Dear MD Anderson HR and TRACTION team,

Your open position for a Computational Biology - Institute Research Investigator (http://bit.ly/2GPcebn) seems like an excellent opportunity for me to help you discover and develop new drugs. Here is how my education and experience match what your are looking for:

Bachelor's degree in Biology, Biochemistry, molecular biology, cell biology, enzymology, pharmacology, chemistry or related field.

Preferred: Ph.D. in Computer Science, Engineering, Applied Mathematics, Biostatistics or a related discipline from an accredited university. BS/MS in biological sciences from an accredited university.

- I have a ***licentiate*** **degree in biology (similar to BS + MS)**, from the top university in Argentina (*Universidad de Buenos Aires*). The courses I took include **molecular biology, cell biology, and chemistry**.
- I have a **PhD** from The University of Queensland, ranked **in the top 50-100 universities globally** by some of the most widely used and prestigious rankings (https://research.uq.edu.au/about/international-rankings).

Required: Six years experience of relevant research experience in lab. With preferred degree, four years of required experience.

- I have **over five years of research experience in the lab**, accumulated during my *licentiate* degree, **PhD**, and postdoc.

Preferred: Strong foundation in both computer science concepts and molecular / cancer biology. Proficient in PERL/Python, UNIX, and statistical computing platforms (R, Matlab, etc). Experience manipulating large volume datasets and experience with high performance computing are essential. Familiar with appropriate data normalization techniques and analysis of batch effects. Course work in biology (genetics, biochemistry, molecular and cell biology) with an experimental laboratory component.

- My *licenciate* degree in biology gave me a **strong foundation in molecular and cell biology**, as well as **genetics**, and **biochemistry**. I did **course work** for all those subjects and they included an **experimental laboratory** component.
- I learned **computer science concepts** (via online courses, books, workshops, and conferences) and I used them during my doctoral and postdoctoral research to build custom software for data analysis. Now, as a software developer, I continue to learn and apply computer science concepts to implement software solutions for the researchers I support.
- As a certified instructor of The Carpentries (https://carpentries.org/), I have helped teach **Python** for data analysis.
- As a researcher, data science consultant, and software developer, I use **R and a UNIX**-like application (Git bash) daily.
- I have vast experience using tools and strategies to manipulate **large datasets**.

- I am certified to operate the **high-performance computing** platform of the Smithsonian Institution (certificate at http://bit.ly/2IK0N79).

- During my doctoral and postdoctoral research I have used statistics intensively, and became familiar with **normalization techniques**.

Previous hands-on experience working with computational and statistical tools for the analysis of biological datasets. Specifically, the applicant should have experience with machine-learning and/or data mining algorithms (ie. Clustering, classification, etc.), and experience utilizing common parametric and non-parametric statistical tests (ie. T-test, ANOVA, Wilcoxon- signed-rank test, Fisher's exact test, etc.) for data analysis. Development of statistical algorithms, or the comprehensive assessment of algorithms, for the analysis of multidimensional datasets.

- As a researcher, software developer, and data science consultant, I have many years of **hands-on experience working with computational and statistical tools for the analysis of biological datasets**.

- In my research I have explored patterns and variability in biological samples using multiple **parametric and non-parametric tests, and machine-learning** methods including **clustering**.

- Among the multiple software tools I have developed, I built an interactive visualization for the **comprehensive assessment of an algorithm** to analyze trait data in multidimensional space (https://maurolepore.shinyapps.io/plottrait/).

Extensive experience collaborating with bench biologists, with examples where analytical methods enabled the validation of hypothesis.

- My **PhD thesis and other academic publications** provide multiple examples where, in **collaboration with other biologists**, I used **analytical methods to validate hypotheses** (http://bit.ly/mauro-lepore-phd-thesis; http://bit.ly/mauro-lepore-scholar).

Experience with experimental design, project planning and working in the context of timelines and deliverables is preferred.

- The research I did during my *licenciate* degree, PhD, and postdoc gave me **vast experience designing experiments** as well as protocols for collecting and processing samples. I also **planned** and conducted each **research project** according to clearly established timelines. Moreover, in my current role as a research software developer my yearly performance is evaluated based on specific **timelines and deliverables**.

I look forward to meeting you and discussing your needs and how I could help you meet your goals.

Best regards,
Mauro Lepore, PhD