

**Versione del *curriculum vitae* scientifico professionale, priva di dati di cui non è opportuna la pubblicazione (dati anagrafici, codice fiscale, numero di telefono, indirizzo mail, residenza anagrafica), redatta in modo da garantire la conformità del medesimo a quanto prescritto dall'art. 4 del Codice in materia di protezione dei dati personali e dall'art. 26 del D. Lgs. 14 marzo 2013, n. 33, al fine della pubblicazione, e contrassegnata per la destinazione “ai fini della pubblicazione”**

Procedura valutativa di chiamata per n. 1 posto di Ricercatore a tempo determinato - Tipologia B presso il Dipartimento di Fisiologia e Farmacologia “V. Erspamer”, Facoltà di Farmacia e Medicina, Università degli Studi di Roma “La Sapienza”, Settore Scientifico-disciplinare BIO/14, Settore concorsuale 05/G1  
Codice Concorso 2021RTDB023

Bando emanato con D.R. n. 3227/2021 del 02.12.2021

Candidata Antonia Manduca

**Curriculum vitae “ai fini della pubblicazione”**  
**in ottemperanza del D. Lgs. 33/2013**

**PERSONAL INFORMATION**

Family name, First name: **Manduca, Antonia**

ORCID: 0000-0001-9730-2467; Scopus ID: 54983543900; Research ID: Z-3737-2019

**EDUCATION**

- 25/02/2014**      **Ph.D. in Biology Applied to Human Health** - Curriculum Pharmacology, Dept. of Biology, **Roma Tre University**, Rome, Italy. Thesis title: *Role of the endocannabinoid system in the modulation of emotions and cognition.*
- 21/07/2009**      **M.Sc. in Pharmacy**, Faculty of Pharmacy, **Sapienza University of Rome**, Rome, Italy.
- 01/07/2003**      **B.Sc. in Scientific Studies**, **Liceo Scientifico “Carlo Pisacane”**, Padula, Italy.

**CURRENT POSITION**

- 01/01/2019 – present**      Postdoctoral Fellow, Laboratory of Pharmacology (Head: Dr. Viviana Trezza), Dept. of Science, **Roma Tre University**, Rome, Italy;

**PREVIOUS POSITIONS**

- 01/04/2014 – 17/11/2018**      Postdoctoral Fellow, Laboratory of Pathophysiology of synaptic plasticity (Head: Dr. Olivier Manzoni), **Institut de Neurobiologie de la Méditerranée (INMED)**, Marseille, France;
- 01/01/2011 – 31/12/2013**      PhD student, Laboratory of Pharmacology (Head: Dr. Viviana Trezza), Dept. of Science, **Roma Tre University**, Rome, Italy;
- 01/01/2010 – 31/12/2010**      Research Associate, Laboratory of Pharmacology (Head: Prof. Maura Palmery), Dept. of Physiology and Pharmacology, **Sapienza University of Rome**, Rome, Italy;
- 01/11/2007 – 21/07/2009**      Undergraduate internship, Laboratory of Pharmacology (Head: Prof. Maura Palmery), Dept. of Physiology and Pharmacology, **Sapienza University of Rome**, Rome, Italy;
- 01/09/2006 – 01/03/2007**      ERASMUS student, Faculty of Pharmacy, **University of Granada**, Granada, Spain.

**NATIONAL SCIENTIFIC ABILITATION**

National Scientific Habilitation (ASN 2018-2020) for Associate Professor in the Academic Recruiting Field of “Pharmacology, Clinical Pharmacology and Pharmacognosy (05/G1)” from 31/05/2021 to 31/05/2030.

**GRANTS AS PRINCIPAL INVESTIGATOR (PI)**

- 01/01/2022 – 31/12/2023**      **Fondazione Zardi Gori Postdoctoral Fellowship 2021** (54000 €), Italy for the most promising research on drugs of abuse. Title: Detrimental effects of maternal Cannabis use: exploring emerging strategies for treating sex-dependent behavioral and neurobiological consequences in the offspring (**Role: PI**).
- 01/01/2020 – 31/12/2021**      **Autism Speaks Postdoctoral Fellowship** (135000 \$), USA for the most promising research on autism. Title: New Insights on the role of

- cannabidiol in autism spectrum disorder: from synapse to behavior (Role: PI).
- 01/01/2018 – 31/12/2019** **L'Oreal-UNESCO for Women in Science (FWIS) Postdoctoral Fellowship** (20000 €), France for the most promising young female researchers under 35. Title: Cannabis and dietary imbalance during breast-feeding: what are the consequences for the fetus? (Role: PI).
- 01/10/2014 – 30/09/2015** **PV/MM/MS-14.449, Ville de Marseille Research Fellowship** (2000 €), France to spend 1-year research period in the laboratory of Dr. Olivier Manzoni, INMED, Marseille, France. Title: Omega-3 Fatty Acids and Depression (Role: PI).
- 01/04/2014 – 30/09/2014** **Sapienza University of Rome International Post-degree Scholarship** (7740 €), Italy for a 6-month research period in the laboratory of Dr. Olivier Manzoni, INMED, France. Title: Corticolimbic brain regions underlying social behavior: focus on the interaction between the endocannabinoid and opioid systems (Role: PI).
- 01/01/2011 – 31/12/2013** **Italian Ministry of Education, Universities and Research (MIUR)** (40000 €), Italy for a 3-year PhD project in the laboratory of Dr. Viviana Trezza, Dept. Biology, Roma Tre University, Rome, Italy. Title: Role of the endocannabinoid system in the modulation of emotions and cognition.
- 01/01/2010 – 31/12/2010** **Fondazione Enrico ed Enrica Sopena Research Fellowship** (10000 €), Italy for a 1-year research period in the laboratory of Prof. Maura Palmery, Dept. Physiology and Pharmacology, Sapienza University of Rome, Rome, Italy. Title: Pharmacological and toxicological characterization of natural extracts (Role: PI).
- 01/09/2006 – 28/02/2007** **ERASMUS Scholarships, Sapienza University of Rome** (1800 €) for a 6-month period abroad, University of Granada, Spain.

### GRANTS AS INVESTIGATOR

- 01/09/2021 – 31/08/2023** **Regione Lazio Progetti di Gruppi di Ricerca 2020**, Italy (149893 €). Title: Endocannabinoids and phytocannabinoids in autism spectrum disorder: from new biomarkers to innovative nutraceuticals (Role: Participant).
- 01/01/2021 – 31/12/2023** **Italian Ministry of Health, Ricerca Finalizzata 2019 Giovani Ricercatori**, Italy (449980 €). Title: Integrating cannabinoids into the treatment of Post-traumatic Stress Disorder: exploring mechanisms of amygdala-hippocampal communication during information contextualization (Role: Participant).
- 01/01/2017 – 17/11/2018** **National Institute on Drug Abuse (NIDA) and National Institute of Health (NIH)**, USA (311445 \$). Title: Sex-specific critical periods determine the effects of cannabinoids on the mesocorticolimbic system (Role: Participant).
- 01/08/2016 – 17/11/2018** **Fondation Recherche Medical (FRM)**, France (399500 €). Title: Multi scale study of in utero Cannabis exposure (Role: Participant).
- 01/04/2014 – 31/07/2016** **Agence Nationale de la Recherche (ANR)**, France (449981 €). Title: Depression and Nutrition (Role: Participant).
- 01/01/2012 – 31/03/2014** **FIRB Futuro in Ricerca**, Italian Ministry for Education, University and Research (MIUR), Italy (716000 €). Title: Post-traumatic stress

01/01/2011 – 31/12/2013

disorder at developmental ages: from neurobiology and vulnerability factors to novel nanoparticle-based therapeutics (Role: Participant).  
**PRIN Progetti di rilevante interesse nazionale**, Italian Ministry for Education, University and Research (MIUR), Italy (144826 €). Title: Emerging role of the endocannabinoid system in neuropsychiatric diseases (Role: Participant).

### **TEACHING ACTIVITIES**

- **Teaching Assistant** at Faculty of Pharmacy, Sapienza University of Rome, Rome, Italy, courses of “Pharmacology and Pharmacotherapy” and “Toxicology” (SSD BIO/14), academic year: 2010/11;
- **Teaching Assistant** at Faculty of Biology, Roma Tre University, Rome, Italy, course of “Pharmacology” (SSD BIO/14), academic years: 2011/12, 2012/13, 2013/14;
- **Teaching Assistant** at Faculty of Neuroscience, Aix Marseille Université, Marseille, France, course of “Neurosciences intégrées, cognitives et comportementales (NICC)”, academic year: 2015/2016;
- **Teaching Assistant** at Faculty of Science, Roma Tre University, Rome, Italy, courses of “Pharmacology”, “Toxicology”, “Psychobiology”, “Laboratory of Neuroscience” (SSD BIO/14), academic years: 2018/2019, 2019/2020, 2020/2021, 2021/2022;
- **Lecture**, second level professional master in “Applied Human Embryology”, Dept. Science, Roma Tre University, Rome, Italy, (8 May 2021);
- **Co-advisor** of PhD students, PhD School in Biomedical Sciences and Technologies, Roma Tre University, Italy (from 2019 to present).

### **INSTITUTIONAL RESPONSIBILITIES**

2019–to date Master and PhD Student Co-Advisor, Dept. Science, Roma Tre University, Italy;

2019–to date Member of the exam committee of the courses of Pharmacology, Toxicology, Psychobiology and Laboratory of Neuroscience (SSD BIO/14), Faculty of Science, Roma Tre University, Italy;

2011–2014 Member of the exam committee of the course of Pharmacology (SSD BIO/14), Faculty of Biology, Roma Tre University, Italy;

2010–2011 Member of the exam committee of the courses of Pharmacology and Pharmacotherapy and Toxicology (SSD BIO/14), Faculty of Pharmacy, Sapienza University of Rome, Italy.

### **SUPERVISION OF MASTER AND PHD STUDENTS**

- Formal Co-advisor of PhD students: E. Carbone (2019-present), V. Buzzelli (2020-present), PhD School in Biomedical Sciences and Technologies, Dept. Science, Roma Tre University, Rome, Italy;
- Research mentorship of master students: M. Deroche, INMED, Marseille, France (2015); V. Buzzelli, C. Cacchione, M. Terricola, A. Taddeo, G. Polidori, F. Rendina, M. Antonelli, A. Feo, Dept. Science, Roma Tre University, Rome, Italy (2019-present).

### **FELLOWSHIPS AND AWARDS**

- 1) Travel grant (150 €) sponsored by the Italian Society of Neuroscience (SINS) to attend the FENS 2020 Virtual Forum (Glasgow, United Kingdom 11 – 17 July 2020).
- 2) Travel grant (350 €) sponsored by the Italian Society of Pharmacology (SIF) to attend the International Conference "Addiction 2020: Enlightening the addicted brain: cells, circuits and therapies" (Villasimius, Italy 20 – 23 September 2020).
- 3) Travel grant (350 €) sponsored by the Italian Society of Pharmacology (SIF) to attend the International Conference "Perinatal Origins of Neuropsychiatric Disorders: from Molecular Mechanisms to Therapeutic Perspectives" (Palermo, Italy 29 – 31 May 2019).

- 4) Fondazione Veronesi Post-doctoral Fellowship 2019 (renounced for incompatibility with other funding).
- 5) Best Poster Presentation Award sponsored by Springer/Nature at the 6<sup>th</sup> Conference of the Mediterranean Society of Neuroscience (MNS), Mediterranean Neuroscience Society (MNS) (St. Julian's, Malta, 12 – 15 June 2017).
- 6) SIF-Farindustria-2016 Prize for Young Scientist in Pharmacology (5000 €) sponsored by the Italian Society of Pharmacology (SIF) (Rimini, Italy, 19 September 2016).
- 7) Travel grant (500 €) sponsored by the Mediterranean Neuroscience Society (MNS) to attend the 5<sup>th</sup> MSN Conference (Santa Margherita di Pula, Italy, 12 – 15 June 2015).
- 8) Scholarship to attend the Summer Course “Cellular Biology of Addiction” (1500 €) in partnership with the Cold Spring Harbor Laboratory (CSHL) (Barcelona, Spain 13 – 20 July 2014).
- 9) Best Post-Doctoral Presentation Award (150 \$) sponsored by the International Cannabinoid Research Society (ICRS) at the 24<sup>th</sup> Annual ICRS Conference (Baveno, Italy, 28 June – 3 July 2014).
- 10) Travel Fellowship (1500 €) sponsored by the Italian Society of Pharmacology (SIF) to spend six months in a foreign laboratory (23 January 2014).
- 11) Travel grant (500 \$) sponsored by the International Cannabinoid Research Society (ICRS) to attend the 24<sup>th</sup> Annual ICRS Conference (Baveno, Italy, 28 June – 3 July 2014).
- 12) Travel grant (650 €) sponsored by the European Behavioural Pharmacology Society (EBPS) to attend the 15<sup>th</sup> Biennial Meeting of EBPS (La Rochelle, France, 6 – 9 September 2013).
- 13) Best Poster Presentation Award (500 €) sponsored by the Italian Society of Pharmacology (SIF) at the 35<sup>th</sup> National Congress of SIF (Bologna, Italia, 14 – 17 September 2011).

**PUBLICATIONS (23 in total; citations: 670; h-index: 15; from Scopus)**

- 1) **Manduca A.\***, Carbone E., Schiavi S., Cacchione C., Buzzelli V., Campolongo P., Trezza V. (2021) The neurochemistry of social reward during development: What have we learned from rodent models?. *Journal of Neurochemistry*, 157(5):1408-1435; (\*: **corresponding author**);
- 2) Carbone E.\*, **Manduca A.\***, Cacchione C., Vicari S., Trezza V. (2021) Healing autism spectrum disorder with cannabinoids: a neuroinflammatory story. *Neuroscience and Biobehavioral Review*, 121:128-143; (\*: **co-first authorship**);
- 3) Schiavi S., Carbone E., Melancia F., Buzzelli V., **Manduca A.**, Campolongo P., Pallottini V., Trezza V. (2020) Perinatal supplementation with omega-3 fatty acids corrects the aberrant social and cognitive traits observed in a genetic model of autism based on FMR1 deletion in rats. *Nutritional Neuroscience*. 2020;1-14;
- 4) Schiavi S., Melancia F., Carbone E., Buzzelli V., **Manduca A.**, Jiménez Peinado P., Zwergel C., Mai A., Campolongo P., Vanderschuren L.J.M.J., Trezza V. (2020) Detrimental effects of the ‘bath salt’ Methylenedioxypropylvalerone on social play behavior in male rats. *Neuropsychopharmacology*, 45(12):2012-2019;
- 5) **Manduca A.\***, Servadio M., Melancia F., Schiavi S., Manzoni O.J., Trezza V. (2020) Sex-specific behavioral deficits induced at early life by prenatal exposure to the cannabinoid receptor agonist WIN 55,212-2 depend on mGlu5 receptor signaling. *British Journal of Pharmacology*, 177(2):449-463. (\*: **corresponding author**);
- 6) Schiavi S., Iezzi D., **Manduca A.\***, Leone S., Melancia F., Carbone C., Petrella M., Mannaioni G., Masi A., Trezza V. (2019) Reward-Related Behavioral, Neurochemical and Electrophysiological Changes in a Rat Model of Autism Based on Prenatal Exposure to Valproic Acid. *Frontiers in Cellular Neuroscience*, 13:479. (\*: **second authorship**);
- 7) Schiavi S.\*, **Manduca A.\***, Segatto M., Campolongo P., Pallottini V., Vanderschuren L.J.M.J., Trezza V. (2019) Unidirectional opioid-cannabinoid cross-tolerance in the modulation of social play behavior in rats. *Psychopharmacology (Berl)*, 236(9):2557-2568 (\*: **co-first authorship**);

- 8) Borsoi M., **Manduca A.**, Bara A., Lassalle O., Pelissier-Alicot A.L., Manzoni O.J. (2019) Sex Differences in the Behavioral and Synaptic Consequences of a Single in vivo Exposure to the Synthetic Cannabimimetic WIN55,212-2 at Puberty and Adulthood. *Frontiers in Behavioral Neuroscience*, 13:23;
- 9) Bara A.\*, **Manduca A.\***, Bernabeu A., Borsoi M., Servadio M., Lassalle O., Murphy M., Wager-Miller J., Mackie K., Pelissier-Alicot A.L., Trezza V., Manzoni O.J. (2018) Sex-dependent effects of in utero cannabinoid exposure on cortical function. *Elife*, 7:e36234 (\*: co-first authorship);
- 10) Servadio M., **Manduca A.**, Melancia F., Leboffe L., Schiavi S., Campolongo P., Palmery M., Ascenzi P., di Masi A., Trezza V. (2018) Impaired repair of DNA damage is associated with autistic-like traits in rats prenatally exposed to valproic acid. *European Neuropsychopharmacology*, 28(1):85-96;
- 11) **Manduca A.**, Bara A., Larrieu T., Lassalle O., Joffre C., Layé S., Manzoni O.J. (2017) Amplification of mGlu5-Endocannabinoid Signaling Rescues Behavioral and Synaptic Deficits in a Mouse Model of Adolescent and Adult Dietary Polyunsaturated Fatty Acid Imbalance. *The Journal of Neuroscience*, 37(29):6851-6868;
- 12) **Manduca A.**, Lassalle O., Sepers M., Campolongo P., Cuomo V., Marsicano G., Kieffer B., Vanderschuren L.J., Trezza V., Manzoni O.J. (2016) Interacting Cannabinoid and Opioid Receptors in the Nucleus Accumbens Core Control Adolescent Social Play. *Frontiers in Behavioral Neuroscience*, 10:211;
- 13) Servadio M., Melancia F., **Manduca A.**, di Masi A., Schiavi S., Cartocci V., Pallottini V., Campolongo P., Ascenzi P., Trezza V. (2016) Targeting anandamide metabolism rescues core and associated autistic-like symptoms in rats prenatally exposed to valproic acid. *Translational Psychiatry*, 6(9):e902;
- 14) **Manduca A.**, Servadio M., Damsteegt R., Campolongo P., Vanderschuren L.J., Trezza V. (2016) Dopaminergic Neurotransmission in the Nucleus Accumbens Modulates Social Play Behavior in Rats. *Neuropsychopharmacology*, 41(9):2215-23;
- 15) Janecka M., **Manduca A.**, Servadio M., Trezza V., Smith R., Mill J., Schalkwyk L.C., Reichenberg A., Fernandes C. (2015) Effects of advanced paternal age on trajectories of social behavior in offspring. *Genes Brain and Behavior*, 14(6):443-53;
- 16) **Manduca A.**, Morena M., Campolongo P., Servadio M., Palmery M., Trabace L., Hill M.N., Vanderschuren L.J., Cuomo V., Trezza V. (2015) Distinct roles of the endocannabinoids anandamide and 2-arachidonoylglycerol in social behavior and emotionality at different developmental ages in rats. *European Neuropsychopharmacology*, 25(8):1362-74;
- 17) **Manduca A.**, Servadio M., Campolongo P., Palmery M., Trabace L., Vanderschuren L.J., Cuomo V., Trezza V. (2014) Strain- and context-dependent effects of the anandamide hydrolysis inhibitor URB597 on social behavior in rats. *European Neuropsychopharmacology*, 24(8):1337-48;
- 18) **Manduca A.**, Campolongo P., Palmery M., Vanderschuren L.J., Cuomo V., Trezza V. (2014) Social play behavior, ultrasonic vocalizations and their modulation by morphine and amphetamine in Wistar and Sprague-Dawley rats. *Psychopharmacology (Berl)*, 231(8):1661-73;
- 19) Segatto M., **Manduca A.**, Lecis C., Rosso P., Jozwiak A., Swiezewska E., Moreno S., Trezza V., Pallottini V. (2014) Simvastatin treatment highlights a new role for the isoprenoid/cholesterol biosynthetic pathway in the modulation of emotional reactivity and cognitive performance in rats. *Neuropsychopharmacology*, 39(4):841-54;
- 20) **Manduca A.**, Campolongo P., Trezza V. Cannabinoid modulation of mother-infant interaction: is it just about milk? *Reviews in the Neurosciences*. 2012;23(5-6):707-22;
- 21) Trezza V., Damsteegt R.\*, **Manduca A.\***, Petrosino S., Van Kerkhof L.W., Pasterkamp R.J., Zhou Y., Campolongo P., Cuomo V., Di Marzo V., Vanderschuren L.J. Endocannabinoids in amygdala and nucleus accumbens mediate social play reward in adolescent rats. *The Journal of Neuroscience*, 32(43):14899-908. (\*: co-second authorship);

- 22) Campolongo P., Ratano P., **Manduca A.**, Scattoni M.L., Palmery M., Trezza V., Cuomo V. (2012) The endocannabinoid transport inhibitor AM404 differentially modulates recognition memory in rats depending on environmental aversiveness. *Frontiers in Behavioral Neuroscience*, 6:11;
- 23) Trezza V., Campolongo P., **Manduca A.**, Morena M., Palmery M., Vanderschuren L.J., Cuomo V. (2012) Altering endocannabinoid neurotransmission at critical developmental ages: impact on rodent emotionality and cognitive performance. *Frontiers in Behavioral Neuroscience*, 6:2.

### **BOOK CHAPTERS**

- 1) **Manduca A.**, Vanderschuren L.J.M.J., Trezza V. (2015) Cannabinoid modulation of rodent ultrasonic vocalizations in a social context: communicative and rewarding properties. In “Cannabinoid and modulation of emotion, memory and motivation”, Chapter 10, Pages 225-243, Eds.: L. Fattore, P. Campolongo, Publ.: Springer New York.
- 2) **Manduca A.**, Trezza V. (2020) Microbiota e autismo. In Atti del XLVI Seminario sulla Evoluzione biologica e i grandi problemi della Biologia. Il microbiota, il secondo genoma degli eucarioti. Contributi del Centro Linceo “Beniamino Segre”, Accademia dei Lincei.
- 3) **Manduca A.**, Trezza V. (2022) Behavioral consequences of pre/perinatal Cannabis exposure. In “Cannabis and the developing brain”, Chapter 5, Eds.: M. Melis, O.J. Manzoni, Publ.: Elsevier Science. In press.

### **PRESENTATIONS TO INTERNATIONAL CONFERENCES ON INVITATION**

- 2021:** EBPS Biennial Meeting 2021 (Online, 13 – 16 July 2021). Title: Role of the endocannabinoid system in genetic and environmental preclinical models of ASD.
- 2021:** JNC/ISN Reward Seeking Mini-Symposium (Online, 7 July 2021). Title: Neurobiology of Social Reward: from Physiology to Pathophysiology.
- 2021:** 40<sup>th</sup> Congress of the Italian Society of Pharmacology (SIF) (Digital Edition, 9 – 13 March 2021). Title: Sex-dependent behavioral deficits induced at early life by in utero cannabinoid exposure depend on mGlu5 receptor signaling.
- 2019:** 7<sup>th</sup> MNS Conference (Marrakech, Morocco, 23 – 27 June 2019). Title: Sex-dependent consequences of prenatal cannabinoid exposure.
- 2019:** Perinatal Origins of Neuropsychiatric Disorders: from molecular mechanisms to therapeutic perspectives (Palermo, Italy, 29 – 31 May 2019). Title: Sex-dependent effects of in utero cannabinoid exposure on behavioral and cortical function.
- 2017:** 38<sup>th</sup> Meeting of the Italian Society of Pharmacology (SIF) (Rimini, Italy, 25 – 28 October 2017). Title: Nutritional omega-3 deficiency starting at adolescence impairs synaptic plasticity and emotional behavior at adulthood: implication of the metabotropic glutamate receptor 5 (mGluR5)-endocannabinoid signaling complex.
- 2017:** National Congress of the Italian Neuroscience Society (SINS) (Ischia, Italy, 1 – 4 October 2017). Title: Amplification of mGlu5-endocannabinoid signaling rescues behavioral and synaptic deficits induced by a dietary polyunsaturated fatty acids imbalance starting at adolescence. Manduca A.
- 2015:** Valentina De Castro memorial symposium, Sapienza University of Rome (Rome, Italy, 2 December 2015). Title: Food for the brain: the importance of nutrition in proper brain development.
- 2015:** Journées INMED 2015 (Marseille, France, 16 – 18 September 2015). Title: Nutrition gets cognition.
- 2015:** 5<sup>th</sup> MNS Conference (Santa Margherita di Pula, Italy, 12 – 15 June 2015). Title: CB1 and Mu opioid receptors interplay in the nucleus accumbens core underlies social reward in adolescent rats.
- 2014:** Cellular Biology of Addiction Summer Course, Partnered with the Cold Spring Harbor Laboratory (CSHL) (Barcelona, Spain, 13 – 20 July 2014). Title: Social reward is mediated by interaction opioid and CB1 cannabinoid receptors in the nucleus accumbens core in adolescent rats.

**2014:** 24<sup>th</sup> Annual International Cannabinoid Research Society Symposium on the Cannabinoids (ICRS) (Baveno, Italy, 28 June – 3 July 2014). Title: Social reward is mediated by interaction opioid and CB1 cannabinoid receptors in the nucleus accumbens core in adolescent rats.

**2013:** 36<sup>th</sup> Congress of the Italian Society of Pharmacology (SIF) (Torino, Italy, 23 – 26 October 2013). Title: Dopaminergic neurotransmission in the NAc mediates social play behavior in rats.

**2013:** 15<sup>th</sup> Biennial Meeting of the European Behavioural Pharmacology Society (EBPS) (La Rochelle, France, 6 – 9 September 2013). Title: Dopaminergic neurotransmission in nucleus accumbens mediates social play behavior in adolescent rats.

### **POSTER PRESENTATIONS AT NATIONAL AND INTERNATIONAL CONFERENCES**

- Prenatal exposure to the cannabinoid receptor agonist WIN55,212-2 induces sex-specific deficits at early ages depending on mGlu5 receptor signalling. **Manduca A.**, Schiavi S., Manzoni O.J., Trezza V. FENS 2020 Virtual Forum, Glasgow, UK, 11-15 July 2020.
- Sexual dimorphic effects of in utero cannabinoid exposure. **Manduca A.**, Bara A., Lassalle O., Trezza V., Manzoni O.J. Journées INMED 2018, Institut de Neurobiologie de la Méditerranée (INMED), Marseille, France, 4 – 5 October 2018.
- Amplification of mGlu5-endocannabinoid signaling rescues behavioral and synaptic deficits induced by a dietary polyunsaturated fatty acids imbalance. **Manduca A.**, Bara A., Larrieu T., Lassalle O., Joffre C., Layé S., Manzoni O.J. 6<sup>th</sup> MNS Conference, Saint Julian's, Malta, 12 – 15 June 2017.
- Pharmacological insights into social play behavior: the role of nucleus accumbens dopamine. Servadio M.\*, **Manduca A.\***, Damsteegt R., Campolongo P., Dore R., Vanderschuren L.J.M.J., Trezza V. 5<sup>th</sup> MNS Conference, Santa Margherita di Pula, Italy, 12 – 15 June 2015. (\*: equal contribution).
- Dual Fatty Acid Amide Hydrolase and Monoacylglycerol Lipase inhibition affects socio-emotional responses in rats. **Manduca A.**, Morena M., Servadio M., Montebello L., Dore R., Campolongo P., Trezza V. 24<sup>th</sup> Annual International Cannabinoid Research Society (ICRS) Symposium on the Cannabinoids, Baveno, Italy, 28 June – 3 July 2014.
- Nucleus accumbens dopaminergic neurotransmission mediates social play behavior in rats. Servadio M\*, **Manduca A.\***, Damsteegt R., Montebello L., Vanderschuren L.J.M.J., Trezza V. The Social Brain, FENS. Copenhagen, Denmark, 5 – 8 October 2014 (\*: equal contribution).
- Role of nucleus accumbens dopamine in social play behavior in adolescent rats. **Manduca A.**, Damsteegt R., Campolongo P., Cuomo V., Vanderschuren L.J.M.J., Trezza V. Dopamine 2013, Alghero, Italy, 24 – 28 May 2013.
- Dopaminergic neurotransmission in nucleus accumbens mediates social play behavior in adolescent rats. **Manduca A.**, Damsteegt R., Campolongo P., Cuomo V., Vanderschuren L.J.M.J., Trezza V. 15<sup>th</sup> Biennial Meeting of EBPS, La Rochelle, France, 6 – 9 September 2013.
- Effect of morphine and amphetamine on social play behavior and ultrasonic vocalization in rats: a strain comparison. **Manduca A.**, Campolongo P., Palmery M., Vanderschuren L.J.M.J., Cuomo V., Trezza V. XV Congress of the Italian Society of Neuroscience (S.I.N.S.), Rome, Italy 3 – 5 October 2013.
- Effects of the dual FAAH-MAGL inhibitor JZL195 on emotional reactivity in rats. **Manduca A.**, Morena M., Campolongo P., Bedetta M.C., Pasquale A., Palmery M., Cuomo V., Vanderschuren L.J.M.J., Trezza V. FENS-IBRO Workshop “Drugs and the Brain: an update in Psychopharmacology”, Braga, Portugal, 15 – 20 April 2012.
- Strain differences in social play behavior and ultrasonic vocalizations in adolescent rats. **Manduca A.**, Campolongo P., Bedetta M.C., Pasquale A., Cuomo V., Vanderschuren L.J.M.J., Trezza V. 8<sup>th</sup> FENS Forum of Neuroscience, Barcelona, Spain, 14 – 18 July 2012.
- The indirect cannabinoid agonist URB597 modulates social behavior in rats. **Manduca A.**, Campolongo P., Peloso A., Vanderschuren L.J.M.J., Trezza V., Cuomo V. Monothematic Conference “Cannabinoids: Present and Future”, Ferrara, Italy, 14 – 15 September 2012.



- Role of the amygdala and nucleus accumbens in endocannabinoid modulation of social play behavior in adolescent rats. **Manduca A.**, Trezza V., Cuomo V. 16<sup>th</sup> National Meeting of PhD student and Postdoctoral scholar in Pharmacological studies, Rimini, Italy, 16 – 19 September 2012.
- Effects of the dual FAAH-MAGL inhibitor JZL195 in the regulation of emotionality in adolescent and adult rats. **Manduca A.**, Morena M., Campolongo P., Carrara V., Palmery M., Cuomo V., Vanderschuren L.J.M.J., Trezza V. The Emotional Brain: from Neurobiology to new therapeutic opportunities, Rome, Italy, 5 – 6 September 2011.
- Effects of the indirect cannabinoid agonist URB597 in the modulation of social behavior in rats. **Manduca A.**, Campolongo P., Bedetta M.C., Palmery M., Trezza V., Cuomo V. 35<sup>th</sup> Congress of the Italian Society of Pharmacology (SIF), Bologna, Italy, 14 – 17 September 2011.
- Strain- and context- dependent effects of URB597 on social behavior in rats. **Manduca A.**, Campolongo P., Palmery M., Trezza V., Cuomo V. Monothematic Conference “Cannabinoids: from Biology to the Clinic”, Cagliari, Italy, 29 – 30 September 2011.

### **PUBLISHED ABSTRACT**

- Ultrasonic vocalization and homing behaviour in the valproic acid rat model of autism spectrum disorders: role of the endocannabinoid system. Servadio M., **Manduca A.**, Montebello L., Dore R., De Castro V., Trezza V. European Neuropsychopharmacology. Volume 25, Supplement 1, 2015, s30.
- Role of the endocannabinoid system in the behavioral alterations observed in the rat valproic acid model of autism. Servadio M., Melancia F., **Manduca A.**, Trezza V. European Neuropsychopharmacology. Volume 25, Supplement 1, 2015, s297.

### **ORGANISATION OF SCIENTIFIC MEETINGS**

**2011:** Scientific Secretariat of the International conference “The Emotional Brain: from Neurobiology to new therapeutic opportunities” (Rome, Italy, 5 – 6 September 2011).

**2014:** Scientific Judging Committee Member at the 24<sup>th</sup> Annual International Cannabinoid Research Society Symposium on the Cannabinoids (ICRS) (Baveno, Italy, 28 June – 3 July 2014).

**2014 – 2016:** Scientific Trainee for the National Programme “L'arbre des connaissances” sponsored by the French Ministry of National Education and Youth, Marseille, France.

**2015:** Organized a conference, titled “Impact du Cannabis sur le cerveau en developpment”, Congres des Apprendis Chercheurs. L'arbre des connaissances. Association pour la Promotion des Sciences et de la Recherche under the MAAD (Mechanisms of Addiction to Alcohol and Drugs) programme, launched by INSERM with the support of the French Government Plan for Combating Drugs and Addictive Behaviours (MILDECA) (Marseille, France, 1 June 2015).

**2016:** Organized a conference, titled: “Les effets du Cannabis: exemples de cas cliniques”, Congres des Apprendis Chercheurs. L'arbre des connaissances. Association pour la Promotion des Sciences et de la Recherche under the MAAD (Mechanisms of Addiction to Alcohol and Drugs) programme, launched by INSERM with the support of the French Government Plan for Combating Drugs and Addictive Behaviours (MILDECA) (Marseille, France, 7 June 2016).

**2017:** Organizing Committee of «Atelier sur le Cannabis», Tous Chercheurs Association, Marseille, France (4 April 2017).

**2021:** Chair and Moderator at the International Conference “XIX Italian Society of Neuroscience (SINS) Congress”, Italy, Symposium: “Exploring the behavioral signature of abnormal brain endocannabinoid signaling”, sponsored by the International Brain Research Organization (IBRO) (9 – 11 September 2011).

**2022:** Chair and Moderator at the International Conference “8th Mediterranean Neuroscience Society (MNS) Meeting”, Croatia, Symposium: “Exploring new therapeutic targets to treat neurodevelopmental disorders: from synapse to behavior” (May 29 – June 2, 2022).

## **EDITORIAL ACTIVITIES**

**2021:** Guest Editor, *Frontiers in Psychiatry*–Section Molecular Psychiatry, Research Topic “Behavioral Dysfunctions in Neuropsychiatric Diseases: Exploring new Therapeutic Targets”;

**2020–present:** Grant Reviewer for the National Science Centre (NCN), Poland. Funding schemes: OPUS-18; SONATA-16; SONATA BIS-11;

**2017–present:** Editorial Board member of the international journal *Frontiers in Behavioral Neuroscience*;

**2013–present:** Reviewer for the international journals: *Frontiers in Behavioral Neuroscience*, *Plos One*, *Neuropharmacology*, *Journal of Neuroscience Methods*, *Oxidative Medicine and Cellular Longevity*, *Behavioural Brain Research*, *Frontiers Neurology*, *Frontiers in Psychiatry*, *Behavioral Pharmacology*, *Brain Research Journals*, *Brain Research Bulletin*, *Psychopharmacology*, *Scientific Reports*, *British Journal of Pharmacology*.

## **OUTREACH ACTIVITIES**

**2018:** Press release INSERM, France. Title: Prenatal exposure to cannabis impacts sociability of male rats.

<https://presse.inserm.fr/en/francais-lexposition-in-utero-au-cannabis-impacte-la-sociabilite-des-rats-males/32482/>

**2018:** Article *Neuroscience News*

<https://neurosciencenews.com/cannabis-male-sociability-9840/>

**2018:** Article *EurekaAlert AAAS*

[https://www.eurekalert.org/pub\\_releases/2018-09/e-pet091118.php](https://www.eurekalert.org/pub_releases/2018-09/e-pet091118.php)

**2018:** Web Article *Science Daily* (11 September 2018). Title: Prenatal exposure to cannabis impacts sociability of male offspring only.

<https://www.sciencedaily.com/releases/2018/09/180911132101.htm>

**2018:** Interview *Radio Alfa* (18 July 2018), Italy. Program: *Salernitani nel mondo*. Title: *Salernitani nel mondo, a Marsiglia la ricercatrice Antonia Manduca studia gli effetti della Cannabis*.  
<https://www.radioalfa.fm/salernitani-nel-mondo-a-marsiglia-la-ricercatrice-antonia-manduca-studia-gli-effetti-della-cannabis/>

**2017** Press release INSERM, France. Title: *Omega-3 Essential for the Brain from Adolescence into Adulthood*

<https://presse.inserm.fr/en/omega-3-essential-for-the-brain-from-adolescence-into-adulthood/28815/>

**2016:** Newspaper article published on 27 October 2017. Title: “L’ORÉAL- UNESCO POUR LES FEMMES ET LA SCIENCE 2017”.

<http://foundation.francecreation.com/posts/bourses-l-oreal-unesco-pour-les-femmes-et-la-science-2017/en>

**2016:** Newspaper article published on 1 September 2016. Title: “CONGRES MAAD”. *La Lettre de Grand Luminy Technopôle*.

<https://www.grandluminy.com/sites/default/files/lettre-89-sept2016-grandluminy.pdf>

**2015:** Newspaper article published on 25 November 2015. Title: “Une équipe «Espoirs de la Recherche 2015”. *La Lettre de Grand Luminy Technopôle*, INSERM, France

<https://www.grandluminy.com/sites/default/files/lettre86-nov2015.pdf>

## **MEMBERSHIPS OF SCIENTIFIC SOCIETIES**

Società Italiana di Farmacologia (SIF) (from 2012)

European Behavioural Pharmacology Society (EBPS) (from 2013)

Federation of all European neuroscience societies (FENS) (from 2013)

Società Italiana di Neuroscienze (SINS) (from 2019)

## **MAJOR COLLABORATIONS**

Trezza Viviana, *Socio-cognitive disturbances in Neurodevelopmental Disorders*, Roma Tre University, Italy (21 co-authored publications)

Olivier Manzoni, *Pathophysiology of synaptic plasticity*, INMED, France (6 co-authored publications)

Louk Vanderschuren, *Social Reward*, University of Utrecht, The Netherlands (9 co-authored publications)

Patrizia Campolongo, *Emotional Memory*, Sapienza University of Rome, Italy (15 co-authored publications)

## **PUBLICATIONS**

Total number of publications in peer-reviewed international journals: 23

Total citations: 670 (Scopus); updated on 24/01/2022

Hirsch (H) index: 15 (Scopus); updated on 24/01/2022

Year of first publication: 2012; two maternity leaves

For the complete list of publications:

<https://www.ncbi.nlm.nih.gov/myncbi/1Z94tJL8LULQ-/bibliography/public/>

Rome, 25 January 2022



La sottoscritta, ai sensi e per gli effetti del D.P.R. 28 dicembre 2000, n. 445, dichiara che quanto sopra esposto corrisponde a verità e, altresì, autorizza il trattamento dei propri dati ai sensi del Nuovo Regolamento (UE) 2016/679 del 27 aprile 2016 – Regolamento Generale sulla Protezione dei Dati Personali (RGPD), nonché alla pubblicazione del presente curriculum per ottemperare agli obblighi di pubblicità e trasparenza previsti dal D.Lgs. del 30 marzo 2001, n. 165 e dal D. Lgs. del 14 marzo 2013, n. 33.

Rome, 25 January 2022

