

# CURRICULUM VITAE

Yawei Cheng 鄭雅薇

Social Neuroscience Laboratory

## ADDRESS

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## EDUCATIONS

05/2006 – Ph.D. Institute of Neuroscience, School of Live Science, National Yang-Ming University  
07/1996 – M.D. School of Medicine, Chang-Gung University

## POSITIONs

09/2021– present Director, Institute of Neuroscience, National Yang Ming Chiao Tung University  
08/2019–present Distinguished Professor, Institute of Neuroscience, National Yang Ming Chiao Tung University  
08/2014–07/2019 Professor, Institute of Neuroscience, National Yang-Ming University  
02/2011–07/2014 Associate Professor, Institute of Neuroscience, National Yang-Ming University  
02/2008–01/2011 Assistant Professor, Institute of Neuroscience, National Yang-Ming University  
04/2008–present Attending Physician, Department of Rehabilitation, National Yang-Ming University Hospital  
02/2005–01/2006 Research Associate, Social Cognitive Neuroscience Laboratory, Institute for Learning and Brain Sciences (I-LABS, University of Washington, Seattle (Advisor: Jean Decety)  
09/2000–05/2006 Doctoral Research, Laboratory for Cognitive Neuroscience, Institute of Neuroscience, National Yang-Ming University (Advisor: Ovid Tzeng); Integrated Brain Research Unit, Taipei Veterans General Hospital (Advisor: Jen-Chuen Hsieh)  
Thesis: The representation of the human mirror system in the neural mechanism of response facilitation.  
07/1997–06/2001 Residency, Department of Physical Medicine & Rehabilitation, National Taiwan University Hospital  
07/1996–06/1997 Residency, Department of Neurology, National Taiwan University Hospital  
10/1989–06/1996 Medical College of Chang Gung University

## PROFESSIONAL ACTIVITY, HONORS, AND SERVICE

2021 Association for Psychological Science (APS) fellow  
2019-2020 Senior Fulbright Research Grants  
2016 Outstanding Research Award from The Ministry of Science and Technology (MOST), Taiwan  
2011–present Executive board, Taiwan Mind and Brain Imaging Center, Ministry of

Science and Technology, Taiwan  
2011 Wu Da-You Memorial Award & Young Investigator Project from The Ministry of Science and Technology (MOST), Taiwan  
2009 Award of the 20<sup>th</sup> Ten Outstanding Young Women, Taiwan  
2007 The Best Ten Abstracts in the 13<sup>th</sup> Annual Conference of the Organization of Human Brain Mapping (OHBM) (2007) in Chicago, IL, U.S.A.  
2006 Award of Junior Physicians by Rehabilitation Medicine Funds of Prof. I-Nan Lien  
2006 Award of Taipei Medical Wang-Fang Neuroscience, Neuroscience Society of Taiwan

### **PROFESSIONAL QUATIFICATION**

- Psychiatrist
- Pediatric Psychiatrist

### **PROFESSIONAL MEMBERSHIPS**

- Taiwan Academy of Physical Medicine and Rehabilitation
- Taiwan Academy of Pediatric Rehabilitation
- Taiwan Academy of Neurological Rehabilitation
- Taiwan Society of Cognitive Neuroscience
- Taiwanese Psychological Association
- Neuroscience Society of Taiwan
- Organization of Human Brain Mapping (OHBM)
- Society for Neuroscience (SfN)
- Society for Social Neuroscience (S4SN)
- Cognitive Neuroscience Society (CNS)
- Association for Psychological Science (APS)
- Society for the Teaching of Psychology (STP)

### **REARCH INTEREST AND SKILLS:**

- Social neuroscience
- Human mirror system
- Empathy and Morality
- Voice perception
- Autism spectrum disorder (ASD)
- Psychopathy
- Imaging genetics
- fMRI, MEG, EEG/ERP, eye-tracking

### **INVITED TALKS**

- 2020 The keynote at the annual conference of Taiwan Academy of Physical Medicine & Rehabilitation: Autism spectrum disorder from bench to bedside.
- 2017 The 11th ICCS, Taipei, Taiwan: Neurobiological basis for lack of empathy in autism and psychopathy: evidence from empathy imbalance hypothesis (9/1-9/4).
- 2015 National Taiwan Normal University: Advances in Social Neuroscience: the Neural Mechanism of Empathy.
- 2014 Annual Symposium on Brain and Mind Sciences (GIBMS and NPAS in

National Taiwan University) : Aging changes in the neural circuits underlying empathy.

- 2014 Workshop of Neuroscience and Social Sciences in National Cheng-Kung University: The Empathic Brain: Neurobiological Basis for Lack of Empathy in Autism and Psychopathy
- 2013 Society for Social Neuroscience in Guangzhou: Empathic arousal and Social understanding in individuals with Autism spectrum disorder
- 2012 Asia Sleep Research Society Congress, the 7th: Emotion processing in sleeping brain.
- 2012 Asia Sleep Research Society Congress, the 7th: Emotion processing in sleeping brain.
- 2011 Taiwan Society of Biological Psychiatry: Empathy in Autism: Reduced pain threshold mediates somatosensory response to the pain of others.
- 2011 Institute of Occupational Therapy, National Cheng-Kung University: Broken mirror theory of autism: from mirror neurons to empathy.
- 2011 Department of Psychiatry, National Taiwan University Hospital: The neural correlates of empathy imbalance in autism spectrum disorders.
- 2010 Institute of Cognitive Sciences, National Cheng-Kung University: Social neuroscience of empathy.
- 2010 Social Neuroscience and Its Benefits to Mental Health, Schizophrenia Translational Research Center (STRC), Seoul National University, Korea: Expertise modulates the perception of pain in others.

## **PUBLICATIONS**

### Published Journal Papers

1. Chen C, Martínez RM, Chen YC, Fan YT, Cheng Y\* (2022) Anti-anxiety drug Lorazepam helps relieve from coercive power by changing implicit behavior under authoritative pressure. *Frontiers in Psychology* in press.
2. Syu, GD, Reymond Sutandy FX, Chen K, Cheng Y, Chen CS, Shih JC (2022) Autoantibody profiling of monoamine oxidase A knockout mice, an autism spectrum disorder model. *Brain, Behavior, and Immunity* 107, 193-2000.
3. Chen C, Chen YH, Cheng Y\* (2022) Meta-analysis of functional neuroimaging and dispositional variables for clinical empathy. *Neuroscience and Biobehavioral Reviews* 142, 104874.
4. Chen YH, Chen C, Chen YC, Fan YT, Yang CY, Jian HY, Cheng Y\* (2022) The neural correlates of emotional conflict monitoring as an early manifestation of affective and cognitive declines in persons with type 2 diabetes. *Brain Communication* accepted.
5. Cheng Y, Chen YC, Fan YT, Chen C (2022) Neuromodulation of the right temporoparietal junction alters amygdala functional connectivity to authority pressure. *Human Brain Mapping* open access.
6. Chen C, Martínez RM, Chen YC, Fan YT, Cheng Y\* (2022) The neural mediators of moral attitudes and behavior. *Behavioural Brain Research* 430, 113934.
7. Chen YC, Chen C, Martínez RM, Fan YT, Liu CC, Chen CY, Cheng Y\* (2021) An amygdala-centered hyper-connectivity signature of threatening face processing predicts anxiety in youths with autism spectrum conditions. *Autism Research* 14 (11):2287-99.
8. Cheng Y, Chou J, Martínez RM, Fan YT, Chen C (2021) Psychopathic traits mediate guilt-related anterior midcingulate activity under authority pressure. *Scientific Reports*

- 11: 14856.
9. Martínez RM, Chen CY, Liao TT, Cheng Y, Fan YT, Chou SH, Chen C (2020) The multifaceted effects of serotonin transporter polymorphism (5-HTTLPR) on anxiety, implicit moral attitudes, and harmful behaviors. *Frontiers in Psychology* 11: 1521.
  10. Chen C, Martínez RM, Cheng Y\* (2020) The key to group fitness: the presence of another synchronizes moral attitudes and neural responses during moral decision-making. *NeuroImage* 213: 116732.
  11. Chen C, Martínez RM, Liao TT, Chen CY, Yang CY, Cheng Y\* (2020) An integrative analysis of 5HTT-mediated mechanism of hyperactivity to non-threatening voices. *Communications Biology* 3: 113.
  12. Samek A, Cowell JM, Cappelen AW, Cheng Y, Contreras-Ibáñez C, Gomez-Sicard N, Gonzalez-Gaeda ML, Huepe D, Ibáñez A, Lee K, Malcolm-Smith S, Salas N, Selcuk B, Tungodden B, Wong A, Zhou X, Decety J (2020) The development of social comparisons and sharing behavior across 12 countries. *Journal of Experimental Child Psychology* 192: 104778.
  13. Chen C, Martínez RM, Chen Y, Cheng Y\* (2020) Pointing fingers at others: the neural correlates of actor-observer asymmetry in blame attribution. *Neuropsychologia* 136: 107281.
  14. Chen YC, Chen C, Martínez RM, Etnier J, Cheng Y\* (2019) Habitual physical activity mediates the acute exercise-induced modulation of anxiety-related amygdala functional connectivity. *Scientific Reports* 9: 19787.
  15. Huppert E, Cowell JC, Cheng Y, Contreras-Ibáñez C, Gomez-Sicard N, Gonzalez-Gaeda LM, Huepe D, Ibanez A, Lee K, Mahasneh R, Malcolm-Smith S, Salas N, Selcuk B, Tungodden B, Wong A, Zhou X, Decety J (2019) The development of children's preferences for equality and equity across 13 individualistic and collectivist cultures. *Developmental Science* 22: e12729.
  16. Chen C, Martínez RM, Cheng Y\* (2018) The developmental origins of social brain: empathy, morality, and justice. *Frontiers in Psychology* 9: 2584.
  17. Chen C, Yu-Chun Chen, Chen KL, Cheng Y\* (2018) Atypical anxiety-related amygdala reactivity and functional connectivity in Sant Mat meditation. *Frontiers in Behavioral Neuroscience* 12: 298.
  18. Chen C, Chan CW, Cheng Y\* (2018) Test-retest reliability of mismatch negativity (MMN) to emotional voices. *Frontiers in Human Neuroscience* 12: 453.
  19. Cheng Y\*, Chen C, Decety J (2017) How situational context impacts empathic responses and brain activation pattern. *Frontiers in Behavioral Neuroscience* 11: 165.
  20. Chen C, Hu CH, Cheng Y\* (2017) Mismatch negativity stands at the crossroads between explicit and implicit emotional processing. *Human Brain Mapping* 38(1): 140-150.
  21. Chen C, Liu CC, Weng PY, Cheng Y\* (2016) Mismatch negativity to threatening voices associated with positive symptoms in schizophrenia. *Frontiers in Human Neuroscience* 10: 362.
  22. Chen C, Hung AY, Fan YT, Tan S, Hong H, Cheng Y\* (2016) Linkage between pain sensitivity and empathic response in adolescents with autism spectrum conditions and conduct disorder symptoms. *Autism Research* 10(2): 267-75.
  23. Chen C, Sung JY, Cheng Y\* (2016) Neural dynamics of emotional salience processing in response to voices during the stages of sleep. *Frontiers in Behavioral Neuroscience* 10: 117.
  24. Chen C, Decety J, Huang PJ, Chen CY, Cheng Y\* (2016) Testosterone administration in females modulates moral judgment and patterns of brain activation and functional connectivity. *Human Brain Mapping* 37(10): 3417-3430.

25. Fan YT, Chen C, Cheng Y\* (2016) The neural mechanisms of social learning from fleeting experience with pain. *Frontiers in Behavioral Neuroscience* 10: 11.
26. Chen C, Chen CY, Yang CY, Lin CH, Cheng Y (2015) Testosterone modulates preattentive sensory processing and involuntary attention switches to emotional voices. *Journal of Neurophysiology* 113(6): 1842-1849.
27. Zhang D, Liu Y, Hou X, Sun G, Cheng Y, Luo Y (2014) Discrimination of fearful and angry emotional voices in sleeping human neonates: a study of the mismatch responses. *Frontiers in Behavioral Neuroscience* 8: 422.
28. Chen C, Lee YH, Cheng Y\* (2014) Anterior insular cortex activity to emotional salience of voices in a passive oddball paradigm. *Frontiers in Human Neuroscience* 8: 743.
29. Cheng Y\*, Chen CY, Decety J (2014) An EEG/ERP investigation of the development of empathy in early and middle childhood. *Developmental Cognitive Neuroscience* 10: 160-169.
30. Fan YT, Cheng Y (2014) Atypical mismatch negativity in response to emotional voices in people with autism spectrum conditions. *PLoS ONE* 9(7): e102471.
31. Hung AY, Cheng Y (2014) Sex differences in preattentive perception of emotional voices and acoustic attributes. *NeuroReport* 25 (7): 464-469.
32. Chen YC, Chen CC, Decety J, Cheng Y\* (2014) Aging is associated with changes in the neural circuits underlying empathy. *Neurobiology of Aging* 35 (4): 827-836.
33. Fan YT, Chen CY, Chen SC, Decety J, Cheng Y\* (2014) Empathic arousal and social understanding in individuals with autism: evidence from fMRI and ERP measurements. *Social Cognitive and Affective Neuroscience* 9(8): 1203-1213.
34. Fan YT, Hsu YY, Cheng Y\* (2013) Sex matters: *n*-back modulates emotional mismatch negativity. *NeuroReport* 24(9): 457-463.
35. Hung AY, Ahveninen J, Cheng Y\* (2013) Atypical mismatch negativity to distressful voices associated with conduct disorder symptoms. *Journal of Child Psychology and Psychiatry* 54(9): 1017-1027.
36. Chen CY, Yang CY, Cheng Y\* (2012) Sensorimotor resonance is an outcome but not a platform to anticipating harm to others. *Social Neuroscience* 7(6): 578-590.
37. Cheng Y, Lee SY, Chen HY, Wang PY, Decety J (2012) Voice and emotion processing in the human neonatal brain. *Journal of Cognitive Neuroscience* 24(6): 1411-1419.
38. Cheng Y\*, Hung AY\*, Decety J (2012) Dissociation between affective sharing and emotional understanding in juvenile psychopaths. *Development and Psychopathology* 24: 623-636.
39. Cheng Y, Chou KH, Fan YT, Lin CP (2011) ANS: Aberrant neurodevelopment of the social cognition network in adolescents with autism spectrum disorders. *PLoS ONE* 6(4): e18905.
40. Chou KH, Cheng Y, Chen IY, Lin CP, Chu WC (2011) Sex-linked white matter microstructure of the social and analytic brain. *NeuroImage* 54 (1): 725-733.
41. Fan YT, Decety J, Yang CY, Liu JL, Cheng Y\* (2010) Unbroken mirror neurons in autism spectrum disorders. *Journal of Child Psychology and Psychiatry* 51(9): 981-988.
42. Cheng Y\*, Chen C, Lin CP, Chou KH, Decety J (2010) Love hurts: an fMRI study. *NeuroImage* 51(2): 923-929.
43. Decety J, Yang CY, Cheng Y\* (2010) Physicians down-regulate their pain empathy response: an event-related brain potential study. *NeuroImage* 50(4): 1676-1682.
44. Cheng Y, Chou KH, Chen IY, Fan YT, Decety J, Lin CP (2010) Atypical development of white matter microstructure in adolescents with autism spectrum disorders. *NeuroImage* 50(3): 873-882.
45. Yang CY, Decety J, Lee SY, Chen CY, Cheng Y\* (2009) Gender differences in the

- mu rhythm during empathy for pain: an electrophysiologic study. *Brain Research* 1251: 176-184.
46. Cheng Y, Chou KH, Decety J, Chen IY, Hung D, Tzeng OJL, Lin CP (2009) Sex differences in the neuroanatomy of human mirror-neuron system: a voxel-based morphometric investigation. *Neuroscience* 158(2): 713-720.
  47. Cheng Y, Lee PL, Yang CY, Lin CP, Hung D, Decety J (2008) Gender differences in the mu rhythm of the human mirror-neuron system. *PLoS ONE* 3(5): e2113.
  48. Cheng Y, Yang CY, Lin CP, Lee PL, Decety J (2008) The perception of pain in others suppresses somatosensory oscillations: a magnetoencephalography study. *NeuroImage* 40(4): 1833-1840.
  49. Cheng Y, Lin CP, Liu HL, Hsu YY, Lim KE, Hung D, Decety J (2007) Expertise modulates the perception of pain in others. *Current Biology* 17(9): 1708-1713.
  50. Cheng Y\*, Decety J, Lin CP, Hsieh JC, Hung D, Tzeng OJL (2007) Sex differences in spinal excitability during observation of bipedal locomotion. *NeuroReport* 18(8): 887-890.
  51. Cheng Y, Meltzoff A, Decety J\* (2007) Motivation modulates the activity of the human mirror-neuron system. *Cerebral Cortex* 17(8): 1979-1986.
  52. Cheng Y, Tzeng OJL, Decety J, Imada T, Hsieh JC (2006) Gender differences in the human mirror system: a magnetoencephalography study. *NeuroReport* 17(11): 1115-1119.
  53. Cheng Y\*, Tzeng OJL, Hung D, Decety J, Hsieh JC (2005) Modulation of spinal excitability during observation of bipedal locomotion. *NeuroReport* 16(15): 1711-1714.

#### Published Book Chapter

- Cheng Y. (2016) Lifespan Developmental Changes in the Neural Underpinnings of Empathy. In: Sommerville J, Decety J editors. *Frontiers in Developmental Science Series: Social Cognition*. Psychology Press/ Taylor and Francis Group.

#### Pattern

- 2013 System Method for Diagnosing Autism Taiwan/U.S.A. (P12003)

#### Conferences Abstracts

1. Chu L, Chen HF, Cheng Y, Wong CC, Huang CM, Tzeng O.J.L., Fan YT. Atypical sensory responsiveness as an endophenotype in individuals with autism spectrum disorder (ASD). Cognitive Neuroscience Society (CNS), San Francisco, U.S.A., 2018.
2. Chen YC, Chen C, Cheng Y. Emotional empathy imbalance of autism: amygdala reactivity to conscious and nonconscious emotional processing. Society for Social Neuroscience, Washington, U.S.A., 2017.
3. Chou J, Cheng Y. The Relationship between Experienced Guilt, Moral Attitudes, and Psychopathic Traits. Society for Social Neuroscience, Washington, U.S.A., 2017.
4. Huang Y, Cheng Y. Atypical Mismatch Negativity to Threatening Voices in Generalized Anxiety Disorder. Society for Social Neuroscience, Washington, U.S.A., 2017.
5. Chen YC, Chen C, Decety J, Cheng Y. Actor-observer bias in moral evaluation: an fMRI study. Society for Neuroscience, Chicago, USA, 2015.
6. Chen C, Huang PC, Chen YJ, Chen YC, Chen KL, Decety J, Cheng Y. Testosterone administration modulates neural responses to morally-laden scenarios in females. Society for Neuroscience, Chicago, USA, 2015.

7. Chen YC, Chen C, Hu CH, Cheng Y. Dissociated linkage between serotonin-related gene polymorphisms, fearful voice and face processing, amygdala activity and trait anxiety: a combined fMRI and ERP study. Society for Neuroscience, Chicago, USA, 2015.
8. Chen K, Cheng Y, Chen CS, Yang CY, Shih JC. In search of biomarkers and treatment for a subpopulation of autism spectrum disorder (ASD) with high serotonin (sASD). Society for Neuroscience, Washington DC, U.S.A., 2014.
9. Zhang D, Liu Y, Hou X, Cheng Y, Sun G, Luo Y. The mismatch brain responses to negative emotional voices in sleeping human neonates. Society for Social Neuroscience, Guangzhou, China, 2013.
10. Chen YJ, Lee SY, Cheng Y. Emotional mismatch negativity as a potential neurophysiological biomarker for autism spectrum disorder. The Organization of Human Brain Mapping, Seattle, U.S.A., 2013.
11. Kuan YF, Lee SY, Weng PY, Cheng Y. Emotional mismatch negativity (MMN) in chronic schizophrenia. The Organization of Human Brain Mapping, Seattle, U.S.A., 2013.
12. Chen YC, Chen CC, Decety J, Cheng Y. Growing with more or less aging: an fMRI study. Society for Social Neuroscience, New Orleans, USA, 2012.
13. Chou YH, Decety J, Cheng Y. Social contexts modulate pain empathy in nurses. Society for Neuroscience, New Orleans, USA, 2012.
14. Tsai SJ, Chen C, Lee SY, Sung JY, Cheng Y. Emotion processing in the sleeping brain. The Organization of Human Brain Mapping, Peking, China, 2012.
15. Cheng Y. Autism and psychopathy as diametrically opposed disorders with empathy imbalance. Society of Social Neuroscience, Washington DC, U.S.A., 2011.
16. Chen CY, Jean D, Cheng Y. I know how you are going to be hurt. The Organization of Human Brain Mapping, Barcelona, Spain, 2010.
17. Hung AY, Feng YJ, Cheng Y. Neural dynamics in preattentive perception of emotional prosody. The Organization of Human Brain Mapping, Barcelona, Spain, 2010.
18. Lee SY, Lin CP, Cheng Y. Early detection of emotional prosody in newborn. The Organization of Human Brain Mapping, Barcelona, Spain, 2010.
19. Fan YT, Decety J, Lin CP, Cheng Y. Atypical cortical mechanism of pain empathy in persons with autism spectrum disorders: an fMRI study. The Organization of Human Brain Mapping, Barcelona, Spain, 2010.
20. Cheng Y, Chou KH, Fan YT, Chen IY, Lan TH, Lin CP. Aberrant development of the social cognition network during adolescents in autism spectrum disorder. The Organization of Human Brain Mapping, San Francisco, U.S.A., 2009.
21. Cheng Y, Lin CP, Yang CY, Wang CC, Hung D, Tzeng OJL, Hsieh JC, Decety J. The pain perception in others modulates somatosensory oscillations. The Organization of Human Brain Mapping, Chicago, U.S.A., 2007.
22. Cheng Y, Melzoff A, Decety J. Motivation modulates the activity of the human mirror system. Cognitive Neuroscience Society, San Francisco, U.S.A., 2006.
23. Cheng Y, Tzeng OJL, Cheng CM, Imada T, Hsieh JC. Women differ from men in the perception of social versus non-social stimuli. Society for Neuroscience, Washington D.C., U.S.A., 2005 (oral presentation).
24. Cheng Y, Tzeng OJL, Hung D, Hsieh JC. Modulation of spinal excitability during observation of bipedal locomotion in humans. Cognitive Neuroscience Society, San Francisco, U.S.A., 2004.
25. Cheng Y, Cheng CM, Chou CC, Tzeng OJL, Hung D, Hsieh JC. Action perception in the patient with blindsight. The Organization of Human Brain Mapping, Hungary, 2004.