**S. M. Mostafa Kamal Khan, Ph. D**

**Professor**

**Department of Biology & Chemistry**

**North South University**

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**Education**

**Doctor of Philosophy (Ph. D.):** Molecular Science, Department of Biology, Faculty of Molecular and Cellular Science, Graduate School of Science and Technology, Kobe University, Japan. March, 2006.

**Master of Science (M. S.):** Department of Biology, Faculty of Science, Kobe University, Kobe, Japan. March, 2003.

**Research Student:** Department of Biology, Faculty of Science, Kobe University, Kobe, Japan. October 2000 to March 2001.

**Master of Science (M. Sc):** Department of Botany, Faculty of Biological Science, University of Dhaka, Dhaka, Bangladesh, 1994.

**Bachelor of Science (B. Sc. Hons):** Department of Botany, Faculty of Biological Science, University of Dhaka, Dhaka, Bangladesh, 1992.

**Higher Secondary Certificate:** Science Group, Comilla Board, Chandpur Government College, Chandpur, Bangladesh. 1986.

**Secondary School Certificate:** Science Group, Comilla Board, Hajigonj Pilot High School, Hajigonj, Chandpur, Bangladesh; 1984.

**Teaching and Research Experiences**

**February 2016-Till date: Professor,** Department of Biology & Chemistry, North South University, Plot 15, Block B, Bashundhara R/A, Baridhara, Dhaka 1229, Bangladsesh

**January 2014- January 2016: Associate Professor,** Department of Biology & Chemistry, North South University, Plot 15, Block B, Bashundhara R/A, Baridhara, Dhaka 1229, Bangladsesh

**December 2011- December 2014: Associate Professor,** Department of Biochemistry & Microbiology, North South University, Plot 15, Block B, Bashundhara R/A, Baridhara, Dhaka 1229, Bangladsesh

**April 2012- May 2012:** Visiting Researcher, Department of Biology, Faculty of Science, Kobe University, Japan

**May 2008- December 2011:** Assistant Professor, Department of Life Sciences, North South University, Plot 15, Block B, Bashundhara R/A, Baridhara, Dhaka 1229, Bangladsesh.

**June 2011- August 2011:** Visiting Research Fellow, Kobe University, Japan, under JASSO fellowship.

**April 2007- September 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*.

**April 2006 – March 2007:** Research Fellow (Postdoctoral), Department of Bioscience, School of Science and Technology, Kwansei Gakuin University, Japan. Conducted research on; Carbon Concentrating Mechanism; Morphological Analysis of Mitochondrial Carbonic Anhydrase2 in a marine diatom *Phaeodactylum tricornutum*.

**April 2003 – March 2006:** Ph. D. Fellow, Department of Molecular Science, Faculty of Molecular and Cellular Science, Graduate School of Science and Technology, Kobe University, Japan.

**October 2000 – March 2001:**Research Student, Department of Biology, Faculty of Science, Kobe University, Japan

**May 1997 - October 2000:** Worked asOfficer 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.

**Teaching, Research and Professional Experiences at a Galance**

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| **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** |
| **Kobe University** | **Visiting Researcher** | **April 2012** | **May 2012** |
| **Kobe University** | **Visiting Researcher** | **June 2011** | **August 2011** |
| **Kobe University** | **Postdoctoral Research Fellow** | **April 2007** | **September 2007** |
| **Kwansei Gakuin Uni.** | **Postdoctoral Research Fellow** | **April 2006** | **March 2007** |
| **Kobe University** | **Ph. D. Fellow** | **April 2003** | **March 2006** |
| **Kobe University** | **Research Student** | **October 2000** | **March 2001** |
| **National Bank Ltd.** | **P.O. to Officer Grade III-A** | **May 1997** | **October 2000** |

**Research Experience and Achievement**

I carried out the research on bio-monitoring system using heliozoa *Raphidiophrys*; 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 tricornutum* at Kwansei Gakuin University, Japan. During my Ph. D. I carried out research on the toxic effect of heavy metal ions (Zn2+, Pb2+, Hg2+, Cu2+, As3+ and Cd2+) 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 *R.contractilis*: A novel bioassay system for detecting heavy metal toxicity in an aquatic environment*.*” I also found that “Axopodial contraction in the heliozoon *R. contractilis* requires extracellular Ca2+ and external stimuli” that published in Int. J. Zool. Sci., 20, 1367-1372, 2003. Effect of ruthenium red and gadolinium (Gd3+), a stretch activated ion channel blocker, on axopodial contraction in the heliozoon *R. contractilis*. Beside that I conducted research ondepolymerization of microtubule by the effect of metal ions. Degradation of axopodia in the heliozoon *R. contractilis,* role of extracellular Ca2+ to induce microtubule depolymerization and polymerization i.e. how the extracellular Ca2+ play the role of microtubule depolymerization i.e. the involvement of voltage dependent Ca2+ channel in this cell type.

**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, Western Blotting, 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.

**Publications**

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**

**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**

Chisato Yoshimura, **S. M. Mostafa Kamal Khan,** Satoru Nishiyamaand Toshinobu Suzaki (2006): Bio-monitoring system for aquatic hazards using heliozoons**.** **Jap. J. Protozool., 39 (1), 137-138**

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**

**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**

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**

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**

**S. M. Mostafa Kamal Khan**, Mikihiko 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**

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**

**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**

Toshinobu Suzaki,Mikihiko Arikawa, Akira Saito, Gen Omura, **S. M. Mostafa Kamal Khan,** Miako Sakaguchi andKlaus Hausmann (2003): Organelle movement in *Actinophrys sol* and its inhibition by cytochalasin B. **Acta Protozool., 42, 7-10**

Mikihiko 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 demembranated macronuclei in the hypotrichous ciliate *Euplotes aediculatus*. **Cell Calcium, 33, 113-117**

**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

Akira Saito, Yasutaka Suetomo, Mikihiko 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**

Mikihiko 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, 365-372**

**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**

Miako Sakaguchi, Toshinobu Suzaki, **S. M. Mostafa Kamal Khan** andKlaus Hausmann (2002): Food Capture by kinetocysts in the heliozoon *Raphidiophrys contractilis*. **Europ. J. Protist., 37, 453-458**

**Scientific Meeting Attendance**

1. International Symposium for Supporting Women Scientists; March, 2007; Nara Women University, Japan,

Oral Presentation

###### S. M. Mostafa Kamal Khan: Women in the scientific Research: Bangladesh Scenario

2. 38th Annual Conference, 2005, Japan Society of Protozoology, Obihiro, Japan. Oral Presentation

**S. M. Mostafa Kamal Khan** and Toshinobu Suzaki: Axopodial degradation by the effect of arsenic ions

and pH in the heliozoon *Raphidiophrys contractilis*.

3. 7th Symposium on Asian Academic Network for Environmental Safety and Waste Management

(AANESWM), 2005, Tokyo, Japan. Poster Presentation.

Chisato Yoshimura, **S. M. Mostafa Kamal Khan,** Satoru Nishiyamaand Toshinobu Suzaki: A novel

bio-monitoring system with heliozoa (protozoa) for detecting toxicants in aquatic environment.

4. 12th International Congress of Protozoology, 2005, Guangzhou, China. Oral Presentation.

**S. M. Mostafa Kamal Khan**, Mikihiko Arikawa and Toshinobu Suzaki: Axopodial contraction requires

extracellular calcium and external stimuli in the heliozoon *Raphidiophrys contractilis*.

5. 37th Annual Conference, 2004, Japan Society of Protozoology, Yamaguchi, Japan. Poster Presentation.

**S. M. Mostafa Kamal Khan**, Mikihiko Arikawa and Toshinobu Suzaki: Toxic effect of heavy metal ions

on the heliozoon *Raphidiophrys contractilis*.

6. 75th Annual Conference, 2004, Zoological Society of Japan, Konan University, Kobe, Japan.

**S. M. Mostafa Kamal Khan**, Mikihiko Arikawa and Toshinobu Suzaki: Affect of heavy metals on the

heliozoon *Raphidiophrys contractilis*.

7. 73rd Annual Conference, 2002, Zoological Society of Japan, Kanazawa, Japan. Poster Presentation.

**S. M. Mostafa Kamal Khan** and Toshinobu Suzaki: Comparative study of axopodial contraction in

heliozoan.

8. 35th Annual Conference, 2002, Japan Society of Protozoology, Kochi, Japan. Poster Presentation.

**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*.

9. 34th Annual Conference, 2001, Japan Society of Protozoology, Kobe, Japan. Poster Presentation.

**S. M. Mostafa Kamal Khan** and Toshinobu Suzaki: Inhibitory effect of toxic substance of the heliozoon

*R. 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 Comilla Zill Samittee

7. Member: Chandpur Zilla Samittee

**Academic Awards**

1. Visiting Researcher, Kobe University, Japan. May 2012 to June 2012

2. Japan Student Services Organization (“JASSO”) Research Fellowship in Kobe University, Japan.

June 2011 - September 2011.

3. Postdoctoral Research Fellow, Department of Bioscience, School of Science and Technology,

Kwansei-Gakuin University, Japan. Under the support of grant for the University-Industry Joint Research

Project from Ministry of Education, Culture, Sports, Science and Technology (MEXT), Japan.

April 2006 - March 2007.

4. Ph.D. Fellowship from Ministry of Education, Culture, Sports, Science and Technology

(MONBUKAGAKUSHO) Japan. April 2003 - March, 2006.

5. M. S. Fellowship from the Ministry of Education, Culture, Sports, Science and Technology

(MONBUKAGAKUSHO) Japan. April 2001 - March 2003.

6. Research Fellowship from the Ministry of Education, Culture, Sports, Science and Technology

(MONBUKAGAKUSHO) Japan. October 2000 - March 2001.

**Personal Information**

**Date of Birth:** September 01, 1969

Father’s Name: Late Abdur Rahman Khan

Mother’s Name: Mrs. Ayesha Rahman

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

**Permanent Address:** Village: Nischintapur, Post Office: Khilpara, Upazilla: Hajigonj, District:

Chandpur, Bangladesh. E-mail**:** smkk0901@yahoo.com & mkkhan@northsouth.edu

**Nationality:** Bangladeshi (By Birth)

**Language Proficiency:** Bangla (Reading, Writing, Listening, Speaking), English (Reading, Writing, Listening, Speaking), Japanese; Reading (Hiragana & Katakana), Speaking and Listening.

**References**

**Dr. Toshinobu Suzaki:** Professor, Department of Molecular Science, Faculty of Molecular Structure and Function, Kobe University, 1-1 Rokkodai Cho, Nada Ku, Kobe Shi 657-8501, Japan.

Tel-Fax: 81-78-803-5722, HP: 81-090-74811-853, **E-mail: suzaki@kobe-u.ac.jp**

**Dr. Fumio Hayashi:** Professor,Department of Molecular Science, Faculty of Molecular Structure and Function, Kobe University, 1-1 Rokkodai Cho, Nada Ku, Kobe Shi 657-8501, Japan.

Tel-Fax: +81-78-803-5751, **E-mail:** fhayashi@kobe-u.ac.jp