ATTAYEB MOHSEN

Bioinfomatics project. NIBIOHN
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Physician, Molecular and computational biologist working in Big data analysis including microarray gene expression profiles and next-generation sequencing, with experience in Machine learning and Microbiome data analysis. I did my PhD in neuropharmacology and interested in utilizing artificial intelligence in medical research.

CAREER PROFILE

National Institutes of Biomedical Innovation, Health and Nutrition Since April 2015
Artificial Intelligence Center for Health and Biomedical Research (ArCHER) (Post-doctoral researcher)
Laboratory of Bioinformatics, Osaka, Japan

- Microarray data analysis (mRNA and MiRNA). Side effects prediction using gene expression profiles (Won the poster excellent award in Japanese Chemo-bioinformatics meeting Tokyo, 2016)
- Next Generation Sequencing (NGS) data analysis (Microbiome): Developed (Auto-q) automating script for QIIME 1 pipe line.
- Deep learning and shallow machine learning.

Tohoku University October 2014 – April 2015
Tohoku University Cyclotron and Radio-isotope center (Post-doctoral researcher)

- NIRS (Near InfraRed Spectrophotometry)
- PET (Positron emission tomography)
- Participated in a project to study the effect of Antihistamines on the brain blood supply using PET imaging and NIRS, Developed a script to record the response of the experiment subjects and analyze their cognitive abilities.

Ph. D in Medical sciences , Pharmacology and neuroscience September 2014
Department of Pharmacology,
Tohoku University Graduate school of Medicine, Sendai, Japan.
THESIS - The role of histaminergic neurotransmission in locomotor activity and anxiety-like-behaviors in mice.

Post Graduate Diploma in Occupational Medicine and Health, September 2009
School of Health Systems and Public Health.
University of Pretoria, Pretoria, South Africa.

Hospitals September 2007 – April 2010
Tripoli Central Hospital and National Heart Center (General practitioner)

- Follow up of the in-patients in Medical ward in Tripoli Central Hospital.
- Deliver emergency care in Tripoli Central Hospital Medical department, and National Heart Center Cardiology Emergency Room.

Bachelor of Medicine and Surgery MB. ChB, May 2007
School of Medicine,
University of Benghazi (Al-Arab Medical University), Benghazi, Libya.

TECHNICAL STRENGTHS

Operating systems	Linux, Mac and Windows
Programming languages	• Python (Data analysis, Automating scripts, Deep learning using Tensorflow and Keras packages) • R (Bioconductior, Microarray data analysis) • Familiar with other programming languages and frameworks such as: C/C++, JAVA, GO, Kotlin, Rust, Flutter
Databases	SQL, SPARQL
Bioinformatics	• Microarray data analysis (MiRNA, mRNA) • Next Generation Sequencing (NGS) data analysis • Metagenomic data analysis (16S Amplicon and Shotgun data) • Gene differential expression, Gene enrichment analysis • Machine learning (Random Forest, SVM, Deep learning, word2vec) • Automation and optimization
Laboratory skills	• RNA extraction, Polymerase Chain Reaction (PCR) • High Pressure Leukochromatography (HPLC) • Immunohistochemistry • Cell culture techniques • Animal behavior

PROFESSIONAL SOCIAL MEDIA ACCOUNTS

ORCID:	https://orcid.org/0000-0003-0690-8012
ResearchGate:	https://www.researchgate.net/profile/Attayeb_Mohsen
Linkedin:	https://www.linkedin.com/in/attayebmohsen
Google-Scholar:	https://goo.gl/u2BK7B

PUBLICATION

Doctorate dissertation

Tohoku University-Graduate School of Medicine

- The role of histaminergic neurotransmission in locomotor activity and anxiety-like-behaviors in mice.

Journal articles

Citations=112; h-index=5; i10-index=5

- Asuka Kikuchi, Fairuz Binti Mohammadi Nasir, Akie Inami, Attayeb Mohsen, Shoichi Watanuki, Masayasu Miyake, Kazuko Takeda, et al. "Effects of Levocetirizine and Diphenhydramine on Regional Glucose Metabolic Changes and Hemodynamic Responses in the Human Prefrontal Cortex during Cognitive Tasks." Human Psychopharmacology 33, no. 2 (March 2018): e2655-e2655. https://doi.org/10.1002/hup.2655

- Attayeb Mohsen, Takeo Yoshikawa, Yamato Miura, Tadaho Nakamura, Fumito Naganuma, Katsuhiko Shibuya, Tomomitsu Iida, et al. "Mechanism of the Histamine H3 Receptor-

Mediated Increase in Exploratory Locomotor Activity and Anxiety-like Behaviours in Mice." Neuropharmacology 81 (June 2014): 188-94. https://doi.org/10.1016/j.neuropharm.2014.02.003. [cited 13 times]

- Takeo Yoshikawa, Tadaho Nakamura, Tetsuro Shibakusa, Mayu Sugita, Fumito Naganuma, Tomomitsu Iida, Yamato Miura, Attayeb Mohsen, Ryuichi Harada, and Kazuhiko Yanai. "Insufficient Intake of L-Histidine Reduces Brain Histamine and Causes Anxiety-like Behaviors in Male Mice." The Journal of Nutrition 144, no. 10 (October 2014): 1637-41. https://doi.org/10.3945/jn.114.196105
- Fumito Naganuma, Takeo Yoshikawa, Tadaho Nakamura, Tomomitsu Iida, Ryuichi Harada, Attayeb S. Mohsen, Yamato Miura, and Kazuhiko Yanai. "Predominant Role of Plasma Membrane Monoamine Transporters in Monoamine Transport in 1321N1, a Human Astrocytoma-Derived Cell Line." Journal of Neurochemistry 129, no. 4 (May 2014): 591-601. https://doi.org/10.1111/jnc.12665 [cited 21 times]
- Yoshikawa, Takeo, Fumito Naganuma, Tomomitsu Iida, Tadaho Nakamura, Ryuichi Harada, Attayeb S. Mohsen, Atsuko Kasajima, Hironobu Sasano, and Kazuhiko Yanai. "Molecular Mechanism of Histamine Clearance by Primary Human Astrocytes." Glia 61, no. 6 (2013): 905-916. https://doi.org/10.1002/glia.22484 [cited 54 times]
- Tadaho Nakamura, Takeo Yoshikawa, Fumito Naganuma, Attayeb Mohsen, Tomomitsu Iida, Yamato Miura, Akira Sugawara, and Kazuhiko Yanai. "Role of Histamine H3 Receptor in Glucagon-Secreting αTC1.6 Cells." FEBS Open Bio 5 (2015): 36-41. https://doi.org/10.1016/j.fob.2014.12.001 [cited 2 times]
- Tomomitsu Iida, Takeo Yoshikawa, Takuro Matsuzawa, Fumito Naganuma, Tadaho Nakamura, Yamato Miura, Attayeb S. Mohsen, Ryuichi Harada, Ren Iwata, and Kazuhiko Yanai. "Histamine H3 Receptor in Primary Mouse Microglia Inhibits Chemotaxis, Phagocytosis, and Cytokine Secretion." Glia 63, no. 7 (July 2015): 1213-25. https://doi.org/10.1002/glia.22812. [cited 12 times]

Applications

- Attayeb Mohsen, Kenji Mizuguchi: Auto-q Qiime Analysis Automating Script. https://doi.org/10.5281/zenodo.1439555.
- Attayeb Mohsen, Hiroshi Watabe: tasks for fNIRS. Human Psychopharmacology: Clinical and Experimental. https://doi.org/10.5281/zenodo.2099912

Selected conference papers

- Attayeb Mohsen, Yi-An Chen, Kenji Mizuguchi: "Using domain-specific vocabulary to detect multiple-word phrases to improve word2vec embedding performance in Medical literature." CBI 2018, Tokyo Japan; 10/2018
- Jonguk Park, Kumpei Tanisawa, Koji Hosomi, Hitoshi Kawashima, Attayeb Mohsen, et. al. "Large-scale analysis of the gut microbiome of healthy Japanese populations", 17th International Symposium on Microbial Ecology, Germany, August 2018.
- Attayeb Mohsen, Jonguk Park, Yi-An Chen, Hitoshi Kawashima, Kenji Mizu-guchi: "Impact of read trimming on Illumina paired-end-sequencing samples in the microbiome analysis using Qiime". CBI 2017; 10/2017
- Attayeb Mohsen, Kenji Mizuguchi: "Using gene expression profiles to identify the underlying mechanism of adverse drug events." Chem-Bio Informatics Society(CBI) Annual Meeting 2016, Tokyo, Japan; 10/2016; [Excellent poster award]
- Attayeb Mohsen, Attayeb, Fumito Naganuma, Katsuhiko Shibuya, Tadaho Nakamura, Takeo Yoshikawa, Nobuyuki Okamura, and Kazuhiko Yanai."H3 receptor blockade increases locomotor activity in sleep-deprived wild type and H1 receptor knockout mice." In Journal of Pharmacological Sciences, vol. 118,

pp. 151P-151P. Japanese Pharmacological society 2012.

- Attayeb Mohsen, Takeo Yoshikawa, and Kazuhiko Yanai. "Effect of chronic sleep deprivation and dietary histamine on mice locomotor and anxiogenic-like behavior." In Journal of Pharmacological Sciences, vol. 121, pp. 81P-81P. Japanese Pharmacological Society, 2013.

HONORS

- Scholarship: Japanese Government (Monbukagakusho) Scholarship (Apr 2010-Sep 2014)
- Poster award in JSPS-NRF Asian Science Seminar 2012, New prospectives in the Neuroscience of Psychiatric and Neurological disorders. University of Seoul, South Korea.
- Excellent Poster Award in CBI Annual meeting 2016. Tokyo, Japan.

PERSONAL TRAITS

- Languages:
  - ◇ English(Full professional proficiency (IELTS Band Score: 8))
  - ◇ Arabic (Native speaker)
  - ◇ Japanese (Daily life proficiency)
- Highly motivated and eager to learn new things.
- Strong motivational and leadership skills.
- Ability to work as an individual as well as in group.