



# 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 / MetroXRINE / 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,  $\text{\LaTeX}$ , 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 \(WPI-IIIS\)](#), 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.: 17

- 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 Tørlen 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

Q1 Q2 Q3 Q4

- [45] Ipanaque, Felix, **Luis Alfredo Moctezuma**, Yurina Suzuki, Marta Molinas, Takashi Abe. “Recognition of Emotional Affect in Dreams and Short Videos Using Machine Learning on High-Density EEG Signals”. 2025 (in progress)
- [44] **Moctezuma, Luis Alfredo**, Marta Molinas, 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] **Moctezuma, Luis Alfredo**, Marta Molinas, Takashi Abe. “Unlocking Dreams and Dreamless Sleep: Machine Learning Classification with Optimal EEG Channels”. *BioMed Research International* (2024). DOI: [10.1155/bmri/3585125](#)
- [42] **Moctezuma, Luis Alfredo**, Yoko Suzuki, Junya Furuki, Marta Molinas, Takashi Abe. “GRU-powered Sleep Stage Classification with Permutation-Based EEG Channel Selection”. *Scientific Reports* (2024). DOI: [10.1038/s41598-024-68978-4](#)
- [41] Soler-Guevara, Andres Felipe, **Luis Alfredo Moctezuma**, Eduardo Giraldo, 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] **Moctezuma, Luis Alfredo**, Takashi Abe, 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] **Moctezuma, Luis Alfredo**, 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] **Moctezuma, Luis Alfredo**, 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] **Moctezuma, Luis Alfredo**, 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] **Moctezuma, Luis Alfredo**, Marta Molinas. “Classification of low-density EEG for epileptic seizures by energy and fractal features based on EMD”. *Journal of Biomedical Research* (2019). DOI: [10.7555/JBR.33.20190009](https://doi.org/10.7555/JBR.33.20190009)
- [35] **Moctezuma, Luis Alfredo**, 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] **Moctezuma, Luis Alfredo**, Felix Ipanaque, Yurina Suzuki, Marta Molinas, and Takashi Abe. “Emotion Recognition Across Wakefulness and Sleep Using High-Density EEG and Machine Learning Techniques”. *The 18th International Conference on Brain Informatics (BI 2025)*. DOI: [TODO](#)
- [33] **Moctezuma, Luis Alfredo**, Junya Furuiki, Yoko Suzuki, Marta Molinas, and Takashi Abe. “Sleep Staging with Gradient Boosting and DWT-PSD Features from EEG/EOG Signals”. *The 33th European Symposium on Artificial Neural Networks, Computational Intelligence and Machine Learning* (2025). DOI: [10.14428/esann/2025.ES2025-16](https://doi.org/10.14428/esann/2025.ES2025-16)
- [32] Packiyathan, Mithila, André Torvestad, **Luis Alfredo Moctezuma** and Marta Molinas. “Exploring High- and Low-Density Electroencephalography for a Dream Decoding Brain-Computer Interface”. *The 32th European Symposium on Artificial Neural Networks, Computational Intelligence and Machine Learning* (2024). DOI: [10.14428/esann/2024.ES2024-115](https://doi.org/10.14428/esann/2024.ES2024-115)
- [31] Torvestad, André, Mithila Packiyathan, **Luis Alfredo Moctezuma** and Marta Molinas. “Unveiling Dreams: Moving Towards Automatic Dream Decoding via qualitative EEG Analysis and Machine Learning”. *The 32th European Symposium on Artificial Neural Networks, Computational Intelligence and Machine Learning* (2024). DOI: [10.14428/esann/2024.ES2024-164](https://doi.org/10.14428/esann/2024.ES2024-164)
- [30] **Moctezuma, Luis Alfredo**, Junya Furuiki, Yoko Suzuki, Marta Molinas, and Takashi Abe. “Enhancing sleep stage classification with 2-class stratification and permutation-based channel selection”. *The 46th Annual International Conference of the IEEE Engineering in Medicine & Biology Society* (2024). DOI: [10.1109/EMBC53108.2024.10781882](https://doi.org/10.1109/EMBC53108.2024.10781882)
- [29] **Moctezuma, Luis Alfredo**, Felix Ipanaque, Marta Molinas, and Takashi Abe. “Emotions of dreams identified without awakenings by machine and deep learning from Electroencephalographic signals in REM sleep”. *IEEE International Conference on*

- Metrology for eXtended Reality, Artificial Intelligence and Neural Engineering (2023). DOI: [10.1109/MetroXRINE58569.2023.10405808](https://doi.org/10.1109/MetroXRINE58569.2023.10405808)
- [28] Seljevoll Herleiksplass, Karoline, **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”. The 16th International Conference on Brain Informatics (2023). DOI: [10.1007/978-3-031-43075-6\\_36](https://doi.org/10.1007/978-3-031-43075-6_36)
- [27] **Moctezuma, Luis Alfredo**, Kazuki Sato, Marta Molinas, and Takashi Abe. “Decoding emotion dimensions arousal and valence elicited on EEG responses to videos and images: a comparative evaluation”. The 16th International Conference on Brain Informatics (2023). DOI: [10.1007/978-3-031-43075-6\\_7](https://doi.org/10.1007/978-3-031-43075-6_7)
- [26] **Moctezuma, Luis Alfredo**, Takashi Abe, and Marta Molinas. “EEG-based 5- and 2-class CNN for Sleep Stage Classification”. The 22nd World Congress of the International Federation of Automatic Control (2023). DOI: [10.1016/j.ifacol.2023.10.1458](https://doi.org/10.1016/j.ifacol.2023.10.1458)
- [25] Torres-Garcia, Alejandro A., **Luis Alfredo Moctezuma** and Marta Molinas. “Assessing the impact of idle state type on the identification of RGB color exposure for BCI”. The 13th International Joint Conference on Biomedical Engineering Systems and Technologies (2020). [10.5220/0008923101870194](https://doi.org/10.5220/0008923101870194)
- [24] Torres-Garcia, Alejandro A., **Luis Alfredo Moctezuma**, Sara Asly and Marta Molinas. “Discriminating between color exposure and idle state using EEG signals for BCI application”. The 7-th edition of the International Conference on e-Health and Bioengineering (2019). DOI: [10.1109/EHB47216.2019.8969919](https://doi.org/10.1109/EHB47216.2019.8969919)
- [23] Asly, Sara, **Luis Alfredo Moctezuma**, Monika Gilde, Marta Molinas. “Towards EEG-based signals classification of RGB color-based stimuli”. The 8th Graz Brain-Computer Interface Conference (2019). DOI: [10.3217/978-3-85125-682-6-61](https://doi.org/10.3217/978-3-85125-682-6-61)
- [22] **Moctezuma, Luis Alfredo**, and Marta Molinas. “Event-related potential from EEG for a two-step Identity Authentication System”. IEEE international conference on industrial informatics (2019). DOI: [10.1109/INDIN41052.2019.8972231](https://doi.org/10.1109/INDIN41052.2019.8972231)
- [21] **Moctezuma, Luis Alfredo**, and Marta Molinas. “Subject identification from low-density EEG-recordings of resting-states: A study of feature extraction and classification”. Future of Information and Communication Conference (2019). DOI: [10.1007/978-3-030-12385-7\\_57](https://doi.org/10.1007/978-3-030-12385-7_57)
- [20] **Moctezuma, Luis Alfredo**, and Marta Molinas. “Sex differences observed in a study of EEG of linguistic activity and resting-state: Exploring optimal EEG channel configurations”. The 7th International Winter Conference on Brain-Computer Interface (2019). DOI: [10.1109/IWW-BCI.2019.8737312](https://doi.org/10.1109/IWW-BCI.2019.8737312)
- [19] **Moctezuma, Luis Alfredo**, and Marta Molinas. “EEG-based Subjects Identification based on Biometrics of Imagined Speech using EMD”. The International Conference on Brain Informatics (2018). DOI: [10.1007/978-3-030-05587-5\\_43](https://doi.org/10.1007/978-3-030-05587-5_43)
- [18] **Moctezuma, Luis Alfredo**, Marta Molinas, AA Torres Garcia, Luis Villaseñor Pineda, and Maya Carrillo. “Towards an API for EEG-based imagined speech classification”. International Conference on Time Series and Forecasting (2018). Proceedings at [itise.ugr.es/ITISE2018\\_Papers\\_Vol\\_1](http://itise.ugr.es/ITISE2018_Papers_Vol_1)
- [17] **Moctezuma, Luis Alfredo**, 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)” [“Towards the classification of linguistic activity and inactivity from electroencephalographic (EEG) signals”]. 9th Congreso Mexicano de

Inteligencia Artificial (COMIA 2017). Research in Computing Science 140 (2017): 135-149. DOI: [10.13053/rcs-140-1-11](https://doi.org/10.13053/rcs-140-1-11)

- [16] Jiménez, Caleb, Maya Carrillo, Hortensia Carrillo-Ruiz, María de Lourdes Sandoval S., and **Luis Alfredo Moctezuma**. “Un primer paso hacia el reconocimiento automático de escarabajos” [“*A first step towards automatic beetle recognition*”]. 9th Congreso Mexicano de Inteligencia Artificial (COMIA 2017). Research in Computing Science 140 (2017): 79-89. DOI: [10.13053/rcs-140-1-7](https://doi.org/10.13053/rcs-140-1-7)
- [15] **Moctezuma, Luis Alfredo**, 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” [“*Contextual relationship of words in Shakespeare books using self-organizing maps*”]. 3rd International Symposium on Language & Knowledge Engineering (LKE 2015). Research in Computing Science 99 (2015): 95-103. DOI: [10.13053/rcs-99-1-9](https://doi.org/10.13053/rcs-99-1-9)
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