Dhafer Malouche, Ph.D., Professor of Statistics
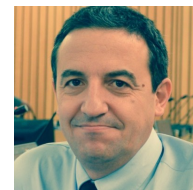
The American University in Cairo

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G Google scholar page

Employment History

July 2021 – ····	**The American University in Cairo**, Professor of Statistics, Department of Mathematics and Actuarial Science, School of Sciences and Engineering.
04/2021 – ····	**Pan-African Scientific Research Council**, Fellow member.
10/2020 – – ····	**Covidradar24.org** and **Rosettahub.com**, Data analyst master contributor in a real time COVID-19 tracking data science platform.
05/2020 - 05/2021	**World Health Organization, Tunisia** Senior data analyst consultant, Measuring the impact of the COVID 19 pandemic on psychiatric needs of the general population in Tunisia, data collected from a hot line accessible throughout the country, including those without access to Internet.
05/2020 – 01/2021	**WARC, Africa, Sierra Leon** Data analyst consultant, Setting up an online daily data monitoring platform for a survey implemented in Sierra Lean.
2003 – ····	**University of Carthage,** Ecole Supérieure de la Statistique et de l'Analyse de l'Information, Tunis, Tunisia

- **Positions:** Professor (from 2018), Associate Professor (2011-2018), Assistant Professor (2003-2011).

- **Teaching:** Data Analysis: Principal Component Analysis, Correspondence Analysis, and Multiple Correspondence Analysis, Theory and Practice with `R`, Mathematical Statistics: Statistical Inference, Hypothesis Testing, Regression Analysis, Theory and Practice with `R`, Data Mining and Practice with `R`, Bayesian Statistics with `OpenBugs/Winbugs/RStan/Jags`, Time Series: ARMA and SARIMA Processes, Theory and Practice with `R/Python`, Big Data: Large Data with `R/Python`, `SQL`, `Spark`, `H2O`, Advanced `R/Python`: Data Management, Data Visualization, Dashboards, Shiny Apps, Heroku Apps, Bokeh.

- **Research:**

  – Supervising 5 Ph.D.: Detection and classification of swallowing sound, Sensory Analysis, Genetics, Zoonotic cutaneous leishmaniasis incidence, Cardiovascular risk factor.

  – Papers and collaborations: I had published and coauthored more than 40 scholar papers.

  – Supervising Master and Engineering Thesis on several topics related to applied statistics and data science.

- **Administration:** Director of the Department of Statistics (2004-2007)

2014 – 2019	**Yale University,** Whitney and Betty MacMillan Center for International and Area Studies and the Department of Statistics and Data Science, New Haven, USA.

- **Positions:** Visiting Associate Professor (2014), Consulting on several projects with Yale Scholars (2015-2018), Associate Research Scholar (2019).

- **Missions:** Democratic Transition in Tunisia, Governance and Local Development: Implementing two face-o-face Surveys in Tunisia, G-econ team on building local GDP data, Teaching Time Series with `R/Python Course`.

Employment History (continued)

2016 – 2017   **University of Michigan**, Center for Political Studies of the Institute for Social Research, Ann Arbor, USA.

- **Position:** Visiting Fulbright Scholar.

- **Role:** Research: Working on Data Quality, Survey Methodology, Interviewer Effect, Teaching: 4 Lectures on Applied graphical Models, 1 Lecture on Data visualization with R, 1 Lecture on Sensory Analysis.

2011 (May to July)   **Stanford University**, Department of Statistics, Palo alto, USA.

- **Position:** Visiting Fulbright Scholar.

- **Role:** Research on Graphical Models, Faithfulness assumption, and Covariance graphs.

2002 – 2003   **York University**, Department of Statistics, Toronto, Canada.

- **Position:** Visiting Assistant Professor,

- **Teaching:** Applied Regression Models with SAS, Introduction to the theory of probability, Introduction to Statistics with Minitab,

- **Research:** Monte Carlo Methods and Bayesian Estimation of the Graphical Models.

1998 – 2002   **University of Sousse** , Institut Préparatoire aux Ecoles d'Ingénieurs, Sousse, Tunis.

- **Teaching:** Analysis, Calculus, Algebra

- **Research:** Natural Exponential Families, Pick functions, Markov Chains

- **Administration:** Director of the Department of Mathematics

Education

Sept 2009   **Habilitation** *(Tenure)*, **Université de Tunis El Manar** Ecole National d'Ingénieurs de Tunis, Tunisia.
Thesis title: *Problèmes autour de la probabilité et de la statistique: Méthodes et Applications.*
Dissertation: `https://malouche.github.io/myCV/reports.html`

October 1997   **Doctorate,** *(Ph.D.)*, **Paul Sabatier University,** Toulouse, France.
Thesis title: *Classification des familles exponentielles associées à des fonctions Pick.*
Dissertation: `https://malouche.github.io/myCV/reports.html`

1993–1994   **Master's Degree (D.E.A), Paul Sabatier University,** Applied Mathematics.

1989 – 1993   **Bachelor (Maîtrise)**, Ecole Normale Supérieure de Bizerte, Tunisia.

Skills

Languages   Strong reading, writing and speaking competencies for English, French, and Arabic.

Coding   Python, R, TABLEAU, SPARK, H2O, Shiny, LaTeX, …

Misc.   Quantitative research, Project management, Qualitative research, Data Mining, Machine Learning, Big Data, Academic research, Teaching, training, consultation, LaTeX typesetting and publishing.

Research Publications (Most recent papers)

Research interests: Public health, COVID-19, Research and development, Well being, Survey methodology, Consumer preferences, Genetics.

1. Lahmandi-Ayed, R., & Malouche, D. (2020). More investment in research and development for better education in the future? *Available at SSRN 3739632*. Retrieved from 🔗 https://dx.doi.org/10.2139/ssrn.3739632

2. Malouche, D., & Ben Romdhane, H. (2020). Estimating excess mortality associated with covid-19 pandemic: A 151 cross-countries study. *Estimating Excess Mortality Associated with COVID-19 Pandemic: A, 151*. Retrieved from 🔗 https://dx.doi.org/10.2139/ssrn.3731481

3. Saidi, O., Malouche, D., Saksena, P., Arfaoui, L., Talmoudi, K., Hchaichi, A., … Ben Alaya, N. (2020). Impact of contact tracing, respect of isolation and lockdown in reducing the number of cases infected with covid-19: Case study: Tunisia's response from march 22 to 04 may 2020. *International Journal of Infectious Diseases*. Retrieved from 🔗 https://doi.org/10.1016/j.ijid.2021.02.010

4. Kongbonga, G. Y. M., Hassine, K. B., Ghalila, H., Malouche, D. et al. (2019). Front-face fluorescence using uv-led coupled to usb spectrometer to discriminate between virgin olive oil from two cultivars. *Food and Nutrition Sciences, 10*(02), 119. Retrieved from 🔗 http://www.scirp.org/journal/PaperInformation.aspx?PaperID=90405&#abstract

5. Saidi, O., Hajjem, S., Zoghlami, N., Aounallah-Skhiri, H., Mansour, N. B., Hsairi, M., … O'Flaherty, M. et al. (2019). Premature mortality attributable to smoking among tunisian men in 2009. *Tobacco induced diseases, 17*.

6. Saidi, O., O'Flaherty, M., Zoghlami, N., Malouche, D., Capewell, S., Critchley, J. A., … Guzman Castillo, M. (2019). Comparing strategies to prevent stroke and ischemic heart disease in the tunisian population: Markov modeling approach using a comprehensive sensitivity analysis algorithm. *Computational and mathematical methods in medicine, 2019*.

7. Saidi, O., Zoghlami, N., Bennett, K. E., Mosquera, P. A., Malouche, D., Capewell, S., … O'Flaherty, M. (2019). Explaining income-related inequalities in cardiovascular risk factors in tunisian adults during the last decade: Comparison of sensitivity analysis of logistic regression and wagstaff decomposition analysis. *International journal for equity in health, 18*(1), 1–11.

8. Salem, S., Malouche, D., & Romdhane, H. B. (2019). Tunisian population quality of life: A general analysis using sf-36. *Eastern Mediterranean Health Journal, 25*(9).

9. Khlaifi, H., Istrate, D., Demongeot, J., & Malouche, D. (2018). Swallowing sound recognition at home using gmm. *IRBM, 39*(6), 407–412. JETSAN. 🔗 doi:https://doi.org/10.1016/j.irbm.2018.10.009

10. Benstead, L. J., Kao, K., Landry, P. F., Lust, E. M., & Malouche, D. (2017). Using tablet computers to implement surveys in challenging environments. *Survey Practice, 10*(2), 1–9.

11. Khouloud, T., Hedia, B., Nissaf, B.-A., Marc, S., Dhafer, M., & Kouni, C. M. (2017). Comparative performance analysis for generalized additive and generalized linear modeling in epidemiology. *International Journal of Advanced Computer Science and Applications, 8*(12). 🔗 doi:10.14569/IJACSA.2017.081255

12. Rebhi, I., & Malouche, D. (2017a). An approach for external preference mapping improvement by denoising consumer rating data. *INTERNATIONAL JOURNAL OF ADVANCED COMPUTER SCIENCE AND APPLICATIONS, 8*(12), 500–508.

13. Rebhi, I., & Malouche, D. (2017c). Decision making about products development through consumer preferences modeling based on descriptive characteristics of products, 423–430.

14. Talmoudi, K., Bellali, H., Ben-Alaya, N., Saez, M., Malouche, D., & Chahed, M. K. (2017). Modeling zoonotic cutaneous leishmaniasis incidence in central tunisia from 2009-2015: Forecasting models using climate variables as predictors. *PLoS neglected tropical diseases, 11*(8), e0005844.

15. Triki, H. Z., Laabir, M., Lafabrie, C., Malouche, D., Bancon-Montigny, C., Gonzalez, C., … Daly-Yahia, O. K. (2017). Do the levels of industrial pollutants influence the distribution and abundance of dinoflagellate cysts in the recently-deposited sediment of a mediterranean coastal ecosystem? *Science of the Total Environment, 595*, 380–392.

16. Aouinti, S., Malouche, D., Giudicelli, V., Kossida, S., & Lefranc, M.-P. (2016). Imgt/highv-quest statistical significance of imgt clonotype (aa) diversity per gene for standardized comparisons of next generation sequencing immunoprofiles of immunoglobulins and t cell receptors (vol 10, e0142353, 2015). *PLOS ONE, 11*(1).