




## BIOGRAPHICAL SKETCH

	<p>Department of Automatic Control, Biomedical Engineering Research Center, Universitat Politècnica de Catalunya, BarcelonaTech (UPC), Building H, Floor 4, Av. Diagonal 647, 08028 Barcelona, Spain. <a href="https://bioart.upc.edu/en/staff/marjan.mansourian@upc.edu">https://bioart.upc.edu/en/staff/marjan.mansourian@upc.edu</a></p> <p>Department Of Epidemiology and Biostatistics Health School Isfahan University Of Medical Sciences Isfahan, IRAN 81746-734 E-mail: <a href="mailto:j_mansourian@hlth.mui.ac.ir">j_mansourian@hlth.mui.ac.ir</a></p>	 <p>UNIVERSITAT POLITÈCNICA DE CATALUNYA BARCELONATECH</p>  <p>Date of Birth: May,22,1980 Home Phone: +98 (31) 32318915 Cell Phone: +98 9131079092 Work Phone: +98 (31) 37923256</p>
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NAME: Mansourian Gharakozlou, Marjan

POSITION TITLE: **Professor of Biostatistics**, Isfahan University of Medical Sciences, Isfahan, Iran

Senior Researcher, Biomedical Engineering Research Center, Universitat Politècnica de Catalunya, Spain

## EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE (if applicable)	Start Date MM/YYYY	Completion Date MM/YYYY	FIELD OF STUDY
Tarbiat Modares University, Tehran, IRAN	Ph.D.	09/2007	09/2011	Biostatistics
Isfahan University of Medical Sciences, Isfahan, IRAN	M.Sc.	09/2003	02/2007	Biostatistics
University of Isfahan, Isfahan, IRAN	B.S.	09/1999	07/2003	Biostatistics

### A. Research Interest

My research is focused on 'longitudinal data analysis and survival studies'. This field, by extension, focuses on cohort or clinical trial information processing, within the context of computing and computer applications. I am also an expert in Meta-analysis for merging data information.

### B. Positions and Honors

#### Positions and Employment

Isfahan Department Food and Drug, Ministry of Health and Medical Education, Isfahan, Iran (2003-2004)  
Environment and Energy Center, Municipality Of Tehran, Tehran, Iran (2005-2006)  
Torabinejad dentistry research center, Isfahan University of Medical Sciences, Isfahan, Iran (2006-2008)  
Environment and Waste research center, Sharif University of Technology, Tehran, Iran (2006-2011).  
Applied Physiology Research Center, Isfahan University of Medical Sciences, Isfahan, Iran (2008-Present)

2011-Present Currently Full Professor, Isfahan University of Medical Sciences, Isfahan, Iran  
2019-Present Head of Burden of disease section of Isfahan Cardiovascular Research Center (ICRC), a WHO-collaborating center (<https://apps.who.int/whocc/Detail.aspx?9Dsb+Z/ZGeLpVAygEBL+Hg==> )  
2018-Present Senior Researcher, BIOSignal Analysis for Rehabilitation and Therapy Research Group (BIOART), Universitat Politècnica de Catalunya, Spain; <https://bioart.upc.edu/en>

## Other Experience and Professional Memberships

### Reviewer in the international journals

2010-Present Reviewer in the international journals (Journal of Research in Medical Sciences, Computers in Biology and Medicine, Journal Of applied statistics, International Journal of preventive Medicine, etc.)

### Honors and Awards

The best Associated Professor with highest research score. Honored Faculty Award of Isfahan university of medical sciences in 2016  
The best young researcher, Honored Faculty Award of Isfahan university of medical sciences in 2014  
The first rank in research Idea Festival, Vice –Chancellor for research, Isfahan university of medical sciences in 2015  
The best student recognition. Honored Faculty Award of Isfahan university in 2003  
The best student recognition. Honored Faculty Award of Isfahan university of medical sciences in 2006  
2008- Ranked top 0.02 / 1<sup>nd</sup> rank at Tarbiat Modares University 's PhD entrance exam. [www.modares.ac.ir](http://www.modares.ac.ir)  
2004– Ranked top 0.005% / 10<sup>nd</sup> in Iran 's Universities' Entrance Exam Master of sciences. [www.MinistryOfHealth.org](http://www.MinistryOfHealth.org)  
1999–Ranked top 0.0005% in Iran 's Universities' Entrance Exam (IUEE, Bachelors). [www.sanjesh.org](http://www.sanjesh.org)

### Grants

2029-2021 EU Marie Curie TecnioSpring [fellowship](#)

### Research projects (projects with Industry, multi-partner collaborations)

2018-Present Head of the Burden of disease Department of [Isfahan Cardiovascular Research Center](#) (a [WHO-collaborating center](#)): <https://apps.who.int/whocc/Detail.aspx?9Dsb+Z/ZGeLpVAygEBL+Hg==>,  
2016-Present: Drug target therapy using data mining, Isfahan University of Medical Sciences  
2016-Present: CVD risk assessment and its optimization, ICS, a WHO-collaborating center  
2018-Present : Risk assessment of the CVD-cancer; NIMAD (National Institute for Medical Research Development), Iran ministry of health  
2018-Present : CVD risk assessment in patient with Myocardial Infraction; NIMAD (National Institute for Medical Research Development), Iran ministry of health

### Executive tasks

2018-present: Dean of international education center, Isfahan University of medical sciences. Isfahan, Iran  
2016-2018: Manager of statistics and information center, Isfahan University of medical sciences. Isfahan, Iran  
2020-present: Head of statistics Women's committee, Iran  
2019-present: Head of burden of disease department, Isfahan Cardiovascular Research Center (a WHO-collaborating center) Isfahan University of medical sciences. Isfahan, Iran

## C. Contributions to Science

[Papers related to Medical Data Mining were highlighted in Grey.]

### Top five published papers in the research lines

1. Marateb, H. R., Z. Tasdighi, M. R. Mohebian, A. Naghavi, M. Hess, M. E. Motlagh, R. Heshmat, [M. Mansourian, M\\*](#), A. Mañanas, H. Binder and R. Kelishadi (2021). "Classification of psychiatric symptoms using deep interaction networks: the CASPIAN-IV study." Sci Rep 11(1): 15706 [**IF=4.4**].

2. Soheila Jalali, Mojgan Karbakhsh, Mehdi Momeni, Marzieh Taheri, Saeid Amini, **Marjan Mansourian**, Nizal Sarrafzadegan (2021) Long-term exposure to PM<sub>2.5</sub> and cardiovascular disease incidence and mortality in an Eastern Mediterranean country: findings based on a 15-year cohort study. *Environmental Health* 20 [IF=4.6].
3. Marateb, H.R., Von Cube, M., Sami, R., Haghjooy Javanmard, S., **Mansourian, M.\***, Amra, B., Soltaninejad, F., Mortazavi, M., Adibi, P., Khademi, N., Sadat Hosseini, N., Toghyani, A., Hassannejad, R., Mañanas, M.A., Binder, H., and Wolkewitz, M. (2021). Absolute mortality risk assessment of COVID-19 patients: the Khorshid COVID Cohort (KCC) study. *BMC Med Res Methodol* 21, 146 [IF=4.4].
4. Mohebian MR, Marateb HR, **Mansourian M\***, Mananas MA, Mokarian F. A Hybrid Computer-aided-diagnosis System for Prediction of Breast Cancer Recurrence (HPBCR) Using Optimized Ensemble Learning. *Computational and structural biotechnology journal*. 2017;15:75-85 [IF=7.3].
5. Razieh Hassannejad, Noushin Mohammadifard, Iraj Kazemi, **Marjan Mansourian\***, Masoumeh Sadeghi, Hamidreza Roohafza, Nizal Sarrafzadegan. Long-term nuts intake and metabolic syndrome: a 13-year longitudinal population-based study (2019). *Clinical Nutrition* 38,3 [IF=6.7]

\*: Corresponding Author.

#### Other selected published ISI papers as first or corresponding author from 120 ISI publications.

1. Hassannejad, R., **Mansourian, M\***, Marateb, H., Mohebian, M.R., Gaziano, T.A., Jackson, R.T., Angelantonio, E.D., and Sarrafzadegan, N. (2021). Developing Non-Laboratory Cardiovascular Risk Assessment Charts and Validating Laboratory and Non-Laboratory-Based Models. *Glob Heart* 16, 58 [IF=3.4].
2. **Mansourian, M.**, Khademi, S., and Marateb, H.R.\* (2021). A Comprehensive Review of Computer-Aided Diagnosis of Major Mental and Neurological Disorders and Suicide: A Biostatistical Perspective on Data Mining. *Diagnostics (Basel)* 11 [IF=3.7].
3. Marateb, H.R.\*, Ziaie Nezhad, F., Mohebian, M.R., Sami, R., Haghjooy Javanmard, S., Dehghan Niri, F., Akafzadeh-Savari, M., **Mansourian, M\***, Mañanas, M.A., Wolkewitz, M., and Binder, H. (2021). Automatic Classification Between COVID-19 and Non-COVID-19 Pneumonia Using Symptoms, Comorbidities, and Laboratory Findings: The Khorshid COVID Cohort Study. *Frontiers in Medicine* 8, <https://doi.org/10.3389/fmed.2021.768467> [IF=5.1].
4. Sami, R., Soltaninejad, F., Amra, B., Naderi, Z., Haghjooy Javanmard, S., Iraj, B., Haji Ahmadi, S., Shayganfar, A., Dehghan, M., Khademi, N., Sadat Hosseini, N., Mortazavi, M., **Mansourian, M\***, Mañanas, M.A., Marateb, H.R., and Adibi, P. (2020). A one-year hospital-based prospective COVID-19 open-cohort in the Eastern Mediterranean region: The Khorshid COVID Cohort (KCC) study. *PLoS One* 15, e0241537 [IF=3.2].
5. Marateb, H. R., M. Mansourian, P. Adibi and D. Farina (2014). "Manipulating measurement scales in medical statistical analysis and data mining: A review of methodologies." *J Res Med Sci* 19(1): 47-56 [IF=1.9].
6. Marateb, H. R., **M. Mansourian\***, E. Faghihimani, M. Amini and D. Farina (2014). "A hybrid intelligent system for diagnosing microalbuminuria in type 2 diabetes patients without having to measure urinary albumin." *Comput Biol Med* 45: 34-42 [IF=4.6].
7. Marateb, H. R., M. R. Mohebian, S. H. Javanmard, A. A. Tavallaee, M. H. Tajadini, M. Heidari-Beni, M. A. Mañanas, M. E. Motlagh, R. Heshmat, **M. Mansourian\*** and R. Kelishadi (2018). "Prediction of dyslipidemia using gene mutations, family history of diseases and anthropometric indicators in children and adolescents: The CASPIAN-III study." *Comput Struct Biotechnol J* 16: 121-130 [IF=7.3].
8. Sarrafzadegan, N., R. Hassannejad, H. R. Marateb, M. Talaei, M. Sadeghi, H. R. Roohafza, F. Masoudkabar, S. Oveisgharan, M. **Mansourian, M\***. R. Mohebian and M. A. Mañanas (2017). "PARS risk charts: A 10-year study of risk assessment for cardiovascular diseases in Eastern Mediterranean Region." *PLoS One* 12(12): e0189389 [IF= 3.2].
9. Soheila Jalali, Mojgan Karbakhsh, Mehdi Momeni, Marzieh Taheri, Saeid Amini, **Marjan Mansourian\***, Nizal Sarrafzadegan (2021) Long-term exposure to PM<sub>2.5</sub> and cardiovascular disease incidence and mortality in an Eastern Mediterranean country: findings based on a 15-year cohort study. *Environmental Health* 20 [IF=4.6].
10. Razieh Hassannejad, Noushin Mohammadifard, Iraj Kazemi, **Marjan Mansourian\***, Masoumeh Sadeghi, Hamidreza Roohafza, Nizal Sarrafzadegan. Long-term nuts intake and metabolic syndrome: a 13-year longitudinal population-based study (2019). *Clinical Nutrition* 38,3 [IF=6.7].
11. Shahram Arsang-Jang, **Marjan Mansourian\***, Noushin Mohammadifard, Alireza Khosravi, Shahram Oveis-Gharan, Fatemeh Nouri, Nizal Sarrafzadegan. Temporal trend analysis of stroke and salt intake: a 15-year population-based study (2021). *Nutritional neuroscience* 24. [IF=4].
12. Shahram Arsang-Jang, Roya Kelishadi, Mohammad Esmail Motlagh, Ramin Heshmat, **Marjan Mansourian\***. Temporal trend of non-invasive method capacity for early detection of metabolic syndrome in children and adolescents: a bayesian multilevel analysis of pseudo-panel data (2019). *Annals of Nutrition and Metabolism* 75. [IF=3.4].
13. Najmeh Shakibaei, Razieh Hassannejad, Noushin Mohammadifard, Hamid Reza Marateb, Marjan Mansourian, Miguel Angel Mañanas, Nizal Sarrafzadegan. Pathways leading to prevention of fatal and non-fatal cardiovascular disease: An interaction model on 15 years population-based cohort study (2020). *Lipids in health and disease* 19. [IF=4].
14. **Marjan Mansourian**, Raheleh Karimi, Golnaz Vaseghi. Different effects of metformin and insulin on primary and secondary chemoprevention of colorectal adenoma in diabetes type 2: Traditional and Bayesian meta-analysis (2018). *EXCLI journal* 17. [IF=4.06]
15. R Hassannejad, I Kazemi, M Sadeghi, N Mohammadifard, H Roohafza, N Sarrafzadegan, M Talaei, **M Mansourian\***. Longitudinal association of metabolic syndrome and dietary patterns: a 13-year prospective population-based cohort study (2018). *Nutrition, Metabolism and Cardiovascular Diseases* 24. [IF=4.3].

16. Nizal Sarrafzadegan, Raziieh Hassannejad, Hamidreza Roohafza, Masoumeh Sadeghi, Mohammad Talaei, Shahram Oveisgharan, **Marjan Mansourian\***. A 10-year Isfahan cohort on cardiovascular disease as a master plan for a multi-generation non-communicable disease longitudinal study: methodology and challenges (2019). *Journal of human hypertension* 33. [IF= 3].
17. Moluk Hadi Alijanvand, Ashraf Aminorroaya, Iraj Kazemi, Sima Aminorroaya Yamini, Mohsen Janghorbani, Masoud Amini, **Marjan Mansourian\***. Cross-sectional and longitudinal assessments of risk factors associated with hypertension and moderately increased albuminuria comorbidity in patients with type 2 diabetes: a 9-year open cohort study (2019). *Diabetes, metabolic syndrome and obesity: targets and therapy* 12. [IF=3.16].
18. **Marjan Mansourian**, Akram Yazdani, Elham Faghihimani, Ashraf Aminorraya, Masoud Amini, Tohid Jafari-Koshki. Factors associated with progression to pre-diabetes: A recurrent events analysis (2020). *Eating and Weight Disorders* 25. [IF=4.6].
19. **Marjan Mansourian**, Shaghayegh Haghjooy-Javanmard, Azadeh Eshraghi, Golnaz Vaseghi, Alireza Hayatshahi, Jean Thomas. Statins use and risk of breast cancer recurrence and death: a systematic review and meta-analysis of observational studies (2016). *Journal of Pharmacy & Pharmaceutical Sciences* 19. [IF=1.8].
20. **Marjan Mansourian**, Khojasteh Ghasemi, Danial Khorsandi, Golnaz Vaseghi. Comparative Effectiveness of All Available Treatments for Metastatic Hormone-Sensitive Prostate Cancer: A Network Meta-analysis (2020). *American journal of therapeutics* 27. [IF= 2.7].
21. Maryam Yazdi, Roya Kelishadi, Volker Schmid, Mohammad-Esmaeil Motlagh, Ramin Heshmat, **Marjan Mansourian\***. Geographic risk of general and abdominal obesity and related determinants in Iranian children and adolescents: CASPIAN-IV Study. *Eastern Mediterranean Health Journal* 24. [IF=1.6].
22. Hengameh Marzbani, Hamid Reza Marateb, **Marjan Mansourian\***. Neurofeedback: a comprehensive review on system design, methodology and clinical applications (2016). *Basic and clinical neuroscience* 7: [IF=1.3].
23. **Marjan Mansourian**, Hamid Reza Marateb, Roya Kelishadi, Mohammad Esmaeil Motlagh, Tahereh Aminae, Mahnaz Taslimi, Reza Majdzadeh, Ramin Heshmat, Gelayol Ardalan, Parinaz Poursafa. First growth curves based on the World Health Organization reference in a Nationally-Representative Sample of Pediatric Population in the Middle East and North Africa (MENA): the CASPIAN-III study (2012). *BMC pediatrics* 12. [IF=2.03].
24. Hamid R Marateb, **Marjan Mansourian\***, Elham Faghihimani, Masoud Amini, Dario Farina. A hybrid intelligent system for diagnosing microalbuminuria in type 2 diabetes patients without having to measure urinary albumin (2014). *Computers in biology and medicine* 45. [IF=4.6].
25. Fatemeh Nouri, Nizal Sarrafzadegan, N Mohammadifard, M Sadeghi, **M Mansourian\***. Intake of legumes and the risk of cardiovascular disease: frailty modeling of a prospective cohort study in the Iranian middle-aged and older population (2016). *European journal of clinical nutrition* 70. [IF= 4].
26. **M Mansourian**, SH Javanmard, P Poursafa, R Kelishadi. Air pollution and hospitalization for respiratory diseases among children in Isfahan, Iran (2010). *Ghana medical journal* 44. [IF= 0.95].
27. **Marjan Mansourian**, Midia Babahajiani, Tohid Jafari-Koshki, Hamidreza Roohafza, Masoumeh Sadeghi, Nizal Sarrafzadegan. Metabolic syndrome components and long-term incidence of cardiovascular disease in Eastern Mediterranean region: a 13-year population-based cohort study (2019). *Metabolic syndrome and related disorders* 17. [IF= 1.9].
28. **Marjan Mansourian**, Anoshirvan Kazemnejad, Iraj Kazemi, Farid Zayeri, Masoud Soheilian. Bayesian analysis of longitudinal ordered data with flexible random effects using McMC: application to diabetic macular Edema data (2012). *Journal of Applied Statistics* 39. [IF= 1.01].
29. Ashraf Aminorroaya, Iraj Kazemi, Masoud Amini, Yamini Sima Aminorroaya, **Marjan Mansourian\***. Prevalence and predictors of prediabetes and its coexistence with high blood pressure in first-degree relatives of patients with type 2 diabetes: A 9-year cohort study (2020). *Journal of Research in Medical Sciences* 25. [IF= 1.85].
30. Fatemeh Nouri, Fahimeh Haghighatdoost, Noushin Mohammadifard, **Marjan Mansourian\***, Masoumeh Sadeghi, Hamidreza Roohafza, Azam Khani, Nizal Sarrafzadegan. The longitudinal association between soybean and non-soybean legumes intakes and risk of cardiovascular disease: Isfahan cohort study (2021). *British Food Journal*. [IF=2.5].
31. Khojasteh Ghasemi, Golnaz Vaseghi, **Marjan Mansourian\***. Pharmacological interventions for preventing anthracycline-induced clinical and subclinical cardiotoxicity: A network meta-analysis of metastatic breast cancer (2021). *Journal of Oncology Pharmacy Practice* 27. [IF=1.8].

The complete list of publications:

<https://publons.com/researcher/3850755/marjan-mansourian/>

#### **Book, book chapters, Encyclopedia chapters**

Marateb HR, Migliorelli C, Bachiller A, Azimi T, Nezhad FZ, Mansourian M, et al. Epileptic seizure prediction and onset zone localization using intracranial and scalp electroencephalographic and magnetoencephalographic signals. *Modelling and Analysis of Active Biopotential Signals in Healthcare*, Volume 1: **IOP Publishing**; 2020. p. 4-1-4-20 (DOI: 10.1088/978-0-7503-3279-8ch4).

Marjan Mansourian, Hamid Reza Marateb, Maja von Cube, Sadaf Khademi, Mislav Jordanic, Miguel Ángel Mañanas, Harald Binder, Martin Wolkewitz. *Reliable Diagnosis and Prognosis of COVID-19. Computer-aided Design and Diagnosis Methods for Biomedical Applications*. **CRC Press**; 2021. <https://doi.org/10.1201/9781003121152>.

Marjan Mansourian, Hamid Reza Marateb, Mohammad Reza Mohebbian, Miguel Ángel Mañanas and Harald Binder, “Rigorous performance assessment of computer-aided medical diagnosis and prognosis systems: A biostatistical perspective on data mining”, in “Modelling and Analysis of Active Bio-potential Signals in Healthcare-Volume 2”, Published (Aug, 6, 2020) **IOP Publishing UK** [Book chapter 17].

#### D. Courses taught in the University

YEAR	COURSE TITLE	MAJOR
2011-present	Survival data analysis	MS, Ph.D.
2012-present	Longitudinal data analysis	Ph.D.
2012- present	Advanced biostatistics methods	MS
2013-present	General linear models	Ph.D.
2013-present	Categorical data analysis	Ph.D.
2013-present	Method of research	MS, B.S
2012-present	Statistical methods in epidemiology	MS
2013-present	Statistical software	MS, B.S

#### E. Selected graduate students’ projects

Name and surname	Project, Year, Status [Finished/Current]	MAJOR, UNIVERSITY
A.Yazdani	Using recurrence data survival analysis in factors associated with breast cancer metastasis (2011)	MS
S.sadeghpour	Predictors of all-cause and cardiovascular-specific mortality in type 2 diabetes: A competing risk modeling of an Iranian population (2012)	MS
M.Hadi	Bayesian bivariate modeling of longitudinal ordinal-binary responses with incomplete covariates and their application in medical contexts (2020)	PhD
R.Hassannejad	Bayesian Analysis of Longitudinal inflated Ordered Data: modeling of over-dispersion with Measurement errors in covariates (2019)	PhD
M.Moghadasi	Investigation of the association of genetic polymorphism with HDL levels, taking into account other risk factors, in Iranian adolescents using logic regression: Caspian 3 study (2013)	MS
R.Bazrafshan	Determinants of quality of life in breast cancer: meta-analytic structural equation modeling of studies (2014)	MS
R.Karimi	Different effects of metformin and insulin on primary and secondary chemoprevention of colorectal adenoma in diabetes type 2: Traditional versus Bayesian meta-analysis (2014)	MS
S.Hosseini	Joint modeling of panel count data and ordinal longitudinal response, considering over dispersion (2021)	PhD
Z.Tasdighi	Classification of psychiatric symptoms using deep interaction networks (2018)	MS
KH.Ghasemi	Network meta-analysis of the different treatments on survival for hormone-sensitive metastatic prostate cancer (2018)	MS
N.Shakibaie	Using Bayesian structural equation modeling in pathways leading to cardio vascular disease (2019)	MS
Sh.Arsang	Bayesian multilevel analysis of pseudo-panel data in repeated cross-sectional scheme (2019)	PhD

#### F. Additional Information: Distinguished Researcher

Item	Value	Web address
ORCID	0000-0002-7217-0282	<a href="https://orcid.org/0000-0002-7217-0282">https://orcid.org/0000-0002-7217-0282</a>
Researcher ID	AAX-1011-2020	<a href="https://publons.com/researcher/3850755/marjan-mansourian/">https://publons.com/researcher/3850755/marjan-mansourian/</a>

Scopus Author ID	26027945700	<a href="https://www.scopus.com/authid/detail.uri?authorId=26027945700">https://www.scopus.com/authid/detail.uri?authorId=26027945700</a>
Google Scholar	-	<a href="https://scholar.google.com/citations?user=PQ1j0agAAAAJ&amp;hl=en">https://scholar.google.com/citations?user=PQ1j0agAAAAJ&amp;hl=en</a>
ResearchGate	-	<a href="https://www.researchgate.net/profile/Marjan-Mansourian-2">https://www.researchgate.net/profile/Marjan-Mansourian-2</a>

### G. Software Skills:

**Microsoft Office:** Advanced  
**STATA:** Advanced  
**SPSS:** Advanced  
 Comprehensive Meta-Analysis: Advanced

### H. Language Skills:

**English:** Fluent in writing, speaking, listening

### I. References:

**Prof. Martin Wolkewitz**, Institute of Medical Biometry and Statistics (IMBI), Head of the Methods in Clinical Epidemiology (MICLEP) Research Group, University of Freiburg, Germany [**collaborator**]

Homepage: <https://www.uniklinik-freiburg.de/imbi-en/employees.html?imbiuser=wolke> , <https://www.uniklinik-freiburg.de/imbi-en/miclep.html>

e-mail: [wolke@imbi.uni-freiburg.de](mailto:wolke@imbi.uni-freiburg.de)

Scopus Profile: <https://www.scopus.com/authid/detail.uri?authorId=34574027300>

**Dr. Miquel Angel Mañanas**, Department of Automatic Control (ESAI), Biomedical Engineering Research Centre (CREB), Head of the BIOSignal Analysis for Rehabilitation and Therapy Research Group (BIOART), Universitat Politècnica de Catalunya · BarcelonaTech (UPC), Spain [**collaborator**]

Homepage: <https://bioart.upc.edu/en/staff/miguel-angel-mananas>

e-mail: [miguel.angel.mananas@upc.edu](mailto:miguel.angel.mananas@upc.edu)

Scopus Profile: <https://www.scopus.com/authid/detail.uri?authorId=6602192659>

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Homepage: <https://bioart.upc.edu/en/staff/list#collapseNine>

e-mail: [hamid.reza.marateb@upc.edu](mailto:hamid.reza.marateb@upc.edu)

Scopus Profile: <https://www.scopus.com/authid/detail.uri?authorId=35759194200>