

Feroz Ahmed

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Portfolio: <https://github.com/ferozkuetupc/>
Google Scholar:
[/citations?user=KXQCEEMAAAAJ&hl=en](https://scholar.google.com/citations?user=KXQCEEMAAAAJ&hl=en)

EDUCATION

Okayama University Ph.D. in Medical Bioengineering Thesis: Visualization of interaction of solutions through microfluidic chips using Terahertz technology Url: https://ousar.lib.okayama-u.ac.jp/ja/62159	Okayama, Japan March 2021
Polytechnic University of Catalonia Master in Photonics Thesis: Robust Modular Optical Biosensors Url: https://upcommons.upc.edu/handle/2099.1/19033	Barcelona, Spain September 2013
Khulna University of Engineering and Technology Bachelor of Science (B.Sc.) in Electrical and Electronic engineering Thesis: An Automatic speaker recognition system	Khulna, Bangladesh March 2007

RESEARCH INTERESTS

Laser sensing, imaging and spectroscopy, microfluidics, micro and nano fabrication, cell culturing, fluid dynamics, optical bio-sensing, electro-chemistry, chemical and biological samples analysis, Terahertz (THz) chemical microscopy.

JOB EXPERIENCE

Researcher, Tsukuba University Faculty of Pure and Applied Sciences, Department of Applied Physics Responsibilities: THz laser spectroscopy with the analysis of chemical and biological samples	Tsukuba, Japan Sep. 2022– present
Researcher, Okayama University Faculty of Interdisciplinary Science and Engg. in Health Systems Responsibilities: Microfluidic chip fabrication, Terahertz imaging and spectroscopy	Okayama, Japan May 2021– Mar. 2022
Plant and Consultant Engineer Hi-VAN Bangladesh Ltd., jointly work with Sitecno, Barcelona, Spain Responsibilities: Feasibility study on and off-grid project sites in Bangladesh, On-grid and off-grid photo-voltaic solar cells installation	Dhaka, Bangladesh Jan. 2015– Sep. 2017
Lecturer Prime University, Dept. of Electrical and Electronic Engg. Responsibilities: Delivered lectures on electrical engineering and electronics courses. Conducted laboratory experiments on electronics, electrical machines. Attended international and national symposiums for research and development.	Dhaka, Bangladesh Apr. 2008– Sep. 2012
Site Supervising Engineer TecPro Tele Engineering Ltd., A Telecom sub-vendor Responsibilities: Site commissioning and installation of BTS in GSM/WIMAX network with vendor Ericsson, HUAWEI. Site investigation for base transceiver station (BTS) installation and dismantling of telecom equipment. Familiar with site survey telecom tool. Acquired knowledge on RF planning and optimization.	Dhaka, Bangladesh Oct. 2007– Oct. 2008

AWARDS AND SCHOLARSHIPS

- Research scholarship of Otsuka Scholarship Foundation, Osaka from 2018-2019.
- University merit scholarship for good academic results in junior year of B.Sc., 2005.
- National Borad Merit Scholarship for excellent academic results in senior school education, 2001.

TECHNICAL SKILLS

Programming: ANSYS Fluent, SolidWorks, C, Python (beginner), L^AT_EX; Scientific Computing Environment: LabVIEW

PUBLICATIONS

- [1] **Feroz Ahmed***, Masashi Shimizu, Jin Wang, Kenji Sakai, and Toshihiko Kiwa. Optimization of microchannels and application of basic activation functions of deep neural network for accuracy analysis of microfluidic parameter data. (* *correspondence*) *Micromachines*, 13(8):1352, 2022.
- [2] **Feroz Ahmed***, Yuichi Yoshida, Jin Wang, Kenji Sakai, and Toshihiko Kiwa. Design and validation of microfluidic parameters of a microfluidic chip using fluid dynamics. (* *correspondence*) *AIP Advances*, 11(7):075224, 2021.
- [3] **Feroz Ahmed***, Atsuya Mahana, Katsuya Taniizumi, Jin Wang, Kenji Sakai, and Toshihiko Kiwa*. Terahertz imaging technique for monitoring the flow of buffer solutions at different ph values through a microfluidic chip. (* *correspondence*) *Japanese Journal of Applied Physics*, 60(2):027003, 2021.

- [4] **Feroz Ahmed**, Tatsuki Kamiya, Yuki Maeno, Toshihiko Kiwa, Kenji Sakai, and Keiji Tsukada. Improvement of contrast of terahertz images of a terahertz chemical microscopy using adaptive digital filter. In *2019 International Conference on Computer, Communication, Chemical, Materials and Electronic Engineering (IC4ME2)*, pages 1–4, 2019.
- [5] P Chakraborty, **Ahmed, F**, Md Kabir, Md Shahjahan, Kazuyuki Murase, et al. An automatic speaker recognition system. In *2007 14th International Conference on Neural Information Processing*, pages 517–526. Springer, 2007.
- [6] Mohammad Rokonzaman, SM Ferdous, Sayedus Salehin, SMAA Hasnine, and **Ahmed, Feroz**. Smooth track-keeping and real time obstacle detection algorithm with pid controller for a wheeled line following robot. In *2010 International Conference on Mechanical, Industrial and Energy Engineering, Khulna, Bangladesh. 23-24 December, 2010*, pages 1–6, 2010.

INVITED TALKS

- Feroz Ahmed, Atsuya Mana, Katsuya Taniizumi, Jin Wang, Kenji Sakai, Toshihiko Kiwa. THz technology applied in Microfluidics with lifesaving analysis in health industry. (Invited Talk via Webinar. Dhaka, Bangladesh. Oct.7, 2021). 2021 Online Webinar hosted by Faculty of Engineering, American International University of Bangladesh (AIUB), Dhaka, Bangladesh.
- Feroz Ahmed, Atsuya Mana, Katsuya Taniizumi, Jin Wang Kenji Sakai, Toshihiko Kiwa. Analysis of the interaction of multi-phases flow of fluids through internal micro flow channels of a microfluidic chip using THz image sensing technology. (Invited Online Oral Presentation). Changchun, China. Sep. 14-16,2021. 2021 Online International Conference on the Corporation and Integration of Industry, Education, Research and Application.
- Feroz Ahmed, Atsuya Mahana, Katsuya Taniizumi, Kenji Sakai, Toshihiko Kiwa. Monitoring of Different pH Buffer Solutions' Interaction in Micro Flow Channels Fabricated by PolyDiMethylSiloxane (PDMS) (Online Conference). Tokyo, Japan. Sep. 8-11, 2020. 81st JSAP-OSA Joint Symposium, September 8-11, 2020.
- Feroz Ahmed, Tatsuki Kamiya, Yuki Maeno, Toshihiko Kiwa, Kenji Sakai and Keiji Tsukada. Improvement of contrast of Terahertz Images of a Terahertz Chemical Microscopy using Adaptive Digital Filter and its applications in Biomedical engineering (Invited talk). Dhaka, Bangladesh. Jul. 13, 2019. Ahsanullah University of Science and Technology (AUST), Dhaka, Bangladesh.
- Toshihiko Kiwa, Yuki Maeno, Atsuya Mana, Feroz Ahmed, Kenji Sakai, Keiji Tsukada. Measurement of ion concentration in minute solution by terahertz wave chemical microscope (Invited talk). KitaKyushu, Japan. May. 18-19, 2019. 79th Analytical Chemistry Discussion Meeting 18-19 May, 2019.

POSTER PRESENTATION

- F. Ahmed, N. Darwish, F. Palacio-Bonet, M.A. Giménez-Conejo, I. Bernat-Ubiaga, A. Romano-Rodríguez, M. Moreno-Sereno, Department of Electronics, Universitat de Barcelona, C/Marti i Franquès 1, 08028 Barcelona. Instrumentation for a Multichannel Optical Waveguide Lightwave Spectroscopy. Optical and X-Ray Metrologies of key enabling Nanomaterials/devices for the Ubiquitous Society, Renewable energy and Health (OptoX-NANO), Okayama Convention Center, Okayama, Japan, 19-23 November 2017.
- Yuki Maeno, Atsuya Mahana, Feroz Ahmed, Toshihiko Kiwa, Kenji Sakai, Keiji Tsukada. Detection of ions in solutions without a reference electrode using a Terahertz Chemical Microscope. Busan. The 5th International Symposium on Microwave/Terahertz Science and Applications, MTSA2019, 29 Sep.-3 Oct. 2019, Busan, Korea, Mo-POS-29.
- Yuki Maeno, Atsuya Mahana, Feroz Ahmed, Toshihiko Kiwa, Kenji Sakai, Keiji Tsukada. Fabricating micro wells for measurement of ions in solutions using a Terahertz Chemical Microscope. Optical and X-Ray Metrologies of key enabling Nanomaterials/devices for the Ubiquitous Society, Renewable energy and Health (OptoX-NANO), Okayama convention center, Okayama, Japan, 02-05 December 2019.

HOBBY/EXTRA-CURRICULAR ACTIVITIES

- Ex-Member, Okayama University Photographic Society, Japan. Landscape professional photography- awarded by the Setouchi Inland sea tourism, western Japan.
- Ex-Member, international students' circle union, Okayama university. Arranged university's central international students' event, plan and policy making of extra-curricular activities of international students of the university