1) Il candidato esponga una tecnica di analisi per l'elaborazione di dati di MRI strutturale.
2) Il candidato esponga una ricerca scientifica esistente evidenziandone i metodi utilizzati.
3) Il candidato legga e traduca il seguente testo:
   "In order to ensure consistency in the analysis of MRI data, we have defined five standard analysis datasets. Researchers are encouraged to use these datasets and present results obtained using the most appropriate dataset for their study. These five datasets differ based on the time points selected for inclusion. All subjects were included in the standardized analysis dataset if the MRI of at least one of the two T_1-weighted volumetric sequences passed the quality control. The subjects also had to have all their scans performed on the same scanner to reduce technical inconsistencies."
4) Inserire una nota a piè di pagina in un file Word con del breve testo.

SORTEGGIATA

SIMONE ARM

TRACCIA N°3

1) Il candidato esponga le sue conoscenze su un software di analisi dati di neuroimmagine.
2) Il candidato esponga le sue conoscenze su un ambiente di programmazione.
3) Il candidato legga e traduca il seguente testo:
   "Some algorithms require cross-validation on data that are separate from the data used to develop the algorithm. This is usually done by dividing the data into separate testing and training sets and sometimes a third validation set. The test/training split is highly dependent on the technique and may vary between assigning the majority of the data to the testing set and assigning the majority of the data to the training set. The ADNI Biostatistics Core has provided researchers with guidance on conducting cross-validation studies and a predefined full analysis set split into 40% for training and 60% for testing."
4) Effettuare una somma di valori numerici presenti in più celle contigue in Excel.

SORTEGGIATA

MARIA GIULIA TULLO
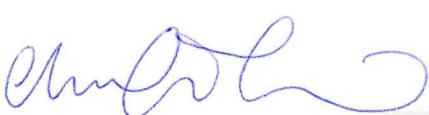
TRACCIA N°1

1) Il candidato esponga le sue conoscenze su un software di analisi di dati neuroscientifici.
2) Il candidato esponga le possibili applicazioni di metodi di indagine neuroscientifica.
3) Il candidato legga e traduca il seguente testo:
   "There is a wide range of functional magnetic resonance imaging (fMRI) study designs available for the neuroscientist who wants to investigate cognition. In this manuscript we review some aspects of fMRI study design, including cognitive comparison strategies (factorial, parametric designs), and stimulus presentation possibilities (block, event-related, rapid event-related, mixed, and self-driven experiment designs) along with technical aspects, such as limitations of signal to noise ratio, spatial, and temporal resolution. We also discuss methods to deal with cases where scanning parameters become the limiting factor."
4) Collocare, in ordine crescente, una serie di valori numerici in colonna in una tabella Excel.

NON SORTEGGIATA

TRACCIA N°4

1) Il candidato esponga una tecnica di analisi per l'elaborazione di dati fMRI.
2) Il candidato esponga l'applicazione di un metodo di indagine neuroscientifico all'interno di un progetto di ricerca nuovo o già svolto.
3) Il candidato legga e traduca il seguente testo:
   "With numerous researchers working with the same dataset, there is the potential for direct comparisons of the various endpoints of brain structures as well as the algorithms and pre-processing steps used to extract these structural measures. To ensure these comparisons are meaningful, it is desirable to define standardized datasets that multiple researchers can use for making methodological comparisons, thereby mitigating the risk that some of the observed differences in algorithm performance are an artefact of the use of different input data."
4) In un file Word, inserire una tabella con 3 righe e 3 colonne e riempire le celle con numeri.

NON SORTEGGIATA

TRACCIA N°2