

Curriculum Vitae

Dr. S. M. Mostafa Kamal Khan

Professor

Department of Biochemistry & Microbiology

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Education

Doctor of Philosophy (Ph.D.)

Department of Molecular Science, Faculty of Molecular and Cellular Science, Graduate School of Science and Technology, Kobe University, Japan. March, 2006.

Master of Science (MS)

Biology, Department of Biology, Faculty of Science, Kobe University, Kobe, Japan. March, 2003.

Research Student

Biology, Department of Biology, Faculty of Science, Kobe University, Kobe, Japan. October 2000 to March 2001.

Master of Science (MSc)

Botany, Department of Botany, Faculty of Biological Science, University of Dhaka, Dhaka, Bangladesh, 1990 (Because of political unrest Passed 1994)

Bachelor of Science (BSc Hons.)

Botany, Department of Botany, Faculty of Biological Science, University of Dhaka, Dhaka, Bangladesh, 1991 (Because of political unrest Passed 1995).

Higher Secondary Certificate (HSC)

Science Group, Cumilla Board, Chandpur Government College, Chandpur, Bangladesh. 1986.

Secondary School Certificate (SSC)

Science Group, Cumilla Board, Hajigonj Pilot High School, Hajigonj, Chandpur, Bangladesh; 1984.

Academic Awards

1. **Visiting Researcher Fellowship:** Kobe University, Japan. April 2012 -May 2012.
2. **Research Fellowship:** Japan Student Services Organization (“JASSO”), in Kobe University, Japan. June 2011 -August 2011.
3. **Ph.D. Fellowship:** Ministry of Education, Culture, Sports, Science and Technology (MONBUKAGA-KUSHO) Japan. April 2003-March, 2006.
4. **MS Fellowship:** Ministry of Education, Culture, Sports, Science and Technology (MONBUKAGA-KUSHO). Japan. April 2001-March 2003.
5. **Research Fellowship:** Ministry of Education, Culture, Sports, Science and Technology (MONBUKAGA-KUSHO) Japan. October 2000-March 2001.

Research Experience and Achievement

As a Professor, Department of Biochemistry and Microbiology, North South University, Dhaka, Bangladesh, I Teach Microbial Ecology, Microbial Taxonomy and Diversity, Environmental Microbiology, Mycology, Cell Biology and Plant Biotechnology. I carried out the research on bio-monitoring system using heliozoon *Raphidiophrys*; under the supervision of Dr. Toshinobu Suzaki. Ecological monitoring has been given increasing attention because of the potential establishment of a correlation between the chemical nature of the pollutant and its biological effects. Organisms including plants, animals, heliozoa and microorganisms have been adopted in biomonitoring programm's. We know protozoa are cosmopolitan eukaryotic microorganism. Heliozoon *Raphidiophrys contractilis* is used as a model organism for the biomonitoring; because the organism is very sensitive to any kind of environmental stresses or changes and shows axopodial shortening as one of the cellular response that can be easily detected by light microscopy.

I also carried out research on “Morphological analysis of intra-chloroplastic particles, which contain carbonic anhydrases, under changing light and dark condition.” in a marine diatom *Phaeodactylum tricorutum* at Kwansei Gakuin University, Japan. During my PhD I carried out research on the toxic effect of heavy metal ions (Zn^{2+} , Pb^{2+} , Hg^{2+} , Cu^{2+} , As^{3+} and Cd^{2+}) on the axopodia of heliozoon *R. contractilis* and the result published in the Journal of Environmental Sciences (13 (4), 193-200) entitled with “Axopodial degradation in the heliozoon *Raphidiophrys contractilis*: A novel bioassay system for detecting heavy metal toxicity in an aquatic environment.” I also found that “Axopodial contraction in the heliozoon *Raphidiophrys contractilis* requires extracellular Ca^{2+} and external stimuli” that published in Int. J. Zool. Sci., 20, 1367-1372,2003. Effect of ruthenium red and gadolinium (Gd^{3+}), a stretch activated ion channel blocker, on axopodial contraction in the heliozoon *R. contractilis*. Beside that I conducted research on depolymerization of microtubule by the effect of metal ions. Degradation of axopodia in the heliozoon *R. contractilis*, role of extracellular Ca^{2+} to induce

microtubule depolymerization and polymerization.

Political Affiliations

- 1. 2020:** Member, Liberation War Affairs, Central Sub-committee; Bangladesh Awami League.
- 2. 2018:** Member, Education and Human Resources Affairs, Central Sub-committee; Bangladesh Awami League.
- 3. 2018:** Member, Liberation War Affairs, Central Sub-committee; Bangladesh Awami League.
- 4. 2016-till date: Member,** Advisory committee, Bangladesh Awami League, Chandpur Zilla Unit.
- 5. 2012:** Assistant Secretary, Bangladesh Awami League Central Sub-committee.
- 6. 2012 till date:** Member Bangladesh Awami League, Hajigonj Upazilla Unit
- 7. 2018, 20014 & 2008:** In the 11th, 10th and 9th National Parliament Election, I opted Nomination from Bangladesh Awami League; National Parliament Seat No: 264; (Chandpur- 5, Hajigonj- Sharasti constituency).
- 8. 1987-1994:** Active Participation in the Politics of Bangladesh Chatra League, (Sir) A. F. Rahman Hall Unit, Dhaka University. Participated in DUCSU election as **an AGS from (Sir) A. F. Rahman Hall in 1990 (Chattra League, Shakil-Khaleque- Mostafa Panel)**. I was the organizing Secretary of Bangladesh Chattra League F. Rahman Hall Unit. Active & full time Participation in anti-autocratic movement 1990 as a follower of BCL.
- 9. 1983-1986:** Participation in Politics of Bangladesh Chatra League, Hajigonj & Chandpur Unit.

Professional Experiences

- 1. February 2016-till date: Professor,** Department of Biochemistry & Microbiology, North South University, Bashundhara R/A, Baridhara, Dhaka 1229, Bangladsesh.
- 2. January 2012-January 2016: Associate Professor,** Department of Biochemistry & Microbiology, North South University, Bashundhara R/A, Baridhara, Dhaka 1229, Bangladsesh.
- 3. April 2012-May 2012: Visiting Researcher,** Kobe University, Japan
- 4. May 2008-December 2011: Assistant Professor,** Department of Life Sciences, North South University,
5. Bashundhara R/A, Baridhara, Dhaka 1229, Bangladsesh.
- 6. June 2011- August 2011: Visiting Research Fellow,** Kobe University, Japan, JASSO Fellowship.
- 7. Teaching Courses:** Microbial Ecology, Mycology, Microbial Taxonomy and Diversity, Environmental Microbiology, Cell Biology (Undergraduate), Plant Biotechnology (Graduate/Masters).

8. **April 2007–August 2007:** Research Fellow (Postdoctoral), Department of Bioscience, School of Science and Technology, Kobe University, Japan. Conducted research on; **Development of bio-monitoring system using unicellular heliozoon *Raphidiophrys*.**
9. **April 2006–March 2007:** Research Fellow (Postdoctoral), Department of Bioscience, School of Science and Technology, Kwansai Gakuin University, Japan. Conducted research on; **Carbon Concentrating Mechanism; Morphological Analysis of Mitochondrial Carbonic Anhydrase 2 in a marine diatom *Phaeodactylum tricornutum*.**
10. **May 1997–October 2000:** Worked as Officer Grade III-A (May 17, 1999 to October 20, 2000); Officer Grade III-B (May 17, 1998 to May 16, 1999) and Probationary Officer (May 17, 1997 to May 16, 1998) in the Credit Card Division of National Bank Limited.

Technical Experiences

Molecular Biology: PCR, Vector Construct, SDS-PAGE, Western Blotting, Electron Microscopy, Confocal Microscopy, Fluorescent Microscopy, Video Microscopy, Light Microscopy, Inverted Microscopy, Isolation of axopodia and nucleus, Cell Model, Reactivation of Cell Model and other relevant techniques.

Cell Culture: Axenic culture of *Raphidiophrys contractilis*, *Actinophrys sol*, *Phaeodactylum tricornutum*, *Paramecium bursaria*, *Paramecium caudatum*, *Tetrahymena thermophila*, *Chlorogonium elongatum*, *Euglena gracilis* and other ciliate and flagellate.

Teaching, Research and Professional Experiences

Name of the Institute	Position	Duration	
		From	To
North South University	Professor	February 2016	Till date
North South University	Associate Professor	December 2011	January 2016
North South University	Assistant Professor	May 2008	December 2011
Kwansai Gakuin Uni.	Postdoctoral Research Fellow	April 2006	March 2007
Kobe University	Postdoctoral Research Fellow	April 2007	September 2007
Kobe University	Visiting Researcher	June 2011	August 2011
Kobe University	Visiting Researcher	April 2012	May 2012
Kobe University	PhD Fellow	April 2003	March 2006
Kobe University	Research Student	October 2000	March 2001
National Bank Ltd.	Probationary Officer to Officer Grade III-A	May 1997	October 2000

Publications

1. Chisato Yoshimura, Mayumi Kobayashi, **SM Mostafa Kamal Khan**, MD Shafiqul Islam, Sayaka Matsubara, Lin Chen, Rina Higuchi, Toshinobu Suzaki: Development of a Compact, Highly-sensitive and Low-cost Biological Monitoring Method using Protozoa for Detecting Toxicants in Aquatic Environment.
2. International Journal of Environmental & Agriculture Research, **Vol-3, Issue-7, July- 2017; 42-44**
3. Donald James Gomes, **S. M. Mostafa Kamal Khan**, Rifath Mohsen, Ali Azam Talukder, Sarder A Nayeem, Jonaid Shafiq, KM Sultanul Aziz (2010): Anthrax: Old Foe Poses a New Panic in Bangladesh; **Bangladesh Journal of Medical Science, Vol. 16, No. 02, Sept. 2010; 93-103**
4. **S. M. Mostafa Kamal Khan**, Mikihiko Arikawa, Gen Omura, Chisatao Yoshimura, Satoru Nishiyama, Yasutaka Suetomo, Soichiro Kakuta and Toshinobu Suzaki (2006): Axopodial degradation in the heliozoon *Raphidiophrys contractilis*: A novel bioassay system for detecting heavy metal toxicity in the aquatic environment. **Environmental Sciences, 13 (4), 193-200**
5. Mikihiko Arikawa, Akira Saito, Gen Omura, **S. M. Mostafa Kamal Khan**, Yasutaka Suetomo, Sochira Kakuta and Toshinobu Suzaki (2006): Ca²⁺-dependent in vitro Contractility of a precipitate isolated from an extract of the heliozoon *Actinophrys sol*. **Cell Motil. Cytoskel., 63, 57-65**
6. Yasutaka Suetomo, Akira Saito, Mikihiko Arikawa, Gen Omura, **S. M. Mostafa Kamal Khan**, Sochira Kakuta, Chisato Yoshimura and Toshinobu Suzaki (2006): Bacteria-free culture of a colorless euglenoid, *Peranema trichophorum*, and establishment of a method for flagellar isolation. **Jpn. J. Protozool. 39 (1), 37-45**
7. Mikihiko Arikawa, Akira Saito, Gen Omura, **S. M. Mostafa Kamal Khan**, Yasutaka Suetomo, Sochira Kakuta and Toshinobu Suzaki (2005): Ca²⁺-dependent nuclear contraction in the heliozoon *Actinophrys sol*. **Cell Calcium; 38, 447-455**
8. Gen Omura, Masaki Ishida, Mikihiko Arikawa, **S. M. Mostafa Kamal Khan**, Yasutaka Suetomo, Soichiro Kakuta, Chisato Yoshimura and Toshinobu Suzaki (2004): A bacteria-free monoxenic culture of *Paramecium bursaria*: its growth characteristics and the reestablishment of symbiotic relationship with *Chlorella* in a bacteria-free condition. **Jpn. J. Protozool. 37, 119-130**
9. **S. M. Mostafa Kamal Khan**, Mikihiko Arikawa, Gen Omura, Tetsuya Monguchi, Yasutaka Suetomo, Soichiro Kakuta and Toshinobu Suzaki (2003): Axopodial contraction in the heliozoon *Raphidiophrys contractilis* requires extracellular Ca²⁺. **Int. J. Zool. Sci., 20, 1367-1372**
10. Toshinobu Suzaki, Mikihiko Arikawa, Akira Saito, Gen Omura, **S. M. Mostafa Kamal Khan**,

- Miako Sakaguchi and Klaus Hausmann (2003): Organelle movement in *Actinophrys sol* and its inhibition by cytochalasin B. **Acta Protozool.**, **42**, 7-10
11. Mikihiro Arikawa, N. Momokawa, A. Saito, Gen Omura, **S. M. Mostafa Kamal Khan**, Y. Suetomo, S. Kakuta and Toshinobu Suzaki (2003): Ca²⁺-dependent contractility of isolated and demembrated macronuclei in the hypotrichous ciliate *Euplotes aediculatus*. **Cell Calcium**, **33**, 113-117
 12. Akira Saito, Yasutaka Suetomo, Mikihiro Arikawa, Gen Omura, **S. M. Mostafa Kamal Khan**, Soichiro Kakuta, Etsuko Suzaki, Katsuko Kataoka and Toshinobu Suzaki (2003): Gliding movement in *Peranema trichophorum* is powered by rapid flagellar surface motility. **Cell Motil. Cytoskel.**, **55**, 244-253
 13. Mikihiro Arikawa, Akira Saito, Gen Omura, **S. M. Mostafa Kamal Khan**, Eiji Kinoshita and Toshinobu Suzaki (2002): Ca²⁺-dependent cytoplasmic contractility of the heliozoon *Actinophrys sol*. **Europ. J. Protist.**, **38**, 356-372
 14. Miako Sakaguchi, Toshinobu Suzaki, **S. M. Mostafa Kamal Khan** and Klaus Hausmann (2002): Food Capture by kinetocysts in the heliozoon *Raphidiophrys contractilis*. **Europ. J. Protist.**, **37**, 453-458

Short Communications

1. **S. M. Mostafa Kamal Khan** and Toshinobu Suzaki (2006): Axopodial degradation by the effect of arsenic ions and pH in the heliozoon *Raphidiophrys contractilis*. **Jap. J. Protozool.**, **39** (1), 134-135
2. Chisato Yoshimura, **S. M. Mostafa Kamal Khan**, Satoru Nishiyama and Toshinobu Suzaki (2006): Bio-monitoring system for aquatic hazards using heliozoons. **Jap. J. Protozool.**, **39** (1), 137-138
3. **S. M. Mostafa Kamal Khan**, Mikihiro Arikawa and Toshinobu Suzaki (2005): Toxic effect of heavy metal ions on the axopodia of heliozoon *Raphidiophrys contractilis*. **Jap. J. Protozool.**, **38** (1), 44-45
4. **S. M. Mostafa Kamal Khan** and Toshinobu Suzaki (2003): Axopodial contraction evoked by extracellular Ca²⁺ and external stimuli and ultrastructural observation in the heliozoon *Raphidiophrys contractilis*. **Jpn. J. Protozool.**, **36** (1), 61-62
5. **S. M. Mostafa Kamal Khan** and Toshinobu Suzaki (2002): Inhibitory effect of toxic substance of the heliozoon *Raphidiophrys contractilis* on ciliary movement. **Jpn. J. Protozool.**, **35** (1), 57

Scientific Meeting Attendance

1. International Conference on Genomics, Nanotech and Bioengineering; May 2017: North South University, Dhaka, Bangladesh; Poster Presentation.
2. Maliha Sharmin, M A Jalil Chowdhury, **S. M. Mostafa Kamal Khan**: Prevalence of HLA B27 Gene Among Ankylosing Spondylitis Patients and Its Consequences on The Clinical

Manifestations.

3. International Conference on Genomics, Nanotech and Bioengineering; May 2017: North South University, Dhaka, Bangladesh; Poster Presentation.
4. Sanjida Bari and **S. M. Mostafa Kamal Khan**:
5. Molecular Detection of Multidrug Resistant Tuberculosis by Line Probe Assay (LPA)
6. International Symposium for Supporting Women Scientists; March, 2007; Nara Women University, Japan, Oral Presentation
7. **S. M. Mostafa Kamal Khan**: Women in the scientific Research: Bangladesh Scenario
8. 38th Annual Conference, 2005, Japan Society of Protozoology, Obihiro, Japan. Oral Presentation
9. **S. M. Mostafa Kamal Khan** and Toshinobu Suzaki: Axopodial degradation by the effect of arsenic ions and pH in the heliozoon *Raphidiophrys contractilis*.
10. 7th Symposium on Asian Academic Network for Environmental Safety and Waste Management (AANESWM), 2005, Tokyo, Japan. Poster Presentation
11. Chisato Yoshimura, **S. M. Mostafa Kamal Khan**, Satoru Nishiyama and Toshinobu Suzaki: A novel bio-monitoring system with heliozoa (protozoa) for detecting toxicants in aquatic environment.
12. 12th International Congress of Protozoology, 2005, Guangzhou, China. Oral Presentation.
13. **S. M. Mostafa Kamal Khan**, Mikihiro Arikawa and Toshinobu Suzaki: Axopodial contraction requires extracellular calcium and external stimuli in the heliozoon *Raphidiophrys contractilis*.
14. 37th Annual Conference, 2004, Japan Society of Protozoology, Yamaguchi, Japan. Poster Presentation.
15. **S. M. Mostafa Kamal Khan**, Mikihiro Arikawa and Toshinobu Suzaki: Toxic effect of heavy metal ions on the heliozoon *Raphidiophrys contractilis*.
16. 75th Annual Conference, 2004, Zoological Society of Japan, Konan University, Kobe, Japan.
17. **S. M. Mostafa Kamal Khan**, Mikihiro Arikawa and Toshinobu Suzaki: Affect of heavy metals on the heliozoon *Raphidiophrys contractilis*.
18. 73rd Annual Conference, 2002, Zoological Society of Japan, Kanazawa, Japan. Poster Presentation.
19. **S. M. Mostafa Kamal Khan** and Toshinobu Suzaki: Comparative study of axopodial contraction in heliozoan.
20. 35th Annual Conference, 2002, Japan Society of Protozoology, Kochi, Japan. Poster Presentation.
21. **S. M. Mostafa Kamal Khan** and Toshinobu Suzaki: Axopodial contraction evoked by the extra-cellular Ca²⁺ and external stimuli and its ultrastructural observation in the heliozoon *Raphidiophrys contractilis*.
22. 34th Annual Conference, 2001, Japan Society of Protozoology, Kobe, Japan. Poster Presentation.

23. **S. M. Mostafa Kamal Khan** and Toshinobu Suzaki: Inhibitory effect of toxic substance of the heliozoon *Raphidiophrys contractilis* on ciliary movement.

Professional Affiliations

1. Member, Japan Society of Protozoology.
2. Member, Zoological Society of Japan.
3. Member, Botanical Society of Bangladesh.
4. Life Member, Dhaka University Alumni Association.
5. Life Member, (Sir) A. F. Rahman Hall (DU) Alumni Association.
6. Life Member, Greater Cumilla Zilla Samittee.
7. Member, Chandpur Zilla Samittee.

Personal Details

Date of Birth: September 01, 1969

Father's Name: Late Abdur Rahman Khan

Mother's Name: Mrs. Ayesha Rahman

Residence Address: House N0 25/AB, Apartment N0- 11/A, Green Road, Dhaka-1205, Bangladesh

Permanent Address: Vill: Nischintapur, Post: Khilpara, Upazilla: Hajigonj, District: Chandpur, Bangladesh.

Nationality: Bangladeshi (By Birth)

Language Proficiency: Bangla (Mother Tongue; Reading, Writing, Listening, Speaking), English (Reading, Writing, Listening, Speaking), Japanese (Reading, Speaking and Listening)