# Computational biology and bioinformatics

Computational biology and bioinformatics is an interdisciplinary field that develops and applies computational methods to analyse large collections of biological data, such as genetic sequences, cell populations or protein samples, to make new predictions or discover new biology. The computational methods used include analytical methods, mathematical modelling and simulation.

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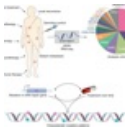

### The genomic landscape of advanced cancer

Esther Rheinbay
Nature Cancer 1, 372-373

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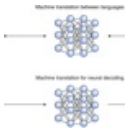

### Translating the brain

Gregory B. Cogan
Nature Neuroscience 23, 471-472

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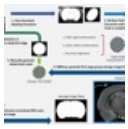

## An MRI-Derived Neuroanatomical Atlas of the Fischer 344 Rat Brain

Dana Goerzen, Caitlin Fowler, Gabriel A. Devenyi, Jurgen Germann, Dan Madularu, M. Mallar Chakravarty[...]Jamie Near
Scientific Reports 10, 6952

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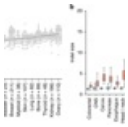

## Transcription-coupled repair and mismatch repair contribute towards preserving genome integrity at mononucleotide repeat tracts

Indels that are commonly found in cancer genomes are characterized by non-random sequence composition and localisation. Here, the authors described a method to investigate transcriptional strand asymmetries and... show more

Ilias Georgakopoulos-Soares, Gene Koh, Sophie E. Momen, Josef Jiricny, Martin Hemberg[...]Serena Nik-Zainal
Nature Communications 11, 1980

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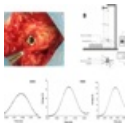

## Simulation analysis of impact damage to the bone tissue surrounding a dental implant

Xinyang Ma, Xiaoou Diao, Zhirui Li, Haitao Xin, Tao Suo, Bing Hou, Zhongbin Tang, Yulu Wu, Fan Feng[...]Huiwen Luo

Scientific Reports 10, 6927

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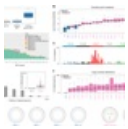

## Integrative multiplatform molecular profiling of benign prostatic hyperplasia identifies distinct subtypes

Benign prostatic hyperplasia (BPH) is one of the most common diseases affecting aging men with limited therapeutic options. In this study, the authors describe the molecular characterization of BPH performing... show more

Deli Liu, Jonathan E. Shoag, Daniel Poliak, Ramy S. Goueli, Vaishali Ravikumar, David Redmond, Aram Vosoughi, Jacqueline Fontugne, Heng Pan, Daniel Lee, Domonique Thomas, Keyan Salari, Zongwei Wang, Alessandro Romanel, Alexis Te, Richard Lee, Bilal Chughtai, Aria F. Olumi, Juan Miguel Mosquera, Francesca Demichelis, Olivier Elemento, Mark A. Rubin, Andrea Sboner[...]Christopher E. Barbieri
Nature Communications 11, 1987

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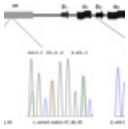

## Novel Variations in Native Ethiopian Goat breeds PRNP Gene and Their Potential Effect on Prion Protein Stability

Eden Yitna Teferedegn, Yalçın Yaman & Cemal Ün
Scientific Reports 10, 6953

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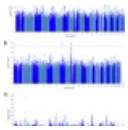

## Genome-wide association analysis of insomnia using data from Partners Biobank

Wenyu Song, John Torous, Joe Kossowsky, Chia-Yen Chen, Hailiang Huang[...]Adam Wright
Scientific Reports 10, 6928

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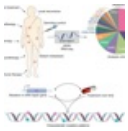

## The genomic landscape of advanced cancer

Despite recent advances in cancer treatment, metastasis and therapy resistance remain among the major causes of cancer-related deaths worldwide. A recent pan-cancer study provides a comprehensive molecular profile... show more

Esther Rheinbay
Nature Cancer 1, 372-373

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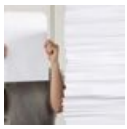

## Distributing the load with machine learning

A *Nature Astronomy* paper finds that distributing peer review amongst grant applicants, aided by a machine-learning algorithm, can lead to more democratic decisions and provide more detailed feedback.

Ankita Anirban
Nature Reviews Physics, 1

Research Highlights | 07 April 2020

## You've got a friend online

Louise Stone
Nature Reviews Urology, 1

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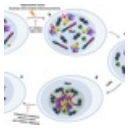

## Proteasome phase separation: a novel layer of quality control

Victoria Cohen-Kaplan, Ido Livneh & Aaron Ciechanover
Cell Research, 1-2

Research Highlights | 02 April 2020

## Smart anti-glycan reagents

Arunima Singh
Nature Methods 17, 363

Research Highlights | 02 April 2020

## Microbial factory for crRNAs

Lei Tang
Nature Methods 17, 363

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