



Luis Alfredo Moctezuma

Scientist

Eriksholm Research Centre / Oticon and Aalborg University
Copenhagen, Denmark.

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- **Family name, First name:** Moctezuma Pascual, Luis Alfredo
- **Date/place of birth:** 02-December-1991 / Coscomatepec Veracruz, Mexico
- **Languages:** Spanish (Native), English (Fluent in spoken and written)

I am a Scientist at [Eriksholm Research Centre / Oticon](#) and [Aalborg University](#) in Copenhagen, Denmark. My work involves developing sensor fusion algorithms and machine learning models to integrate multimodal physiological data, including EEG/EOG from hearing aid users. I conduct research to improve auditory attention tracking for hearing aids, collaborating with partners such as the Centre for Acoustic Signal Processing Research (CASPR) at Aalborg University.

I have published widely in key journals, including Frontiers in Neuroscience, Scientific Reports, and International Conferences such as Brain Informatics and IEEE BRAIN / MetroXRaine / EMBC.

Career Goals and Prospects:

In the medium term, I envision myself working as a researcher in a research center / institute or university, performing high-quality research, collaborating with the top members of the research community, mentoring Master's and Ph.D. students, and also gaining administrative experience.

I hope that my research can contribute to making EEG/health-related technology more user-friendly. I plan to apply for funding for the new ideas emerging from my research to support real-life implementation of the applications with the highest impact.

My goal is to become a recognized member of the research community in brain signal analysis, especially working with brain-computer interfaces (BCI) and EEG-based applications. As such, I would like to collaborate with research organizations and universities around the world with the aim of proposing novel EEG-based solutions and applications.

Current research interest

My main interest is, but not limited to: Health-related research, Brain-Computer Interfaces - BCIs, EEG signals, EEG event detection, sleep EEG, sleep emotions, classification/detection of epileptic seizures, multi-objective optimization, non-stationary signal processing, feature extraction, machine/deep learning.

Last Hardware, software, code and technical skills used

- Python, Matlab, Java, C, C#, Clojure, Ruby, JavaScript, AWK, bash, SQL/noSQL, LaTeX, parallel computing, multi-threading, git/GitHub, Amazon Web Services (AWS), Inkscape, computer engineering.
- **Python libraries/frameworks:** Torch/TensorFlow, Scikit-learn, Pandas, NumPy, Django, FastAPI, OAuth Toolkit, Dask, Jupyter.

- **High-performance computing experience:** [IDUN HPC](#) (Norwegian University of Science and Technology, NTNU), [Pegasus and Cygnus](#) (University of Tsukuba), and internal GRID servers at Oticon.

Current and previous positions

2025.02–date [Scientist](#), [Eriksholm Research Centre](#) / [Oticon](#) and [Aalborg University](#), Copenhagen, Denmark.

- Develop sensor fusion algorithms and machine learning models to dynamically integrate multimodal physiological data from hearing aid users based on their listening context.
- Conduct research in both laboratory and real-world environments to enhance auditory attention tracking for hearing aids.
- Collaborate with academic and industry partners, including the Centre for Acoustic Signal Processing Research (CASPR) at Aalborg University, on auditory perception research.
- Assess the impact of attention-steered beamforming and multimodal attention tracking algorithms on user satisfaction with hearing aids.
- Design and implement solutions that contribute to real-world applications in hearing care, working closely with Oticon's R&D teams.
- Project specialist, data collection/analysis of EEG/earEEG/video/audio/Gaze data to improve hearing aid user experience and auditory attention decoding.

2022.11–2025.01 [Postdoctoral Researcher](#), [International Institute for Integrative Sleep Medicine \(WPI-IIS\)](#), University of Tsukuba. Tsukuba, Ibaraki, Japan.

- Research on EEG signal analysis, such as Empirical Mode Decomposition, Discrete Wavelet Transform, Gated recurrent unit (GRUs), Convolutional Neural Networks (CNN), etc.
- Propose new methods for the classification of emotions during sleep/awake using machine/deep learning.
- Use EEG signals to automatically classify dream and dreamless sleep states.
- Research on new methods for sleep staging.
- Optimization methods and its application to the EEG channel selection
- Collaborate with researcher to propose new machine/deep learning architectures.
- Collaborate in the collection of EEG data on emotions during wakefulness and sleep, participating in both data recording and comprehensive data analysis.

2021.12–2022.10 [Researcher in Machine Learning](#), [Department of Physics and Technology](#), UiT The Arctic University of Norway. Tromsø, Troms og Finnmark, Norway.

- Development, validation and implementation of new algorithms and tools for clinical decision support.
- Supervision of master's degree students.
- Propose new methods for data-driven labeling, data imputation, and classification.
- Collaborate with medical professionals and researchers in machine learning.

2018.06–2021.12 [Research fellow](#), [Department of Engineering Cybernetics](#), Norwegian University of Science and Technology - NTNU. Trondheim, Trøndelag, Norway.

- Research on EEG signal analysis methods and Brain-computer interfaces (BCIs).
- Collaborate with Ph.D. students and postdoctoral researchers to propose new methods for EEG channel selection and feature extraction.

- Supervision of master's degree and visiting students.

2017.08–2018.05 Software Developer / Backend Software Engineer, [BlueMessaging](#). Mexico City, Mexico.

- Participate in sprint estimation and planning. Releases to the production environment. Development versioning.
- Investigate and test machine learning and Natural Language Processing (NLP) algorithms.
- Implement relational / non-relational databases. Develop features for a chatbot platform. Design and development of REST API.
- Management of third-party APIs/services (Twitter, Facebook, Google, Webhooks). Management and creation of resources in Amazon Web Services (AWS), ElastiCache/ECS.

2012.08–2015.03 Firefighter level 1 (part-time volunteer). [H. Cuerpo De Bomberos Voluntarios De La Piedad](#). La piedad, Michoacán, Mexico.

2010.08–2015.07 Assistant in Telecommunications / Networks (part-time, full-time as of 2015.01). [Grupo Nu3](#). La Piedad, Michoacán, Mexico.

- Support to administration systems, network administration.

Education

2018.06–2021.08 PhD, Engineering Cybernetics, [Norwegian University of Science and Technology - NTNU](#). Trondheim, Norway.

2015.08–2017.06 M.Sc., Computer Science, [Benemerita Universidad Autonoma de Puebla \(BUAP\)](#). Puebla, Mexico.

2010.08–2014.12 B.Sc., Computer Systems Engineering, [National Technological Institute of Mexico](#). La Piedad Michoacán, Mexico.

Honours, Grants and Awards

Grants

2022 Deciphering the emotional nature of dreams from brain waves that occur during REM sleep. **Project manager** for the 2-year [Postdoctoral fellowship](#) funded by the [Japan Society for the Promotion of Science \(JSPS\)](#) under the [Research Council of Norway \(RCN\)](#) call [Nomination for Two Postdoctoral Fellowship Positions in Japan](#): **~11M JPY**

2021 [BrainID](#): EEG-Based Person Identification and Authentication System. **Project manager** for pilot project funded by [NTNU Discovery](#): **200K NOK**

2015 2-year [Master's degree scholarship](#) funded by the [Consejo Nacional de Humanidades Ciencias y Tecnologías \[National Council of Humanities, Sciences, and Technologies\] \(CONAHCYT\)](#), Mexico: **~260K MXN**

2014 SEP-SRE “PROYECTA 100,000”, funded by the [Mexican government](#): **~85K MXN**

Honors and Awards

10.2024 [Best Poster Presentation Award](#) at the [Asian Society of Sleep Medicine Interim Meeting](#) held in Tokyo, Japan.

01.2024 [IOP Trusted Reviewer](#), Journal of Neural Engineering. [Blockchain ID](#): 824987

- 01.2023-12.2027** [National Researcher Level I](#), Area VIII: Engineering and technological development, by the [Sistema Nacional de Investigadores](#) [National Research System] (SNI), CONAHCYT, Mexico.
- 2017** [Second place](#) in the best master's degree [thesis](#) award, [Mexican Society for Artificial Intelligence](#)
- 2016** First place in the contest of technologies of language, in the First School of Autumn, Technologies of Language. INAOE-BUAP, Mexico.
- 2014** [4-week language and culture](#) program - [ELI English Language Institute](#). Missouri State University, USA.
- 2014.05-date** Oracle Certified Professional, Java SE 6 Programmer. Credential ID: [233009103OCPJSE6P](#)
- 2013** [First place](#) in the development of software prototypes by [Develop Talent & Technology](#) and [AGS Nasoft \(Now AN Global\)](#)

Other Evidence of Academic/Professional Standing:

- 01.2024** Evaluator for the call [Ciencia Básica y de Frontera 2023-2024](#) [basic and frontier science], CONAHCYT, Mexico.
- 12.2023** [Postdoctoral Evaluator](#), CONAHCYT, Mexico.
- 09.2020** **Guest lecturer:** Adaptive Data Analysis: Theory and Applications. *Continuous and Discrete Wavelet Transforms*. Department of Engineering Cybernetics, Faculty of Information Technology and Electrical Engineering. NTNU, Trondheim, Norway.
- 2013** **Conference course:** *Git and GitHub for version control*, National Technological Institute of Mexico, La Piedad Michoacán, Mexico.

Invited Talks:

- 12.2023 Unlocking the Secrets of Sleep: A Journey into Sleep Research and Artificial Intelligence. [Japan Society for the Promotion of Science \(JSPS\): Science Dialogue Program](#). Chiba Municipal Chiba High School. Chiba Japan.
- 04.2023 Sleep staging and automatic identification of dream emotions during REM sleep. Department of Computer Science, [National Institute of Astrophysics, Optics and Electronics](#) (INAOE). Puebla, Mexico.
- 10.2022 Machine learning for prediction of postoperative spine surgery outcome. Department of Clinical Medicine, University of Copenhagen. Copenhagen, Denmark.
- 12.2017 [Brain-computer interfaces using machine learning and EEG signals](#). National Technological Institute of Mexico, [Instituto Tecnológico Superior de la Montaña](#). Tlapa Guerrero, Mexico.

Research Organizations Membership:

- 2022** Member of the [Visual Intelligence Center](#) for research-based innovation at UiT Tromsø Norway.
- 2022** Member of the [Machine Learning Group](#) at UiT Tromsø Norway.
- 2019-2020** [Member](#) of the CONAHCYT thematic network on [applied computational intelligence \(RedICA\)](#).

Conference Committee member:

- **Technical Program Committee:** IEEE International Conference on Metrology for eXtended Reality, Artificial Intelligence and Neural Engineering (2024)
[IEEE MetroXRaine 2024](#)
- **Technical Program Committee:** The 32th European Symposium on Artificial Neural Networks, Computational Intelligence and Machine Learning (2024)
[ESANN 2024](#)
- **Technical Program Committee:** IEEE International Conference on Metrology for eXtended Reality, Artificial Intelligence and Neural Engineering (2023)
[IEEE MetroXRaine 2023](#)
- **Co-chair - Time Series Modelling:** The 22nd World Congress of the International Federation of Automatic Control (2023)
[IFAC 2023](#)
- **Technical Program Committee:** The Fifteenth International Conference on Advanced Cognitive Technologies and Applications
[COGNITIVE 2023](#)
- **Technical Program Committee:** The Seventh International Conference on Neuroscience and Cognitive Brain Information
[BRAININFO 2022](#)
- **Technical Program Committee:** The Fourteenth International Conference on Advanced Cognitive Technologies and Applications
[COGNITIVE 2022](#)
- **Technical Program Committee:** The Sixth International Conference on Neuroscience and Cognitive Brain Information
[BRAININFO 2021](#)

Reviewer and Editorial Board Member experience:

You can view some of my [reviewer certificates here](#), and find additional information on my [Web of Science profile](#). • [Scientific Reports](#) • [Journal of Neural Engineering](#) • [IEEE Access](#) • [Frontiers in Computational Neuroscience](#). • [Frontiers in Neuroscience - Brain Imaging Methods](#). • [Biomedical Signal Processing and Control](#) • [Computer Methods and Programs in Biomedicine Update](#) • [IEEE Transactions on Human-Machine Systems](#) • [Artificial Intelligence In Medicine](#) • [Measurement](#) • [Biomedical engineering / Biomedizinische technik \(bmt\)](#) • [Advances in Data Science and Adaptive Analysis](#) • [Biocybernetics and Biomedical Engineering](#) • [Iranian Journal of Science and Technology](#), [Transactions of Electrical Engineering](#) • [Indian Journal of Science and Technology](#) • [Revista Facultad de Ingeniería](#)

Collaboration and Supervision experience

Collaborations

- 2018–date, [Marta Molinas](#), NTNU, Trondheim, Norway.
- 2021-2025, [Takashi Abe](#), WPI-IIIS, University of Tsukuba, Tsukuba, Ibaraki, Japan.
- 2022, [Benjamin Ricaud](#), UIT, Tromsø Norway.
- 2022, [Karl Øyvind Mikalsen](#), UIT, Tromsø Norway.

Visiting Research

- 2020, 1-week research visit, [Veikko Jousmäki](#). Aalto University, Espoo, Finland.
- 2019, 2-week research visit, [Antonio C Leite](#), Pontifical Catholic University of Rio de Janeiro (PUC), Rio de Janeiro, Brazil.
- 2013, 3-month internship, [Rafael Morales Gamboa](#), University of Guadalajara, Guadalajara, Jalisco, Mexico. Project [Trivia Matematica](#)

Co-supervision

Theses

M.Sc.: 18

2026–2027 Daniel Alejandro Sánchez Castro, M.Sc., INAOE, Puebla, Mexico.

Title: [DL-based Sleep staging](#).

2024–2025 Daniel Nicolai Grønn, M.Sc., NTNU, Trondheim, Norway.

Title: [A Modular Brain-Computer Interface Framework for Autonomous Swarm Drone Navigation](#). Handle.net: [11250/5320855](#)

2023–2024 André Torvestad & Mithila Packiyathan, M.Sc., NTNU, Trondheim, Norway.

Title: [Towards a Dream Decoder: Classification and Analysis of Dreamful Experiences During Sleep Using Electroencephalography Signals](#). Handle.net: [11250/3157099](#)

2022–2023 Karoline Seljevoll Herleiksplass, M.Sc., NTNU, Trondheim, Norway.

Title: [Enhancing Sleep-Wake Detection Using Deep Learning and Optimal Channel Selection from High-Density EEG](#). Handle.net: [11250/3093926](#)

2022–2023 Mari Hestetun Dokken & Sandra Garder Løkken, M.Sc., NTNU, Trondheim, Norway.

Title: [Automated Detection and Removal of EEG Artifacts for an RGB Stimulation-Based Brain-Computer Interface](#). Handle.net: [11250/3096563](#)

2022–2023 Pauline Mørch Jonassen & Helene Tørle Lønvik, M.Sc., NTNU, Trondheim, Norway.

Title: [An Exploration of Techniques for Electroencephalography-Based Motor Imagery Classification for Real-Time Drone Control](#). Handle.net: [11250/3095054](#)

2022–2023 Karoline Malene Nylænder & Victoria Taklo Kenworthy, M.Sc., NTNU, Trondheim, Norway.

Title: [Motor Imagery-based Brain-Computer Interfaces: Exploring Optimization and Transfer Learning Techniques for Multiclass Classification](#). Handle.net: [11250/3097361](#)

2022–2023 Marie Øverby, M.Sc., NTNU, Trondheim, Norway.

Title: [Patient-Independent Epileptic Seizure Prediction: Optimal Feature and Channel Selection for Real-Time Monitoring](#). Handle.net: [TODO](#)

2021 Nikolai Molvik, M.Sc., NTNU, Trondheim, Norway.

Title: [Data augmentation using GANs in EEG-based biometric systems](#). Handle.net: [11250/2998736](#)

2020–2021 Kjersti Brynstad & Erlend Vatsvåg, M.Sc., NTNU, Trondheim, Norway.

Title: [An Asynchronous Motor Imagery-based Brain-Computer Interface for Two-dimensional Drone Control](#). Handle.net: [11250/2823501](#)

2019–2020 Shobiha K. Premkumar, M.Sc., NTNU, Trondheim, Norway.

Title: [Subject Identification using EEG Signals and Supervised Learning](#). Handle.net: [11250/2780863](#)

2019–2020 Julie Haga, M.Sc., NTNU, Trondheim, Norway.

Title: [Biometric system using EEG signals from resting-state and one-class classifiers](#). Handle.net: [11250/2780871](#)

2018–2019 Sara Hegdahl Åsly, M.Sc., NTNU, Trondheim, Norway.

Title: [Supervised learning for classification of EEG signals evoked by visual exposure to RGB colors](#). Handle.net: [11250/2625674](#)

Reports | Specialization projects

MSc: 3

2025 Arvin Das, M.Sc. specialization project, NTNU, Trondheim, Norway.

Report: [Exploring Motor Imagery as a Brain-Computer Interface for aerial drones](#)

2022 Vebjørn Halvorsen, M.Sc., UiT, Tromsø Norway.

Report: [Towards Imputing the Norwegian Registry for Spine Surgery](#)

2021 Tobias Treider Moe, M.Sc. specialization project, NTNU, Trondheim, Norway.

Report: [Designing an EEG based communication system for patients with Locked-in Syndrome](#)

Internships

MSc: 3

2019 Mouad Moussabbih. M.Sc., ISIMA Clermont-Ferrand, France. 2-month internship at NTNU Trondheim, Norway.

2019 El Mehdi Dakdak. M.Sc., ENSEEIHT, France. 7-week internship at NTNU Trondheim, Norway.

2018 Thomas Chamelot. M.Sc., ENSEEIHT, France. 2-month internship at NTNU Trondheim, Norway.

Report: [Flying a drone using EEG-based brain signals](#).

Publications

Most of my publications are available at [Google Scholar](#) and [ResearchGate](#)

ORCID: [0000-0002-6632-8784](#) | ResearcherID: [A-7857-2019](#) | Scopus: [57204181960](#)

Journal articles: 11

- [45] Felix, Ipanaque, **Luis Alfredo, Moctezuma**, Yurina, Suzuki, Marta, Molinas, and Takashi, Abe. “Toward Machine Learning Classification of Emotional Dream Content: A comparative study of Dream and Wake Affect” (2026). in progress
- [44] **Luis Alfredo, Moctezuma**, Marta, Molinas, and Takashi, Abe. “From high- to low-density EEG for automatic classification of dream experiences during stage 2 of NREM”. *SLEEP Advances* (2025). DOI: [10.1093/sleepadvances/zpaf066](#)
- [43] **Luis Alfredo, Moctezuma**, Marta, Molinas, and Takashi, Abe. “Unlocking Dreams and Dreamless Sleep: Machine Learning Classification with Optimal EEG Channels”. *BioMed Research International* (2024). DOI: [10.1155/bmri/3585125](#)
- [42] **Luis Alfredo, Moctezuma**, Yoko, Suzuki, Junya, Furuki, Marta, Molinas, and Takashi, Abe. “GRU-powered Sleep Stage Classification with Permutation-Based EEG Channel Selection”. *Scientific Reports* (2024). DOI: [10.1038/s41598-024-68978-4](#)
- [41] Andres Felipe, Soler-Guevara, **Luis Alfredo, Moctezuma**, Eduardo, Giraldo, and Marta, Molinas. “Automated methodology for optimal selection of minimum electrode subsets for accurate EEG source estimation based on Genetic Algorithm optimization”. *Scientific Reports* (2022). DOI: [10.1038/s41598-022-15252-0](#)

- [40] **Luis Alfredo, Moctezuma**, Takashi, Abe, and Marta, Molinas. “Two-dimensional CNN-based distinction of human emotions from EEG channels selected by Multi-Objective evolutionary algorithm”. *Scientific Reports* (2022). DOI: [10.1038/s41598-022-07517-5](https://doi.org/10.1038/s41598-022-07517-5)
- [39] **Luis Alfredo, Moctezuma** and Marta, Molinas. “Towards a minimal EEG channel array for a biometric system using resting-state and a genetic algorithm for channel selection”. *Scientific Reports* (2020). DOI: [10.1038/s41598-020-72051-1](https://doi.org/10.1038/s41598-020-72051-1)
- [38] **Luis Alfredo, Moctezuma** and Marta, Molinas. “EEG Channel-selection method for epileptic-seizure classification based on multi-objective optimization”. *Frontiers in Neuroscience* (2020). DOI: [10.3389/fnins.2020.00593](https://doi.org/10.3389/fnins.2020.00593)
- [37] **Luis Alfredo, Moctezuma** and Marta, Molinas. “Multi-objective optimization for EEG channel selection and accurate intruder detection in an EEG-based subject identification system”. *Scientific Reports* (2020). DOI: [10.1038/s41598-020-62712-6](https://doi.org/10.1038/s41598-020-62712-6)
- [36] **Luis Alfredo, Moctezuma** and Marta, Molinas. “Classification of low-density EEG for epileptic seizures by energy and fractal features based on EMD”. *Journal of Biomedical Research* 33 (2019). DOI: [10.7555/JBR.33.20190009](https://doi.org/10.7555/JBR.33.20190009)
- [35] **Luis Alfredo, Moctezuma**, Alejandro A., Torres-García, Luis, Villaseñor-Pineda, and Maya, Carrillo. “Subjects identification using EEG-recorded imagined speech”. *Expert Systems with Applications* 118 (2019), 201–208. DOI: [10.1016/j.eswa.2018.10.004](https://doi.org/10.1016/j.eswa.2018.10.004)

Peer-reviewed Conferences: 22

- [34] **Luis Alfredo, Moctezuma**, Felix, Ipanaque, Yurina, Suzuki, Marta, Molinas, and Takashi, Abe. “Emotion Recognition Across Wakefulness and Sleep Using High-Density EEG and Machine Learning Techniques”. In: *The 18th International Conference on Brain Informatics (BI 2025)*. 2025. DOI: [10.1007/978-981-95-9575-4_8](https://doi.org/10.1007/978-981-95-9575-4_8)
- [33] **Luis Alfredo, Moctezuma**, Junya, Furuki, Yoko, Suzuki, Marta, Molinas, and Takashi, Abe. “Sleep Staging with Gradient Boosting and DWT-PSD Features from EEG/EOG Signals”. In: *The 33th European Symposium on Artificial Neural Networks, Computational Intelligence and Machine Learning (ESANN 2025)*. 2025. DOI: [10.14428/esann/2025.ES2025-16](https://doi.org/10.14428/esann/2025.ES2025-16)
- [32] Mithila, Packiyathan, André, Torvestad, **Luis Alfredo, Moctezuma**, and Marta, Molinas. “Exploring High- and Low-Density Electroencephalography for a Dream Decoding Brain-Computer Interface”. In: *The 32th European Symposium on Artificial Neural Networks, Computational Intelligence and Machine Learning (ESANN 2024)*. 2024. DOI: [10.14428/esann/2024.ES2024-115](https://doi.org/10.14428/esann/2024.ES2024-115)
- [31] André, Torvestad, Mithila, Packiyathan, **Luis Alfredo, Moctezuma**, and Marta, Molinas. “Unveiling Dreams: Moving Towards Automatic Dream Decoding via qualitative EEG Analysis and Machine Learning”. In: *The 32th European Symposium on Artificial Neural Networks, Computational Intelligence and Machine Learning (ESANN 2024)*. 2024. DOI: [10.14428/esann/2024.ES2024-164](https://doi.org/10.14428/esann/2024.ES2024-164)
- [30] **Luis Alfredo, Moctezuma**, Junya, Furuki, Yoko, Suzuki, Marta, Molinas, and Takashi, Abe. “Enhancing sleep stage classification with 2-class stratification and permutation-based channel selection”. In: *The 46th Annual International Conference of the IEEE Engineering in Medicine & Biology Society (EMBC 2024)*. 2024. DOI: [10.1109/EMBC53108.2024.10781882](https://doi.org/10.1109/EMBC53108.2024.10781882)
- [29] **Luis Alfredo, Moctezuma**, Felix, Ipanaque, Marta, Molinas, and Takashi, Abe. “Emotions of dreams identified without awakenings by machine and deep learning from

- Electroencephalographic signals in REM sleep”. In: IEEE International Conference on Metrology for eXtended Reality, Artificial Intelligence and Neural Engineering (MetroXRaine 2023). 2023. DOI: [10.1109/MetroXRaine58569.2023.10405808](https://doi.org/10.1109/MetroXRaine58569.2023.10405808)
- [28] Karoline, Seljevoll Herleiksplass, **Luis Alfredo, Moctezuma**, Junya, Furuki, Yoko, Suzuki, Marta, Molinas, and Takashi, Abe. “Automatic sleep-wake scoring with optimally selected EEG channels from high density EEG”. in: The 16th International Conference on Brain Informatics (BI 2023). 2023. DOI: [10.1007/978-3-031-43075-6_36](https://doi.org/10.1007/978-3-031-43075-6_36)
- [27] **Luis Alfredo, Moctezuma**, Kazuki, Sato, Marta, Molinas, and Takashi, Abe. “Decoding emotion dimensions arousal and valence elicited on EEG responses to videos and images: a comparative evaluation”. In: The 16th International Conference on Brain Informatics (BI 2023). 2023. DOI: [10.1007/978-3-031-43075-6_7](https://doi.org/10.1007/978-3-031-43075-6_7)
- [26] **Luis Alfredo, Moctezuma**, Takashi, Abe, and Marta, Molinas. “EEG-based 5- and 2-class CNN for Sleep Stage Classification”. In: The 22nd World Congress of the International Federation of Automatic Control (IFAC 2023). 2023. DOI: [10.1016/j.ifacol.2023.10.1458](https://doi.org/10.1016/j.ifacol.2023.10.1458)
- [25] Alejandro A., Torres-Garcia, **Luis Alfredo, Moctezuma**, and Marta, Molinas. “Assessing the impact of idle state type on the identification of RGB color exposure for BCI”. in: The 13th International Joint Conference on Biomedical Engineering Systems and Technologies (BIOSTEC 2020). 2020. DOI: [10.5220/0008923101870194](https://doi.org/10.5220/0008923101870194)
- [24] Alejandro A., Torres-Garcia, **Luis Alfredo, Moctezuma**, Sara, Asly, and Marta, Molinas. “Discriminating between color exposure and idle state using EEG signals for BCI application”. In: The 7th edition of the International Conference on e-Health and Bioengineering (EHB 2019). 2019. DOI: [10.1109/EHB47216.2019.8969919](https://doi.org/10.1109/EHB47216.2019.8969919)
- [23] Sara, Asly, **Luis Alfredo, Moctezuma**, Monika, Gilde, and Marta, Molinas. “Towards EEG-based signals classification of RGB color-based stimuli”. In: The 8th Graz Brain-Computer Interface Conference (GBCIC 2019). 2019. DOI: [10.3217/978-3-85125-682-6-61](https://doi.org/10.3217/978-3-85125-682-6-61)
- [22] **Luis Alfredo, Moctezuma** and Marta, Molinas. “Event-related potential from EEG for a two-step Identity Authentication System”. In: IEEE international conference on industrial informatics (INDIN 2019). 2019. DOI: [10.1109/INDIN41052.2019.8972231](https://doi.org/10.1109/INDIN41052.2019.8972231)
- [21] **Luis Alfredo, Moctezuma** and Marta, Molinas. “Subject identification from low-density EEG-recordings of resting-states: A study of feature extraction and classification”. In: Future of Information and Communication Conference (FICC 2019). 2019. DOI: [10.1007/978-3-030-12385-7_57](https://doi.org/10.1007/978-3-030-12385-7_57)
- [20] **Luis Alfredo, Moctezuma** and Marta, Molinas. “Sex differences observed in a study of EEG of linguistic activity and resting-state: Exploring optimal EEG channel configurations”. In: The 7th International Winter Conference on Brain-Computer Interface (BCI 2019). 2019. DOI: [10.1109/IWW-BCI.2019.8737312](https://doi.org/10.1109/IWW-BCI.2019.8737312)
- [19] **Luis Alfredo, Moctezuma** and Marta, Molinas. “EEG-based Subjects Identification based on Biometrics of Imagined Speech using EMD”. in: The International Conference on Brain Informatics (BI 2018). 2018. DOI: [10.1007/978-3-030-05587-5_43](https://doi.org/10.1007/978-3-030-05587-5_43)
- [18] **Luis Alfredo, Moctezuma**, Marta, Molinas, AA, Torres Garcia, Luis, Villaseñor Pineda, and Maya, Carrillo. “Towards an API for EEG-based imagined speech classification”. In: International Conference on Time Series and Forecasting (ITISE 2018). 2018. URL
- [17] **Luis Alfredo, Moctezuma**, Maya, Carrillo, Luis, Villaseñor Pineda, and Alejandro Antonio, Torres Garcia. “Hacia la clasificación de actividad e inactividad lingüística a partir de señales de electroencefalogramas (EEG)”. in: 9th Congreso Mexicano de Inteligencia Artificial (COMIA 2017). 140. 2017, 135–149. DOI: [10.13053/rcs-140-1-11](https://doi.org/10.13053/rcs-140-1-11)

- [16] Caleb, Jiménez, Maya, Carrillo, Hortensia, Carrillo-Ruiz, María de Lourdes, Sandoval S., and **Luis Alfredo, Moctezuma**. “Un primer paso hacia el reconocimiento automático de escarabajos”. In: 9th Congreso Mexicano de Inteligencia Artificial (COMIA 2017). 140. 2017, 79–89. DOI: [10.13053/rcs-140-1-7](https://doi.org/10.13053/rcs-140-1-7)
- [15] **Luis Alfredo, Moctezuma**, Jessica, López, Caleb, Jiménez, Maya, Carrillo, Luis Enrique, Colmenares Guillén, and J. Guadalupe, Ramos. “Relación contextual de palabras en libros de Shakespeare usando mapas auto-organizados”. In: 3rd International Symposium on Language & Knowledge Engineering (LKE 2015). 99. 2015, 95–103. DOI: [10.13053/rcs-99-1-9](https://doi.org/10.13053/rcs-99-1-9)
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