

DIANA M.E. TORTA



May 2018

KU Leuven

Faculty of Psychology and Educational Science, Research group in Health Psychology

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website: www.researchgate.net/DianaTorta

CURRENT POSITION

Post-doctoral fellow KU Leuven, Belgium

2016-2020

FNRS Postdoctoral Fellow Chargé de Recherche

2017-2021

MATERNITY LEAVE

February 2018-June 2018

EDUCATION (ACADEMIC)

University of Turin, Department of Psychology

Torino, Italy

PhD, Cognitive Neuroscience

2011

University of Turin, Department of Psychology

Torino, Italy

MA, *magna cum laude, special mention*, Body and mind sciences (psychology)

2006

University of Turin, Department of Psychology Torino, Italy
BA, *magna cum laude*, Neuropsychology 2004

EDUCATION (OTHER COURSES)

Selected for the summer school (3-day course) on leadership and group management (University of Turin) 2014
Course on the management of master students (5-hour course) (KU Leuven) 2016

GRANTS AND AWARDS

FWO Research grant (G000518N) (Co-PI)

The effects of motor action on pain processing: An experimental analysis (€225.000)

BAEF Alumni award for the Social Sciences

Personal prize for achievements (€10.000) 2017

IASP Travel Grant

16th International Congress of the International Association for the Study of Pain (IASP) World congress on pain, Yokohama, Japan (\$1200) 2016

Efic Grünenthal Grant (E-G-G)

Project: Cortical and peripheral beta oscillations in pain (€35.000) 2014

Network of European Neuroscience Schools (NENS)

Co-supervisor of an incoming master student from Italy (Marco Ninghetto) (€1.300) 2015

Project: The effect of divided attention on nociceptive and non-nociceptive stimuli

Belgian Pain Society Award

Paper: *Looking at the hand does not necessarily modulate pain*, by Torta, Legrain, Mouraux (€5.000) 2014

FNRS Travel Grant

International Congress of Clinical Neurophysiology (ICCN), Berlin, Germany (€ 707) 2014

IBRO Travel Grant

International Congress of the Human Brain Mapping Society, Beijing, China (€ 1.250) 2012

Human Brain Mapping, Wiley poster prize

Poster: *Massive modulation of brain areas following nociceptive stimulation*, by Cauda, Costa, Sacco, D'Agata, Duca, Geminiani, Torta DM 2012

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| Garantors of Brain Travel Grant | 2010 |
| International Congress of the International Association for the Study of Pain (IASP), Montreal, Canada (£500) | |
| Ministero Istruzione Università Ricerca (MIUR) | 2008-2010 |
| PhD student collaborator in the project: <i>Attentional and motor factors in the neuropsychology of emotions</i> (PI Prof. Giuliano Geminiani) (€ 31.000) | |
| Ministero Istruzione Università Ricerca (MIUR) | 2008-2010 |
| PhD student collaborator in the project: <i>Cognitive and neural control of actions</i> (PI Prof. Anna Berti) (€ 31.000) | |
| Fondazione Alfieri (Torino, Italy) | 2009-2011 |
| PhD student collaborator in the project: <i>Reward systems in Parkinson's disease</i> (PI Prof. Giuliano Geminiani) (€ 22.000) | |

RESEARCH EXPERIENCE

| | |
|---|-------------------|
| Université catholique de Louvain, Institute of Neuroscience | Brussels, Belgium |
| Postdoctoral Fellow | 2015-2016 |
| Université catholique de Louvain, Institute of Neuroscience | Brussels, Belgium |
| Marie Curie- Academie Universitaire de Louvain Incoming Postdoctoral Fellow | 2013-2015 |
| University of Turin, Department of Psychology | Turin, Italy |
| Postdoctoral Fellow in the complex system fMRI group, Koelliker Hospital, Turin | 2012-2013 |
| University of Turin, Department of Psychology and Regione Piemonte | Turin, Italy |
| Postdoctoral Fellow | 2011-2012 |
| Université catholique de Louvain, Institute of Neuroscience | Brussels, Belgium |
| International Brain Research Organization (IBRO) short stay research fellow | 2011 |
| University College London | London, UK |
| Research Associate Department of Neuroscience, Physiology and Pharmacology | 2010 |
| University of Oxford | Oxford, UK |
| Visiting PhD student Department of Neuroscience, Anatomy and Genetics | 2009-2010 |

RESEARCH INTERESTS

1. Cognitive and psychological modulation of central sensitization
2. Attention and pain
3. Cross-modal and multisensory influences on pain

SUPERVISION AND PARTICIPATION IN DOCTORAL JURIES

Jury member for Ghent University (2016) and University of Turin (2018). Co-supervisor for an incoming NENS training stay at the Université catholique de Louvain. Supervisor of 5 master students at the Katholieke Universiteit Leuven in the years 2016-2019, co-supervisor of 5 master students at the University of Turin (2010-2015)

TEACHING

Université catholique de Louvain 2016

Attention and attentional modulation of pain (Neuroscience)

Seminars on experimental methods for studying nociception and pain in humans 2014, 2015

University of Turin

Module on EEG and ERPs in the PhD course 'Advanced neuroimaging' 2014

Teaching assistant of Psychobiology and Physiological Psychology 2012

HABILITATION

National Italian accreditation as 'Associate Professor' in Psychobiology, neuropsychology and physiological psychology (M-PSI/02), MIUR 2013

CLINICAL TRAINING

Qualification as practicing psychologist 2008

University of Turin, Clinical neuropsychology Internship at Turin Medical School 2006-2007

University of Turin, Clinical neuropsychology Internship at Turin Medical School 2003-2004

PUBLICATIONS: PEER-REVIEWED ARTICLES

39. van den Broeke EN, Torta DM, Van den Bergh O (in press) Central Sensitization: Explanation or phenomenon? *Clinical Psychological Science* IF: 3.7
38. Torta DM*, Filbrich L*, Van den Broeke EN, Legrain V (2018). No perceptual prioritization of non-nociceptive vibrotactile and visual stimuli presented on a sensitized body part *Scientific Reports* IF:4.2
* *equal contribution*
37. Clauweert A, Torta DM, Lievens D, Van Damme S (in press). Attentional modulation of somatosensory processing during pain-related movement preparation: an event-related potential study *Journal of Pain* IF:4.519
36. Van Den Broeke EN, de Vries B, Lambert J, Torta DM, Mouraux A (2017). Time-frequency analysis of electro-encephalographic (EEG) responses to pinprick stimulation before and after experimentally induced secondary hyperalgesia *Clinical Neurophysiology* 128(8):1445-1456 IF: 3.866
35. Torta DM, Legrain V, Mouraux A, Valentini A (2017). Attention to pain! Attention to pain! A neurocognitive perspective on attentional modulation of pain in neuroimaging studies *Cortex* 89:120-134 IF: 4.279
34. Torta DM, Van den Broeke EN, Filbrich L, Benvenuto J, Lambert J, Mouraux A Intense pain influences the cortical processing of visual stimuli projected onto the sensitized skin (2017). *PAIN* 158(4):691-697 IF: 5.445 [*media coverage: Body in Mind blog*]
33. Vizzari V, Barba S, Gindri P, Duca S, Giobbe D, Cerrato P, Geminiani G, Torta DM (2017). Mechanical pinprick pain in patients with unilateral spatial neglect: The influence of space representation on the perception of nociceptive stimuli *European journal of pain* 21(4):738-749 IF: 3.01 [*media coverage: Body in Mind blog*]
32. Torta DM, Costa T, Luda E, Barisone G, Palmisano P, Duca S, Geminiani G, Duca S, Cauda F (2016). Nucleus Accumbens functional connectivity discriminates Medication Overuse Headache *NeuroImage: Clinical* 11:686-93. IF: 3.857
31. Filbrich L, Torta DM, Vanderclausen C, Azañon E, Legrain V (2016). Using temporal order judgments to investigate attention bias toward pain and threat-related information. Methodological and theoretical issues *Consciousness and Cognition* 41:135-8. IF: 2.182
30. Torta DM, Tatu MK, Cotroneo D, Alamia A, Folegatti A, Trojan J (2016). Prism adaptation contrasts perceptual habituation for repetitive somatosensory stimuli *Acta Psychologica* 165:24-33. IF: 1.816

29. Torta DM, Legrain V, Rossetti Y, Mouraux A (2016). Prisms for pain: Are visuo-motor rehabilitation strategies effective for chronic pain? *European Journal of Pain* 20(1): 64-69. IF: 2.9
28. Diano M, D'Agata F, Cauda F, Costa T, Geda E, Sacco K, Duca S, Torta DM, Geminiani CG (2016). Cerebellum clustering and functional connectivity during pain processing *Cerebellum* 15(3):343-56. IF: 2.429
27. Torta DM, Churyukanov M, Plaghki L, Mouraux A (2015). The effect of heterotopic noxious conditioning stimulation on A δ -, C-, and A β -fiber brain responses in humans *European Journal of Neuroscience*, 42(9):2707-2715. IF: 2.975
26. Torta DM (2015). Understanding the mechanisms through which spatial attention acts on nociception *Journal of Neurophysiology*, 114(5):2561-2563. IF: 2.653
25. Torta DM, Legrain V, Mouraux A Looking at the hand modulates brain responses to nociceptive and non-nociceptive somatosensory stimuli but not necessarily their perception (2015). *Psychophysiology* 52(8):1010-1018. IF: 3.074 [paper winner of the Belgian Pain Society Award 2015]
24. Carlino E, Torta DM, Frisaldi E, Vighetti M, Pollo A, Benedetti F (2015). Conscious and unconscious mechanisms in placebo analgesia *European Journal of Pain* 19: 546-553. IF: 2.9
23. Tesio V, Torta DM, Ghiggia A, Cagna M, Colonna F, Torta R, Castelli L (2015). Fibromyalgia patients judge it right: relationship between subjective and objective cognitive deficits in fibromyalgia *Arthritis Care & Research* 67:143-150. IF: 3.229
22. Trojan J, Diers M, Valenzuela-Moguillansky C, Torta DM (2014). Body, space and pain editorial for the special issue of Frontiers Body, Space and Pain *Frontiers in Human Neuroscience* 8:369. IF: 3.634
21. Cauda F, Palermo S, Costa T, Torta R, Duca S, Vercelli U, Geminiani G, Torta R, Torta DM (2014). Gray matter alterations in chronic pain: A network oriented meta-analytic approach *NeuroImage Clinical* 4:676-86. IF: 2.526
20. Cauda F, Costa T, Diano M, Duca S, Torta DM (2014). Beyond the "Pain Matrix": Inter-run synchronization during mechanical nociceptive stimulation *Frontiers in Human Neuroscience* 8:265. IF: 3.626
19. Cauda F, Costa T, Diano M, Sacco K, Duca S, Geminiani G, Torta DM (2014). Massive modulation of brain areas after mechanical pain stimulation: a time-resolved fMRI study *Cerebral Cortex* 24:2991-3005. IF: 8.665

18. Torta DM, Legrain V, Algoet M, Olivier E, Duque J, Mouraux A (2013). Theta burst stimulation applied over primary motor and somatosensory cortices produces analgesia unrelated to the changes in nociceptive event-related potentials *PLos One* 8(8):e73263. IF: 3.534
17. Torta DM, Costa T, Duca S, Fox PT, Cauda F (2013). Parcellation of the cingulate cortex at rest and during tasks: a meta-analytic and experimental study *Frontiers in Human Neuroscience* 7:275. IF: 2.895
16. Torta DM, Diano M, Costa T, Gallace A, Geminiani G, Cauda F (2013). Crossing the line of pain: investigating the neural basis of crossed-hands analgesia *Journal of Pain* 14(9):957-965. IF: 4.216
15. Sambo CF*, Torta DM*, Liang M, Gallace A, Moseley L, Iannetti GD (2013). The temporal order judgement of both tactile and nociceptive stimuli is impaired by crossing the hands *PAIN* *equal contribution 154(2):242-247. IF: 5.836
14. Cauda F, Torta DM, Sacco K, D'Agata F, Geda E, Duca S, Geminiani G, Vercelli A (2013). Functional anatomy of cortical areas characterized by Von Economo neurons *Brain Structure and Function* 218(1):1-20. IF: 4.567
13. Cauda F, Torta DM, Sacco K, Geda E, D'Agata F, Costa T, Duca S, Geminiani G, Amanzio M (2012). Shared 'core' areas between the pain and other task related networks *PLos One* 7(8):e 41929. IF: 3.730
12. Torta DM, Vizzari V, Castelli L, Zibetti M, Lanotte M, Lopiano L (2012). Not all impulsivities worsen after Deep Brain Stimulation of the Subthalamic Nucleus in Parkinson's disease *PLos One* 7(9):e 43261. IF: 3.730
11. Legrain V, Mancini F, Sambo CF, Torta DM, Ronga I, Valentini E (2012). Cognitive aspects of nociception and pain. Bridging neurophysiology and neuropsychology *Neurophysiologie clinique/Clinical Neurophysiology* 42(5):325-336. IF: 2.553
10. Cauda F, Costa T, Torta DM, Sacco K, D'Agata F, Geda E, Duca S, Geminiani G, Vercelli A (2012). Meta-analytic clustering of the insula. *NeuroImage* 62(1):343-355. IF : 6.252
9. Torta DM*, Liang M*, Valentini V, Mouraux A, Iannetti GD (2012). Dishabituation of laser-evoked EEG responses: dissecting the effect of certain and uncertain changes in stimulus spatial location. *Experimental Brain Research* *equal contribution 218(3):361-372. IF: 2.221
8. Biglia N, Bounous VE, Malabaila A, Palmisano D, Torta DM, D'Alonzo M, Sismondi P, Torta R (2012). Objective and self-reported cognitive dysfunction in breast cancer women treated with chemotherapy: a prospective study *European Journal of Cancer Care* 21(4):485-492. IF: 1.308

7. Torta DM, Cauda F (2011). Different functions in the cingulate cortex, a meta-analytic connectivity modeling study *NeuroImage* 56(4):2157-2172. IF: 5.895
6. Gallace A, Torta DME, Moseley L, Iannetti GD (2011). The analgesic effect of crossing the arms *PAIN* 152(6):1418-1423. IF: 5.777 [article featured in the cover of the journal, media coverage *New Scientist*, *Corriere della Sera*, *BBC News*]
5. Amanzio M, Torta DME, Duca S, Sacco K, Cauda F, D'Agata, F,Palermo S Leotta D, Geminiani G (2011). Unawareness of deficits in Alzheimer's disease: Role of the Cingulate Cortex. *Brain: a journal of neurology* 134(4):1061-1076. IF: 9.457 [article featured in the cover of the journal]
4. Valentini E, Torta DME, Mouraux A, Iannetti GD (2011). Determinants of laser evoked potentials (LEPs): effects of predictable and unpredictable changes in stimulus modality *Journal of Cognitive Neuroscience* 23(10):2822-2837. IF: 5.175
3. Torta DME, Castelli L, Latini-Corazzini L, Banche A, Lopiano L, Geminiani G (2010). Dissociation between time reproduction of actions and of intervals in Parkinson's disease *Journal of neurology* 257(8):1356-1361. IF: 3.853
2. Torta DME, Castelli L, Zibetti M, Lopiano L, Geminiani GC (2009). On the role of dopamine replacement therapy in decision-making, working memory and reward in Parkinson's disease: does the therapy dose matter? *Brain and cognition* 71(2):84-91. IF: 2.547
1. Torta DME, Castelli L (2008). Reward pathways in Parkinson's disease: clinical and theoretical implications *Psychiatry and Clinical Neurosciences* 62: 203-213 IF: 1.394

H-Index: 17 total number of citations: 1144 (as of May 2018) i-10 Index: 27

PUBLICATIONS: BOOK CHAPTERS

5. Torta DM, Cauda F, Napadow V, Baliki M (2015). Resting state connectivity in chronic pain. In: *The Brain Adapting with pain: Contribution of Neuroimaging Technology to Pain Mechanisms*. Edited by A. Vania Apkarian, IASP press.
4. Legrain V, Torta DM (2015). Cognitive psychology and neuropsychology of nociception and pain. In: Pickering G., Gibson S. (Eds). *Pain, Emotion and Cognition: a Complex Nexus* Springer.
3. Torta DME, Sacco K (2012). Tecniche neurofisiologiche. In: *Le Neuroimmagini: Nuove frontiere per lo studio del cervello umano in vivo*. Editor: Idelson Gnocchi.

2. Amanzio M, Torta DME (2011). Unawareness of motor deficits in Parkinson's disease. In: Movement disorders: Causes, Diagnosis and Treatments Editors: Barbara J Larsen Nova Science Publishers, Hauppauge, New York 151-170.

1. Amanzio M, Torta DME (2009). Unawareness of deficits in Alzheimer's disease through a bio-psycho-social perspective. In: Metacognition: New Research development. Editor: Clayton B Larson Nova Science Publishers, Hauppauge, New York pp 240-253

CONFERENCE PRESENTATION

TALKS

Organizer, Invited speaker or speaker

26. "A neurocognitive perspective on the interplay between pain and attention" Invited speaker at the Symposium "The Brain in Pain", a conference on the bridge between clinical and experimental research in pain 17th November 2017 Turin, Italy

25. "Low frequency stimulation at 2 Hz induces mechanical hyperalgesia" Pain Research Meeting 19th-21st September 2017, Antwerpen, Belgium

24. "How to get funded as a junior researcher" Pain Research Meeting 19th-21st September 2017, Antwerpen, Belgium

23. Chair of the symposium "Multisensory representation of pain in healthy clinical and sensitized states" accepted at the European Federation of the International Association for the Study of Pain chapters (IASP) Copenhagen 6th-9th September 2017. Speakers: Annick De Paepe (University of Ghent), Daniele Romano (University of Milan-Bicocca)

22. "Visuo-spatial modulation of pain" in the symposium "Pain depends on the context" Italian Society for Psychophysiology (SIPF) 27th-29th October 2016 Milan, Italy

21. "Rating the intensity of nociceptive laser stimuli modifies the amplitude of laser evoked potentials" Pain Research Meeting 18th-20th September 2016 Giessen and Marburg, Germany

20. "Can intense nociceptor activation affect the processing of non-nociceptive stimuli?" Invited talk at the Center for NeuroPlasticity (CNAP) University of Aalborg, Denmark 21st August 2016

19. "Does sustained pain induce cross-modal central sensitization?" In the symposium Electroencephalographic Advancements in the study of pain and of its cognitive and affective modulations, European Social Cognitive Affective Neuroscience, Porto, Portugal 23rd-26th June 2016
18. "Intense noxious stimulation does not only lead to central sensitization of the nociceptive system: evidence from visual-evoked potentials" Pain mechanisms and therapeutics conference, Taormina, Italy, 3rd-8th June 2016
17. "Does sustained pain induce cross-modal central sensitization?" In the symposium Cognitive processes underlying pain, Belgian Association for Psychological Sciences, Anvers, Belgium, 24th May 2016
16. "What is the role of space representation in pain perception?" In the symposium Body perception and peripersonal space TeAP, Experimental Psychology Congress, Heidelberg, Germany 20th-23rd March 2016
15. "Prismatic lenses and pain" in the symposium The body in space International conference on spatial cognition (ICSC), Rome, Italy 7th-11th September 2015
14. "The complex interplay between pain, body representation and visuo-spatial processing: experimental models" in the symposium Do the eyes have it? Spatial representations, multi sensory interaction and visual illusions in neuropathic pain Neupsig, Nice, France, 14th-17th May 2015
13. "Visuo-proprioceptive conflicts and nociception" in the symposium The Power of Vision: Novel Insights into the Role of Visual Feedback, Spatial Attention, and Multisensory Illusions in Pain, 15th World congress of the International Association for the Study of Pain (IASP), Buenos Aires, Argentina, 6th-11th October 2014
12. "Visuo-proprioceptive conflicts and nociception" Neuronus IBRO-IRUN Conference, Krakow, Poland, 25th-27th April, 2014
11. "The effect of direct or mirror vision of the hand on the processing of nociceptive and non-nociceptive somatosensory inputs: an ERP study" 30th International Congress on Clinical Neurophysiology (ICCN), Berlin, Germany, 19th-23rd March 2014
10. "Neurofisiologia del dolore: aspetti cognitivi ed emozionali" Meeting of the Italian Society of Physiotherapy, Turin, Italy, 8th March 2014
9. "RM funzionale del dolore" Invited speaker at the ECM course 'I conflitti neurovascolari' Torino, Italy 18th May 2013

8. “Cervello e Dolore”, ECM course ‘Le neuroscienze: tra psichiatria e neurologia’ Torino, Italy, 7th December 2012

“The neural bases of the crossed hands analgesia” 5th International Conference on Spatial Cognition:
7. “Space and Embodied Cognition” Symposium “The role of body image and peripersonal space in pain”, Rome, Italy, 4th-8th September 2012

6. “The neural bases of the crossed hands analgesia” Speaker at the Alumni-FENS Symposium “The role of body image and peripersonal space in pain”(Convenor Dr Jörg Trojan), 8th FENS Forum of Neuroscience, Barcelona, Spain, 14th-18th July 2012

5. “A multimodal imaging study for the investigation of the neural mechanisms of the TMS induced analgesia” Oral communication at the XIX Congress of the Italian Psychophysiological Society (SIPF) Brescia, Italy, 14th-16th November 2011

4. “Paradigmi sperimentali nello studio del dolore” Invited speaker at the symposium on pain at the National congress of the Italian Psychological Society (Clinical Psychology section), Torino, Italy, 26th September 2010

3. “Temporal order judgments for noxious stimuli” Talk at the Australian Research Institute, Sydney, Australia, 3rd August 2010 (Invited by: Dr. Lorimer Moseley)

2. “Rub it better and cross your hands!” Oral communication at the XXVIII European Workshop on Cognitive Neuropsychology. Bressanone, Italy, 30th January- 2nd February 2010

1. “Pathological gambling and other neuropsychiatric complications in Parkinson’s disease” Invited talk at the 11th World Day on Parkinson’s disease (Invited by: Professor Fabrizio Stocchi) Rome, Italy, 13th April 2008

REVIEWING AND EDITORIAL ACTIVITY

Reviewer for the following journals: Cerebral Cortex, Human Brain Mapping, PLoS One, Experimental Brain Research, PAIN, Neuropsychologia, NeuroImage, Neuroimage: Clinical, Journal of Experimental Psychology: Human Perception and Performance, Arthritis & Rheumatism, Journal of Pain, Parkinsonisms and Related Disorders, Journal of Neurophysiology, Psychosomatic medicine, Consciousness and Cognition, Behavioral Brain Research, Journal of Headache and Pain, Biological Psychology, Clinical Neurophysiology, BioMed Research International, Psychophysiology.

Reviewer for the following funding agencies: FWO Flanders Foundation research, Parkinson’s disease UK Foundation, German Science Foundation.

Guest editor for the Frontiers Research Topic: Body, Space and Pain

MEMBERSHIPS

Member of the International Association for the Study of Pain (IASP), of the European Social Cognitive and Affective neuroscience society (ESCAN)

ACADEMIC REFERENCES AND COLLABORATIONS

André Mouraux, PhD, MD
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