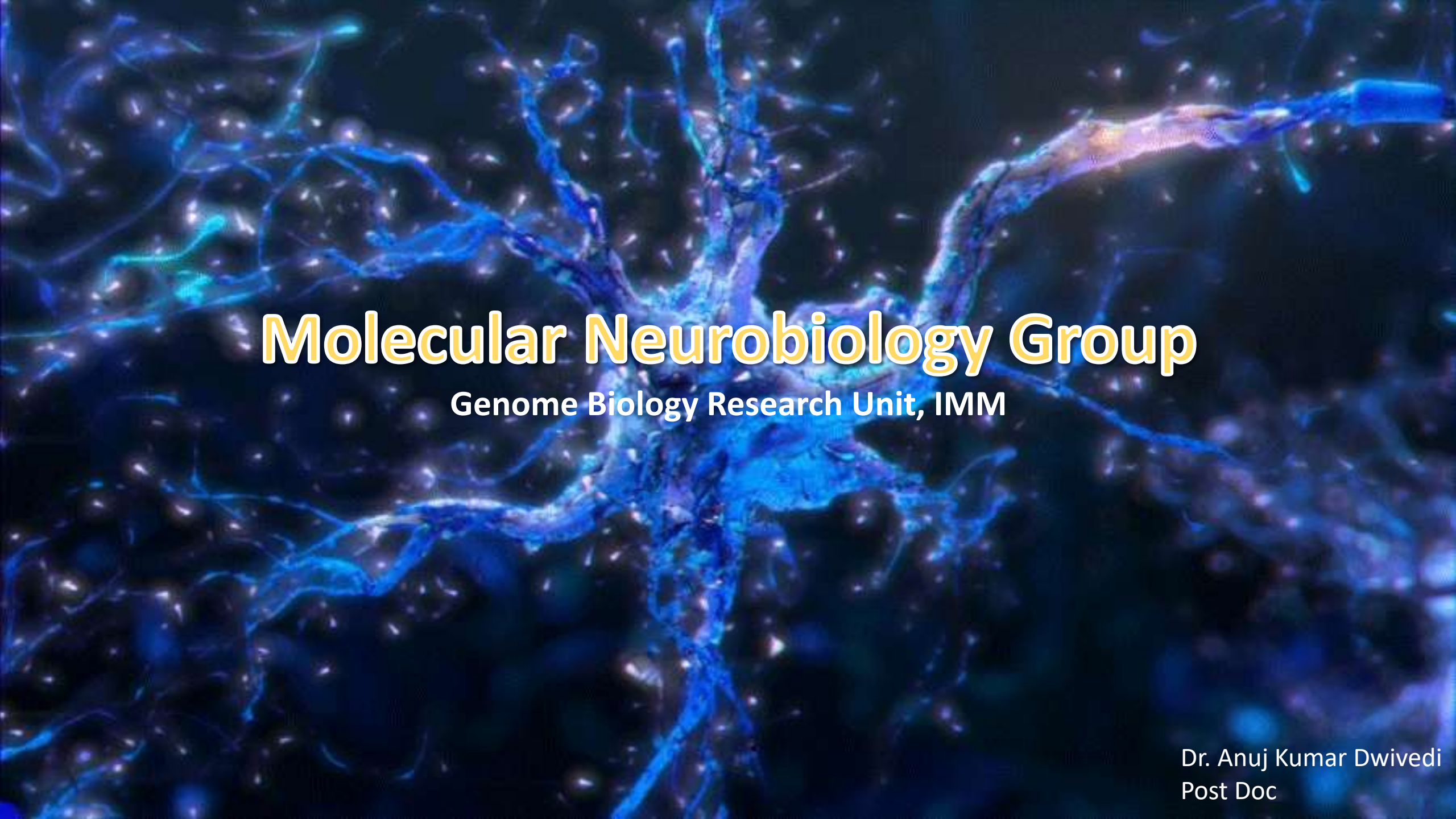


Molecular Neurobiology Group

Genome Biology Research Unit, IMM

Dr. Anuj Kumar Dwivedi
Post Doc

What keeps our brains sharp and functioning well?

?

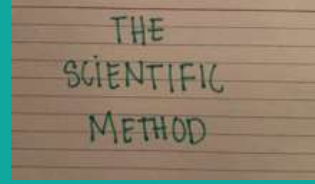
What conditions might harm our brain health?

SDU
University of Southern Denmark

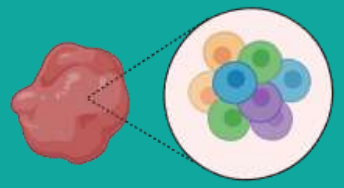
Genome Biology Research Unit

Tweaking The Recipe of Life

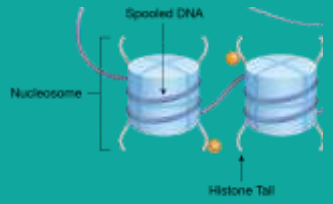
Our genetic material acts like a recipe book with instructions from epigenetics for building an organism.



Molecular



Single-cell genomics

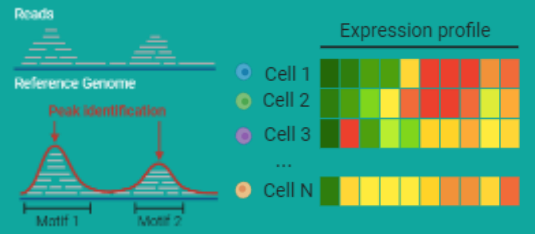


Epigenetics

Spatial transcriptomics

Phosphoproteomics

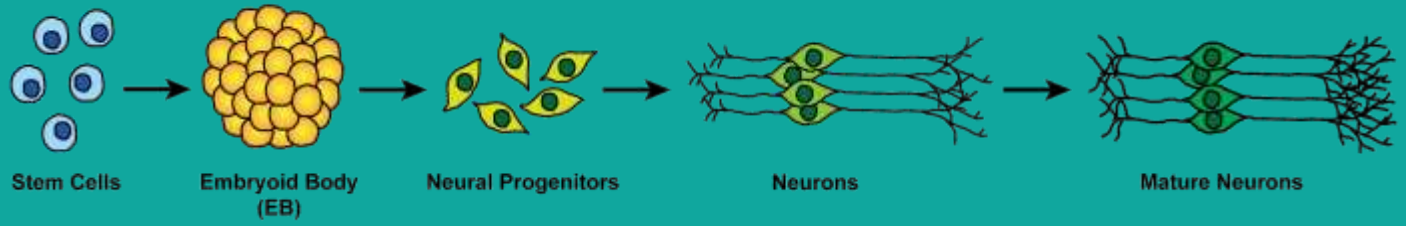
Computational



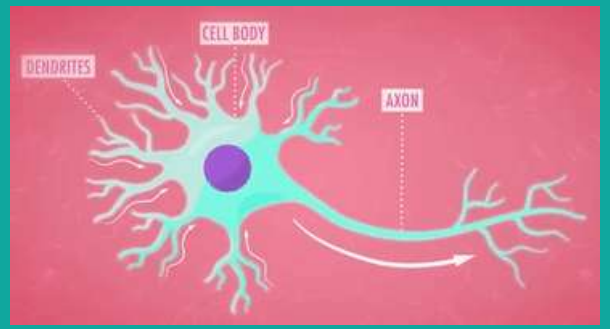
$$r = \frac{\sum(x-\bar{x})(y-\bar{y})}{\sqrt{\sum(x-\bar{x})^2 \sum(y-\bar{y})^2}}$$

Mathematical modelling

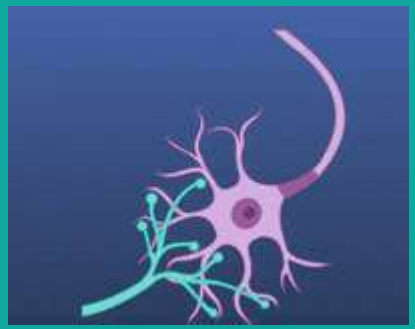
Cellular



Neuronal Differentiation



Excitability

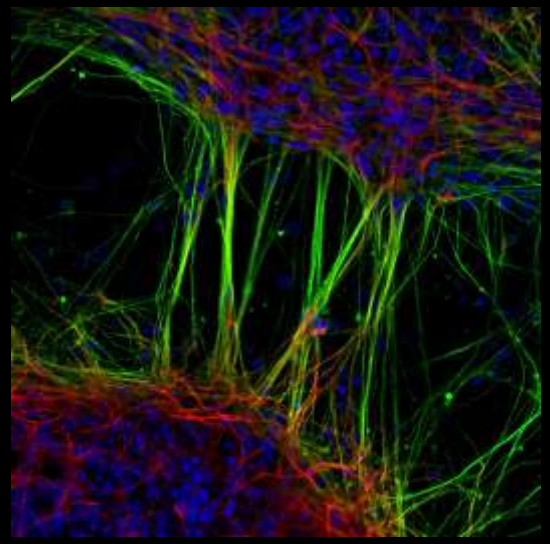


Synaptic activity

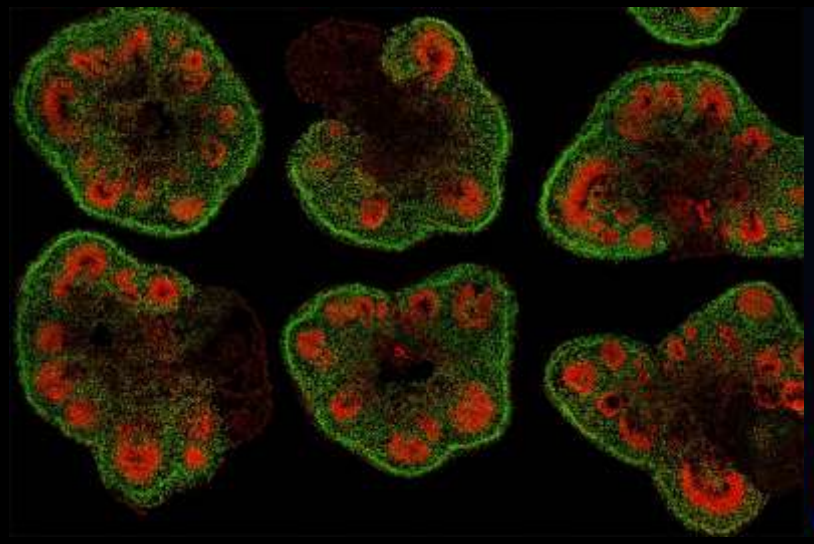
SDU
University of Southern Denmark

Genome Biology Research Unit

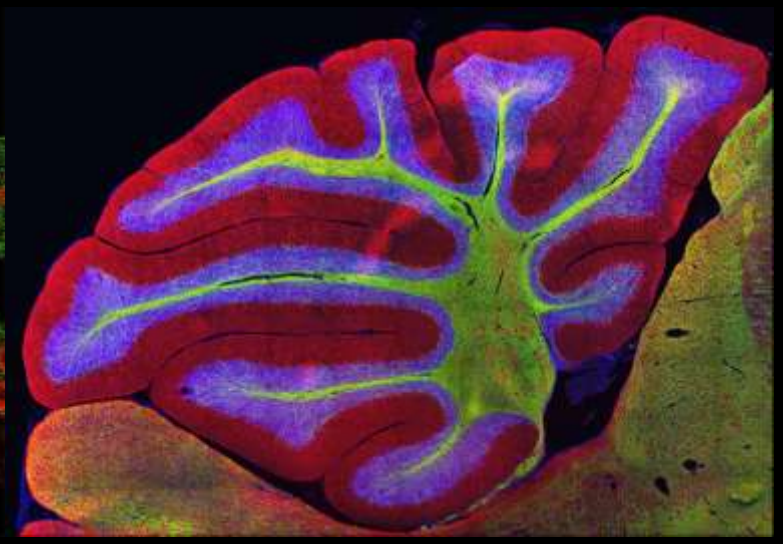
Our model systems:



Human neurons derived from neural stem cells (NSCs)



Slices of mini–brain organoids with neural stem cells (red) and cortical neurons (green).

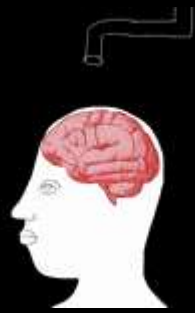


The sagittal section of the mouse cerebellum

Outcome:

How healthy brains are developed!

How alteration during cortical development causes NDD!



Genome Biology Research Unit

Our Key Publications


nature communications

Explore content ~ About the journal ~ Publish with us ~

nature > nature communications > articles > article

Article | Open Access | Published: 15 November 2017

FBXO32 promotes microenvironment underlying epithelial-mesenchymal transition via CtBP1 during tumour metastasis and brain development

Sanjeeb Kumar Sahu, Neha Tiwari, Abhijeet Patalekar, Yuan Zhuang, Marina Bonsova, Mustafa Diken, Susanne Strand, Petra Bell & Vijay K. Tiwari

Nature Communications 8, Article number: 1523 (2017) | Cite this article

5207 Accesses | 29 Citations | 11 Altmetric | Metrics


nature genetics

Explore content ~ About the journal ~ Publish with us ~

nature > nature genetics > letters > article

Published: 18 December 2011

A chromatin-modifying function of JNK during stem cell differentiation

Vijay K Tiwari, Michael B Stadler, Christiane Wirbelauer, Renato Paro, Dirk Schübeler & Christian Beisel

Nature Genetics 44, 94–100 (2012) | Cite this article

5657 Accesses | 96 Citations | 4 Altmetric | Metrics


nature

Explore content ~ About the journal ~ Publish with us ~

nature > articles > article

Published: 14 December 2011

DNA-binding factors shape the mouse methylome at distal regulatory regions

Michael B. Stadler, Rabih Murr, Lukas Burger, Robert Ivanek, Florian Lienert, Anna Schöler, Erik van Nimwegen, Christiane Wirbelauer, Edward J. Oakeley, Dimos Gaidatzis, Vijay K. Tiwari & Dirk Schübeler

Nature 480, 490–496 (2011) | Cite this article

29k Accesses | 962 Citations | 36 Altmetric | Metrics


nature cell biology

Explore content ~ About the journal ~ Publish with us ~

nature > nature cell biology > articles > article

Article | Published: 08 August 2022

A complex epigenome-splicing crosstalk governs epithelial-to-mesenchymal transition in metastasis and brain development

Sanjeeb Kumar Sahu, Enerstv Agene, Mohammed Inayatullah, Arun Mahesh, Neha Tiwari, Deborah P. Lavin, Aditi Singh, Susanne Strand, Mustafa Diken, Reini F. Luco, Juan Carlos Izpisua Belmonte & Vijay K. Tiwari

Nature Cell Biology 24, 1265–1277 (2022) | Cite this article

6062 Accesses | 6 Citations | 180 Altmetric | Metrics

Visit our lab at www.tiwarilab.org