



**PROGETTO 1/ PROJECT 1**

**Supervisore/Supervisor:** Professor Luigi Ferini Strambi

**Titolo/Title:** Internet-delivered Cognitive-Behavioral Therapy for insomnia: a Step Care model in order to improve cost-benefits and effectiveness.

**Corso /PhD Course** Scienze Cognitive e Comportamentali/Cognitive and Behavioral Sciences

**Curriculum:**

Link alla pagina personale OSR/UNISR/ <https://www.unisr.it/docenti/f/ferini-strambiluigi>

*Link to OSR/UniSR personal page:*

**Descrizione del progetto/Project description** (Tra i 2.000 e 3.000 caratteri spazi inclusi/ *Number of characters, including spaces: 2.000 - 3.000*):

Insomnia disorder (ID) is the most common sleep disorder encountered in clinical practice [1]. The social impact of this disorder is estimated to be up to \$100 billion/year in the USA [2], and €40-50 billion annually in Germany [3]; and comparing with non-sleep disordered controls, controlling for comorbidities, subjects with untreated insomnia show significantly higher health care utilization [4]. The global guidelines suggest Cognitive-Behavioral Therapy for Insomnia (CBT-I) as the first-choice treatment for chronic insomnia, due to the efficacy demonstrated in the literature in both short- and long-term comparison with pharmacotherapy [5-7]. However, it has been reported that up to 40% of patients do not achieve remission after treatment [8-10], and several research groups interpreted this lack of effectiveness as the consequence of neurophysiological and clinical heterogeneity of insomnia disorder patients, which seems to significantly influence the course of treatment [11-12]. In addition, CBT-I, despite two decades of research it is still not readily available and accessible, and hypnotic medication still is the dominant therapeutic modality in the treatment of insomnia [13].

The use of a Step Care model, based on patient characteristics and providers' expertise, could increase treatment effectiveness, by improving adherence and cost-benefits [14]. Results in the literature showed us that internet-delivered CBT-I (eCBT-I) appears efficacious and can be considered a viable option in the treatment of insomnia improving insomnia severity [15].

Producing an Italian standardized online CBT-I protocol could be useful to implement it on a large scale by reaching patients whose specific treatment is not available. This could limit the economic and social impact of insomnia present in Italy, increasing the ease of intervention, reducing the demand, and, according to a



therapeutic Step Care approach, in case face-to-face intervention is needed propose it in the specific case, based on the patient's characteristics. The present Ph.D. project has two aims: To produce and evaluate the effectiveness of eCBT-I treatment in Italy on a large scale, in different age groups; second, to evaluate the differences in the effectiveness of eCBT-I treatment in comparison with a group treatment proposed by a sleep medicine expert, evaluating subjective and objective, as well as sleep- e non-sleep effectiveness outcomes.

**Competenze che deve acquisire lo studente/skills to be acquired by the student** (Max 600 caratteri spazi inclusi/ Number of characters, including spaces: max 600):

First year: Autonomy in critical literature review and data collection.

Second year: Autonomy in data collection, management and statistical analyses by different software (i.e. SPSS, R, Python).

Third year: Autonomy in data interpretation and scientific writing skills (planning, drafting and submission of scientific papers).

Other skills: Organizational skills as well as the autonomy and the ability to work in a team. Ability to plan and implement scientific experimental design related to specific fields (Behavioral, sleep and cognitive neuroscience).

**Bibliografia/References** (max. 15)

- [1] Sateia MJ. International classification of sleep disorders-third edition Sateia, M. J. (2014). International classification of sleep disorders-third edition highlights and modifications. *Chest*, 146(5), 1387–1394. <https://doi.org/10.1378/chest.14-0970highlights and m. Chest. Published online 2014>.
- [2] Wickwire EM, Shaya FT, Scharf SM. Health economics of insomnia treatments: The return on investment for a good night's sleep. *Sleep Med Rev*. 2016;30. doi:10.1016/j.smrv.2015.11.004
- [3] Thiart H, Ebert DD, Lehr D, et al. Internet-based cognitive behavioral therapy for insomnia: A health economic evaluation. *Sleep*. 2016;39(10). doi:10.5665/sleep.6152
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- [6] Qaseem A, Kansagara D, Forciea MA, et al. Management of chronic insomnia disorder in adults: A clinical practice guideline from the American college of physicians. *Ann Intern Med.* Published online 2016. doi:10.7326/M15-2175
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- [11] Galbiati A, Sforza M, Fasiello E, Castronovo V, Ferini-Strambi L. Impact Of Phenotypic Heterogeneity Of Insomnia On The Patients' Response To Cognitive-Behavioral Therapy For Insomnia: Current Perspectives. *Nat Sci Sleep.* 2019;Volume 11:367-376. doi:10.2147/NSS.S198812
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- [13] Baglioni C, Altena E, Bjorvatn B, et al. The European Academy for Cognitive Behavioural Therapy for Insomnia: An initiative of the European Insomnia Network to promote implementation and dissemination of treatment. *J Sleep Res.* 2020;29(2). doi:10.1111/jsr.12967
- [14] Riemann D, Benz F, Dressler RJ, Espie CA, Johann AF, Blanken TF, Leerssen J, Wassing R, Henry AL, Kyle SD, Spiegelhalder K, Van Someren EJW. Insomnia disorder: State of the science and challenges for the future. *J Sleep Res.* 2022 Aug;31(4):e13604. doi: 10.1111/jsr.13604. Epub 2022 Apr 22. PMID: 35460140.
- [15] Zachariae R, Lyby MS, Ritterband LM, O'Toole MS. Efficacy of internet-delivered cognitive-behavioral therapy for insomnia - A systematic review and meta-analysis of randomized controlled trials. *Sleep Med Rev.* 2016 Dec;30:1-10. doi: 10.1016/j.smrv.2015.10.004. Epub 2015 Oct 24. PMID: 26615572.

Periodo di studio e ricerca presso Impresa /Centri di ricerca / Pubblica Amministrazione

Il periodo per un minimo di 6 mesi fino a un massimo di 12 mesi è obbligatorio, anche non continuativi, per le borse attivate nell'ambito di investimento:

- Transizione digitali e ambientali
- Pubblica amministrazione
- Patrimonio culturale

Sono esclusi quelle di Ricerca PNRR.

Il dottorando svolgerà il periodo OBBLIGATORIO presso DIREZIONE SANITARIA per n. 6 mesi  
OSPEDALE SAN RAFFAELE - TURRO,  
MILANO

**Sede legale:**

Paese	ITALIA
Città	MILANO
Indirizzo	VIA STAMIRA D'ANCORA 20, MILANO

**Sede operativa principale**, se diversa dalla sede legale, presso cui è svolta l'attività di ricerca del dottorando

Paese	
Città	
Indirizzo	

Periodo di studio e ricerca all'estero

Il periodo per un minimo di 6 mesi fino a un massimo di 12 mesi, anche non continuativi, è obbligatorio per le borse attivate in tutti e 4 gli ambiti di investimento (Transizione digitali e ambientali, Ricerca PNRR, Pubblica amministrazione e Patrimonio culturale).

Il dottorando svolgerà il periodo OBBLIGATORIO presso NEUROCENTRO per n. 6 mesi  
LUGANO, SVIZZERA

**Sede legale:**

Paese	SVIZZERA
Città	LUGANO
Indirizzo	REGIONAL HOSPITAL OF LUGANO, VIA TESSERETE 46, 6900 LUGANO

**Sede operativa principale**, se diversa dalla sede legale, presso cui è svolta l'attività di ricerca del dottorando

Paese	
Città	
Indirizzo	

I periodi di cui sopra sono distinti e da svolgere presso soggetti distinti.

Entro fine ottobre 2023 sarà necessario fornire una lettera d'impegno degli enti a ospitare il dottorando (il facsimile della lettera sarà fornita dall'Ufficio Dottorati).