

Dhafer Malouche, Ph.D., Professor of Statistics

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Employment History

- August 2022 –  **Qatar University**, Professor of Statistics, Department of Mathematics, Statistics, and Physics, College of Arts and Sciences.
Teaching (2022-2023): Introduction to Statistics, Stochastic Processes, Bayesian Statistics, Multivariate Analysis, Actuarial Statistics.
Teaching (2023-2024): Introduction to Statistics, Stochastic Processes, Actuarial Statistics, Statistical Computation and Simulation, Critical Thinking (Honors Program).
- July 2021 – July 2022  **The American University in Cairo**, Professor of Statistics, Department of Mathematics and Actuarial Science, School of Sciences and Engineering. **Teaching:** Statistical Inference, Introduction to Statistics, Data Science with Python
- 10/2020 - 12/2022  **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.
- August 2020 – August 2022  Fellow member at the **Pan-African Scientific Research Council**
- 05/2020 - 01/2021  **WARC, Africa, Sierra Leone** 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. 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-to-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  **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), Statistics, 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.), Statistics, 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, Statistics**
- 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.

Papers

Research interests: Graphical models, Public health, COVID-19, Research and development, Well being, Survey methodology, Data quality, Consumer preferences, Genetics, Gender Diversity.

Research papers

- 1 Gad, A., Malouche, D., Chhabra, M., Hoang, D., Suk, D., Ron, N., ... Elmakaty, I. (2024). Impact of birth weight to placental weight ratio and other perinatal risk factors on left ventricular dimensions in newborns: A prospective cohort analysis. *Journal of Perinatal Medicine*. [Q2].  doi:doi:10.1515/jpm-2023-0384

- 2 Losada-Echeberría, M., Naranjo, G., Malouche, D., Taamalli, A., Barrajón-Catalán, E., & Micol, V. (2023). Influence of drying temperature and harvesting season on phenolic content and antioxidant and antiproliferative activities of olive (*olea europaea*) leaf extracts. *International Journal of Molecular Sciences*, 24(1). [Q1]. doi:10.3390/ijms24010054
- 3 Malouche, D. (2023). Describing conditional independence statements using undirected graphs. *Axioms*, 12(12). [Q2]. Retrieved from <https://www.mdpi.com/2075-1680/12/12/1109>
- 4 Rebhi, I., & Malouche, D. (2023). Sensmap r package and sensmapgui shiny web application for sensory and consumer data mapping: Variations on external preference mapping and stability assessment. *Journal of Sensory Studies*. [Q3]. doi:http://doi.org/10.1111/joss.12809. eprint: <https://onlinelibrary.wiley.com/doi/10.1111/joss.12809>
- 5 Ben-Hassine, K., Taamalli, A., Rezig, L., Yangui, I., Benincasa, C., Malouche, D., ... Mnif, W. (2022). Effect of processing technology on chemical, sensory, and consumers' hedonic rating of seven olive oil varieties. *Food Science & Nutrition*. [Q1]. doi:<https://doi.org/10.1002/fsn3.2717>. eprint: <https://onlinelibrary.wiley.com/doi/pdf/10.1002/fsn3.2717>
- 6 Ben-Hassine, K., Yangui, I., Mnif, W., Taamalli, A., Benincasa, C., Kamoun, N., & Malouche, D. (2022). Chemometric analysis and physicochemical composition of foreign and tunisian olive oil: Consumer preferences. *Journal of Food Quality*, vol. 2022, Article ID 3981028, 10 pages. [Q2]. Retrieved from <https://doi.org/10.1155/2022/3981028>
- 7 Malouche, D. (2022). Implication of faithfulness assumption. *Sankhyā B : The Indian Journal of Statistics*. [Q4]. Retrieved from <https://doi.org/10.1007/s13571-021-00271-0>
- 8 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*. [Q1]. Retrieved from <https://doi.org/10.1016/j.ijid.2021.02.010>
- 9 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. [Q2]. Retrieved from <http://www.scirp.org/journal/PaperInformation.aspx?PaperID=90405&#abstract>
- 10 Mekki, I., Malouche, D., Smeti, S., Hajji, H., Mahouachi, M., M, E., & Atti, N. (2019). Study of the breeding systems of sheeps in the montagnous area of north-western tunisia. *Livestock Research for Rural Development*, 31(108). [Q3]. Retrieved from <http://www.lrrd.org/lrrd31/7/ilyes31108.html>
- 11 Saidi, O., Hajjem, S., Zoghalmi, 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. [Q1]. Retrieved from <https://dx.doi.org/10.18332/2Ftid%2F112666>
- 12 Saidi, O., O'Flaherty, M., Zoghalmi, 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. [Q2]. Retrieved from <https://doi.org/10.1155/2019/2123079>
- 13 Saidi, O., Zoghalmi, 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), 177. [Q1]. Retrieved from <https://equityhealthj.biomedcentral.com/articles/10.1186/s12939-019-1047-6>
- 14 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). [Q3]. Retrieved from <https://apps.who.int/iris/bitstream/handle/10665/333459/10203397192509-eng.pdf#page=23>
- 15 Khlaifi, H., Istrate, D., Demongeot, J., & Malouche, D. (2018). Swallowing sound recognition at home using gmm. *IRBM*, 39(6), 407-412. [Q4]. doi:<https://doi.org/10.1016/j.irbm.2018.10.009>
- 16 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. [Q1]. Retrieved from <https://doi.org/10.29115/SP-2017-0009>
- 17 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. [Q3]. Retrieved from <https://doi.org/10.14569/IJACSA.2017.081266>

- 18 Rebhi, I., & Malouche, D. (2017b). Decision making about products development through consumer preferences modeling based on descriptive characteristics of products. *IEEE/ACS 14th International Conference on Computer Systems and Applications (AICCSA)*, 423–430. Retrieved from <https://doi.org/10.1109/AICCSA.2017.202>
- 19 Talmoudi, K., Bellali, H., Ben-Alaya, N., Saez, M., Malouche, D., & Chahed, M. K. (2017a). Comparative performance analysis for generalized additive and generalized linear modeling in epidemiology. *International Journal of Advanced Computer Science and Applications*, 8(12). [Q3]. doi:10.14569/IJACSA.2017.081255
- 20 Talmoudi, K., Bellali, H., Ben-Alaya, N., Saez, M., Malouche, D., & Chahed, M. K. (2017b). 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. [Q1]. Retrieved from <https://doi.org/10.1371/journal.pntd.0005844>
- 21 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. [Q1]. Retrieved from <https://doi.org/10.1016/j.scitotenv.2017.03.183>
- 22 Aouinti, S., Giudicelli, V., Duroux, P., Malouche, D., Kossida, S., & Lefranc, M.-P. (2016). Imgt/statclonotype for pairwise evaluation and visualization of ngs ig and tr imgt clonotype (aa) diversity or expression from imgt/highv-quest. *Frontiers in immunology*, 7, 339. [Q1]. Retrieved from <https://doi.org/10.3389/fimmu.2016.00339>
- 23 Aouinti, S., Malouche, D., Giudicelli, V., Kossida, S., & Lefranc, M.-P. (2016). Correction: 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. *PloS one*, 11(1), e0146702. Retrieved from <https://doi.org/10.1371/journal.pone.0146702>
- 24 Kerfai, N., Bejar Ghadhab, B., & Malouche, D. (2016). Performance measurement and quality costing in tunisian manufacturing companies. *The TQM Journal*, 28(4), 588–596. [Q1]. Retrieved from <https://www.emerald.com/insight/content/doi/10.1108/TQM-10-2013-0119/full/html>
- 25 Saidi, O., Malouche, D., O'Flaherty, M., Mansour, N. B., Skhiri, H., Romdhane, H. B., & Bezdah, L. (2016). Assessment of cardiovascular risk in tunisia: Applying the framingham risk score to national survey data. *BMJ open*, 6(11), e009195. [Q1]. Retrieved from <https://doi.org/10.1136/bmjopen-2015-009195>
- 26 Selmi, G., Azouz, Z. B., & Malouche, D. (2015). The volume radius function: A new descriptor for the segmentation of volumetric medical images. *2015 International Conference on Image and Vision Computing New Zealand (IVCNZ)*, 1–6. doi:10.1109/IVCNZ.2015.7761572
- 27 Aouinti, S., Malouche, D., Giudicelli, V., Kossida, S., & Lefranc, M.-P. (2015). 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. *PLoS One*, 10(11), e0142353. [Q1]. Retrieved from <https://pubmed.ncbi.nlm.nih.gov/26540440/>
- 28 Hassine, K. B., Taamalli, A., Slama, M. B., Khoulood, T., Kiristakis, A., Benincasa, C., ... Bornaz, S. et al. (2015). Characterization and preference mapping of autochthonous and introduced olive oil cultivars in tunisia. *European Journal of Lipid Science and Technology*, 117(1), 112–121. [Q2]. Retrieved from <https://doi.org/10.1002/ejlt.201400049>
- 29 Saidi, O., O'Flaherty, M., Mansour, N. B., Aissi, W., Lassoued, O., Capewell, S., ... Romdhane, H. B. (2015). Forecasting tunisian type 2 diabetes prevalence to 2027: Validation of a simple model. *BMC public health*, 15(1), 104. [Q1]. Retrieved from <https://bmcpublihealth.biomedcentral.com/articles/10.1186/s12889-015-1416-z>
- 30 Ghribi, K., Sevestre, S., Guessoum, Z., Gil-Quijano, J., Malouche, D., & Youssef, A. (2014). A survey on multi-agent management approaches in the context of intelligent energy systems. *2014 International Conference on Electrical Sciences and Technologies in Maghreb (CISTEM)*, 1–8. doi:10.1109/CISTEM.2014.7077030
- 31 Hassine, K. B., El Riachy, M., Taamalli, A., Malouche, D., Ayadi, M., Talmoudi, K., ... Romano, E. et al. (2014). Consumer discrimination of chemlali and arbequina olive oil cultivars according to their cultivar, geographical origin, and processing system. *European journal of lipid science and technology*, 116(7), 812–824. [Q2]. Retrieved from <https://doi.org/10.1002/ejlt.201300254>
- 32 Karaoud, M., Bouafif, N., Malouche, D., Kouni, C., & Achour, N. (2014). La mortalité parmi les enfants âgés de moins de 15 ans en tunisie peut être liée à la température. *Revue d'Épidémiologie et de Santé Publique*, 62, S122. [Q3]. Retrieved from <https://www.em-consulte.com/article/911510/article/la-mortalite-parmi-les-enfants-ages-de-moins-de-15>

- 33 Karaoud, M., Malouche, D. et al. (2014). Les effets de la température sur la mortalité chez les personnes âgées en tunisie. *Revue d'Épidémiologie et de Santé Publique*, 62, S219–S220. [Q3]. Retrieved from <https://www.em-consulte.com/article/915656/les-effets-de-la-temperature-sur-la-mortalite-chez>
- 34 Karaoud, M., Malouche, D., & Alaya, N. B. (2014). Mortalité et température journalière en tunisie: Une étude multi-région. *Revue d'Épidémiologie et de Santé Publique*, 62, S218. [Q3]. Retrieved from <https://www.em-consulte.com/article/915651/article/mortalite-et-temperature-journaliere-en-tunisie%C2%A0-u>
- 35 Karaoud, M., Malouche, D., & Bouafif, N. (2014). Méthodologie de l'analyse de la relation température–mortalité en tunisie. *Revue d'Épidémiologie et de Santé Publique*, 62, S141–S142. [Q3]. Retrieved from <https://www.em-consulte.com/article/911552/article/methodologie-de-l-analyse-de-la-relation-temperatu>
- 36 Triki, H. Z., Daly-Yahia, O. K., Malouche, D., Komih, Y., Deidun, A., Brahim, M. et al. (2014). Distribution of resting cysts of the potentially toxic dinoflagellate alexandrium pseudogonyaulax in recently-deposited sediment within bizerte lagoon (mediterranean coast, tunisia). *Marine pollution bulletin*, 84(1-2), 172–181. [Q1]. Retrieved from <https://doi.org/10.1016/j.marpolbul.2014.05.014>
- 37 Aouinti, S., Mallek, H., Malouche, D., Saidi, O., Lassouedi, O., Hentati, F., & Romdhane, H. B. (2013). Graphical interaction models to extract predictive risk factors of the cost of managing stroke in tunisia. *2013 International Conference on Computer Medical Applications (ICCM)*, 1–6. Retrieved from <https://ieeexplore.ieee.org/document/6506162>
- 38 Ben-Hassine, K., Taamalli, A., Ferchichi, S., Mlaouah, A., Benincasa, C., Romano, E., ... Hammami, M. (2013). Physicochemical and sensory characteristics of virgin olive oils in relation to cultivar, extraction system and storage conditions. *Food research international*, 54(2), 1915–1925. [Q1]. Retrieved from <https://scholar.cnki.net/Detail/doi/GARJ2013/SJES14010600411056>
- 39 Fehri, R., Rifi, H., Alboueiri, A., Malouche, D., Ayadi, M., Rais, H., & Mezlini, A. (2013). Carcinoma of unknown primary: Retrospective study of 437 patients treated at salah azaiez institute. *La Tunisie medicale*, 91(3), 205–208. [Q4]. Retrieved from https://www.latunisiemedicale.com/article-medicale-tunisie_2165_en
- 40 Hassine, K. B., Taamalli, A., Malouche, D., Kammoun, N., Lazzez, A., Benincasa, C., ... Bouaziz, M. (2012). Influence of variety, geographical site and extraction system on virgin olive oil (voo) linoleic acid composition and its impact on consumer preference. *Linoleic Acids*, 97. [Q2]. Retrieved from https://www.researchgate.net/publication/288652330_Influence_of_variety_geographical_site_and_extraction_system_on_virgin_olive_oil_VOO_linoleic_acid_composition_and_its_impact_on_consumer_preference
- 41 Malouche, D., & Rajaratnam, B. (2011). Gaussian covariance faithful markov trees. *Journal of Probability and Statistics*, 2011. [Q3]. Retrieved from <https://doi.org/10.1155/2011/152942>
- 42 Ranjanomennahary, P., Ghalila, S. S., Malouche, D., Marchadier, A., Rachidi, M., Benhamou, C., & Chappard, C. (2011). Comparison of radiograph-based texture analysis and bone mineral density with three-dimensional microarchitecture of trabecular bone. *Medical Physics*, 38(1), 420–428. [Q1]. doi:10.1118/1.3528125. eprint: <https://aapm.onlinelibrary.wiley.com/doi/pdf/10.1118/1.3528125>
- 43 Arfa, I., Nouira, S., Abid, A., Alaya, N. B.-B., Zorgati, M., Malouche, D., ... Romdhane, H. B. et al. (2010). Absence d'association entre les polymorphismes du système rénine angiotensine (sra) et l'hypertension artérielle chez les diabétiques de type 2 tunisiens. *la tunisie médicale*, 88(01), 37–40. [Q4].
- 44 Arfa, I., Nouira, S., Abid, A., Bouafif-Ben, N. A., Zorgati, M. M., Malouche, D., ... Ben, H. R. et al. (2010). Lack of association between renin-angiotensin system (ras) polymorphisms and hypertension in tunisian type 2 diabetics. *La tunisie Medicale*, 88(1), 38–41. [Q4].
- 45 Ghouila, A., Jmel, H., Yahia, S., Malouche, D., & Abdelhak, S. (2009). Multi-som: A novel clustering approach for gene expression analysis. *Infection, Genetics, and Evolution: Journal of Molecular Epidemiology and Evolutionary Genetics in Infectious Diseases*, 9(3), 374–374. [Q1]. Retrieved from <https://europepmc.org/article/med/18992849>
- 46 Ghouila, A., Yahia, S. B., Malouche, D., Jmel, H., Laouini, D., Guerfali, F. Z., & Abdelhak, S. (2009). Application of multi-som clustering approach to macrophage gene expression analysis. *Infection, Genetics and Evolution*, 9(3), 328–336. [Q1]. Retrieved from <https://doi.org/10.1016/j.meegid.2008.09.009>
- 47 Malouche, D. (2009a). Determining full conditional independence by low-order conditioning. *Bernoulli*, 15(4), 1179–1189. [Q1]. Retrieved from <https://projecteuclid.org/journals/bernoulli/volume-15/issue-4/Determining-full-conditional-independence-by-low-order-conditioning/10.3150/09-BEJ193.full>

- 48 Malouche, D. (2009b). Mixed graphical model selection using holm's procedure. *Communications in Statistics-Theory and Methods*, 38(9), 1453–1464. [Q3]. Retrieved from <https://doi.org/10.1080/03610920802455019>
- 49 Arfa, I., Abid, A., Nouira, S., Elloumi-Zghal, H., Malouche, D., Mannai, I., ... Zouari, B. et al. (2008). Lack of association between the angiotensin-converting enzyme gene (i/d) polymorphism and diabetic nephropathy in tunisian type 2 diabetic patients. *Journal of the Renin-Angiotensin-Aldosterone System*, 9(1), 32–36. [Q2]. Retrieved from <https://doi.org/10.3317/jraas.2008.002>
- 50 Kokonendji, C. C., & Malouche, D. (2008). A property of count distributions in the hinde–demétrio family. *Communications in Statistics—Theory and Methods*, 37(12), 1823–1834. [Q3]. Retrieved from <https://doi.org/10.1080/03610920701809266>
- 51 Malouche, D., & Sevestre-Ghalila, S. (2008). Estimating high dimensional faithful gaussian graphical models by low-order conditioning. *Proceeding, of 26th IASTED International Multi-Conference on Applied Informatics, Artificial Intelligence and Applications*, 595–025. Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.246.9608>
- 52 Arfa, I., Abid, A., Malouche, D., Alaya, N. B., Azegue, T. R., Mannai, I., ... Blousa-Chabchoub, S. et al. (2007). Familial aggregation and excess maternal transmission of type 2 diabetes in tunisia. *Postgraduate medical journal*, 83(979), 348–351. [Q1].
- 53 Letac, G., Malouche, D., & Maurer, S. (2002). The real powers of the convolution of a negative binomial distribution and a bernoulli distribution. *Proceedings of the American Mathematical Society*, 130(7), 2107–2114. [Q1]. Retrieved from <https://www.ams.org/journals/proc/2002-130-07/S0002-9939-02-05352-2/>
- 54 Letac, G., & Malouche, D. (2000). The markov chain associated to a pick function. *Probability theory and related fields*, 118(4), 439–454. [Q1]. Retrieved from <https://link.springer.com/article/10.1007/PL00008750>
- 55 Malouche, D. (1998). Natural exponential families associated to pick functions. *Test*, 7(2), 391–412. [Q2]. Retrieved from <https://doi.org/10.1007/PL00008750>
- 56 Malouche, D. (1997). L'action quadratique du groupe des homographies sur les familles exponentielles réelles. *Comptes Rendus de l'Académie des Sciences-Series I-Mathematics*, 325(9), 1029–1032. [Q3].