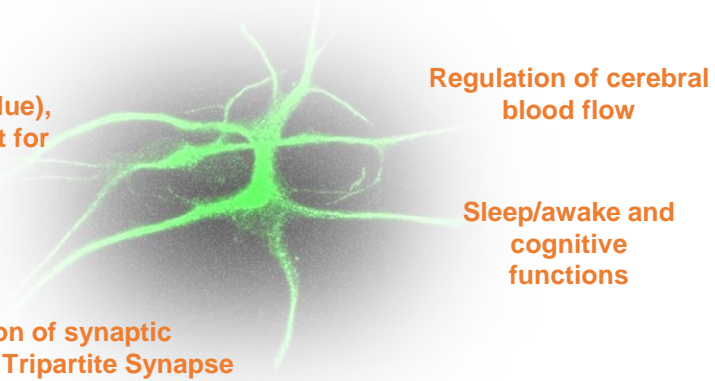


AIMS of MISTER in MAT2REP Project:

- To validate electronic devices based on organic, inorganic and hybrid materials for the non-invasive, extracellular recording of electrophysiological signals;
- In vitro* tests on primary cultures of murine cortical neurons and astrocytes plated on «final MAT2 REP» products to verify the biological and functional properties of the device;

Regulation of ions concentration and extracellular volume

Structural (Glia=Glue),
Metabolic, support for
Neurogenesis



Regulation of cerebral
blood flow

Sleep/awake and
cognitive
functions

Modulation of synaptic
transmission: Tripartite Synapse

How investigate on Astrocytes?

- Cytotoxicity Assays (Alamar Blue, Fluorescein Diacetate);
- Tests on the functional properties (Patch-Clamp e Calcium Imaging);
- Tests on the morphological characterization of the cells (Confocal Imaging, Fluorescent Imaging, SEM);
- Tests on the recording properties of bioelectric signals evoked by extracellular electrical stimulation on astrocytes (Keithley Instruments, MEA).

A

FULL PAPER

A Glial-Silicon Nanowire Electrode Junction Enabling Differentiation and Noninvasive Recording of Slow Oscillations from Primary Astrocytes

Emanuela Saracino, Luca Maiolo, Davide Polese, M. Semprini, Ana Isabel

B

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Structural and functional properties of astrocytes on PCL based electrospun fibres

Emanuela Saracino^a, Valentina Cirillo^a, Marco Marrese^a, Vincenzo Guarino^{a,*},
Valentina Benfenati^{a,b}, Roberto Zamboni^a, Luigi Ambrosio^a

C

RSC Advances

PAPER

Check for updates

Polyaniline nano-needles into electrospun bio active fibres support *in vitro* astrocyte response†

Emanuela Saracino^{a,*}, Simona Zuppolini^b, Vincenzo Guarino^{a,b,*},
Valentina Benfenati^{a,b}, Anna Borriello^{a,b}, Roberto Zamboni^a and Luigi Ambrosio^a

D

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Electroconductive and injectable hydrogels based on gelatin and PEDOT:PSS for nervous tissue regeneration

Franco Furlani¹, Margherita Montanari¹, Nicola Sangiorgi¹, Emanuela Saracino²,
Elisabetta Campodoni¹, Alessandra Sansoni¹, Valentina Benfenati², Anna Tampieri¹,
Silvia Panseri¹, and Monica Sandri¹