Sundarbans mangrove plant *Heritiera fomes*, *Phytotherapy Research* **32**, 348-354. [IF 7.2](#)
- Shajib MS, Rashid RB, Ming LC, Islam S, Sarker MMR, Nahar L, **Sarker SD**, Datta BK and Rashid MA (2018) Polymethoxyflavones from *Nicotiana plumbaginifolia* (Solanaceae) exert antinociceptive and neuropharmacological effects in mice, *Frontiers in Pharmacology* **9**, article number: 85. [IF 5.6](#)
- Zhao C, Yang C, Liu B, Lin L, **Sarker SD**, Nahar L, Yu H, Cao H and Xiao J (2018) Bioactive compounds from marine macroalgae and their hypoglycemic benefits, *Trends in Food Science & Technology* **72**, 1-12. [IF 15.3](#)
- Zihad SMNZ, Bhowmick N, Uddin SJ, Sifat N, Rahman MS, Rouf R, Islam MT, Dev S, Hazni H, Aziz S, Ali ES, Das AK, Shilpi JA, Nahar L and **Sarker SD** (2018) Analgesic activity, chemical profiling and computational study on *Chrysopogon aciculatus*, *Frontiers in Pharmacology* **9**, article number: 1164. [IF 5.6](#)
- Segun PA, Ismail FMD, Ogbole OO, Nahar L, Evans AR, Ajaiyeoba EO and **Sarker SD** (2018) Acridone alkaloids from the stem bark of *Citrus aurantium* display selective cytotoxicity against breast, liver, lung and prostate human carcinoma cells, *Journal of Ethnopharmacology* **227**, 131-138. [IF 5.4](#)
- Fielding AJ, Lukinovic V, Evans P, Alizadeh S, Bisby R, Drew M, Casino AD, Dunn J, Randle L, Dempster N, Nahar L, **Sarker SD**, Reinhard FGC, de Visser SP, Dascombe M and Ismail FMD (2017) Modulation of antimalarial activity at a putative bisquinoline receptor *in vivo* using fluorinated bisquinolines, *Chemistry – A European Journal* **23**, 6811-6828. [IF 4.3](#)
- Zhao C, Wu Y, Liu X, Liu B, Hui C, Yu H, **Sarker SD**, Nahar L and Xiao J (2017) Functional properties, structural studies and chemo-enzymatic synthesis of oligosaccharides. *Trends in Food Science and Technology* **66**, 135-145. [IF 15.3](#)