

# HOW MUCH WILL YOU BECOME TALLER?

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In clinical practice, monitoring patients health status is important in order to adjust therapies accordingly. Therefore, repeated measurements must often be analyzed. However, they are irregularly-spaced and their quality depends on the accuracy of clinical equipments. Here we focus our attention on growth data, which can be theoretically modelled with a Gompertzian function.

The aim of our work is to apply meshfree methods on clinical data in order to reconstruct the function and then to estimate the theoretical parameters with optimization methods [1]. The knowledge of the parameters allows us to lengthen the curve and to forecast its behavior in the future.

Here we compare different meshfree [2] and optimization methods [3,4] on two datasets: height measurements of paediatric patients affected by Growth Hormone Deficiency (GHD) and Prostate Specific Antigen data from prostatectomized men. Numerical evidence shows that such methods allow us to estimate the growth parameters and make personalized previsions on patients health.

## References

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*Ninth Workshop Dynamical Systems Applied  
to Biology and Natural Sciences DSABNS 2018  
Turin, Italy, February 7-9, 2018*

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