

# Discovering Cancer Signatures via Non-Negative Matrix Factorization

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# Introduction (Nima)

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# Non-Negative Matrix Factorization (Nima)

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# Why NMF?

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# What is NMF?

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## Alternative factorizations?

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# NMF versus PCA

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## Some fun with NMF

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## **A bit of biology (Amanda)**

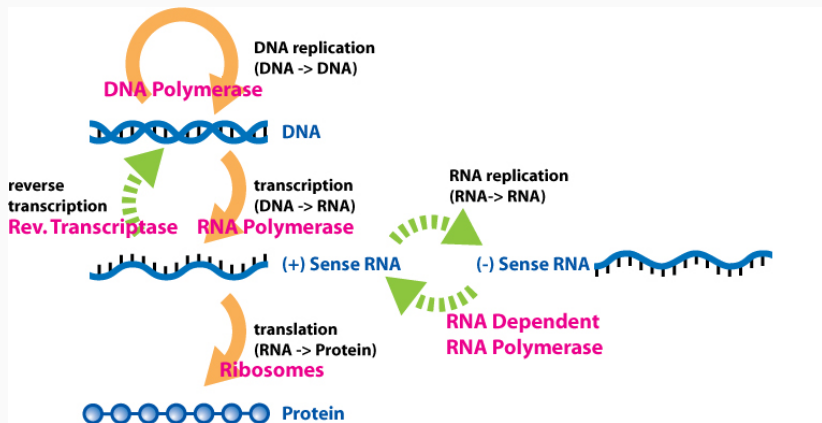
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# What's cancer?

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# DNA



## Alexandrov et al. (2013) (Amanda & Courtney)

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## Motivation (Courtney)

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## Use of NMF (Courtney)

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## Simulations (Courtney)

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## Findings (Amanda)

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**We've talked enough (Amanda)**

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Alexandrov, Ludmil B, Serena Nik-Zainal, David C Wedge, Peter J Campbell, and Michael R Stratton. 2013. “Deciphering Signatures of Mutational Processes Operative in Human Cancer.” *Cell Reports* 3 (1). Elsevier: 246–59.