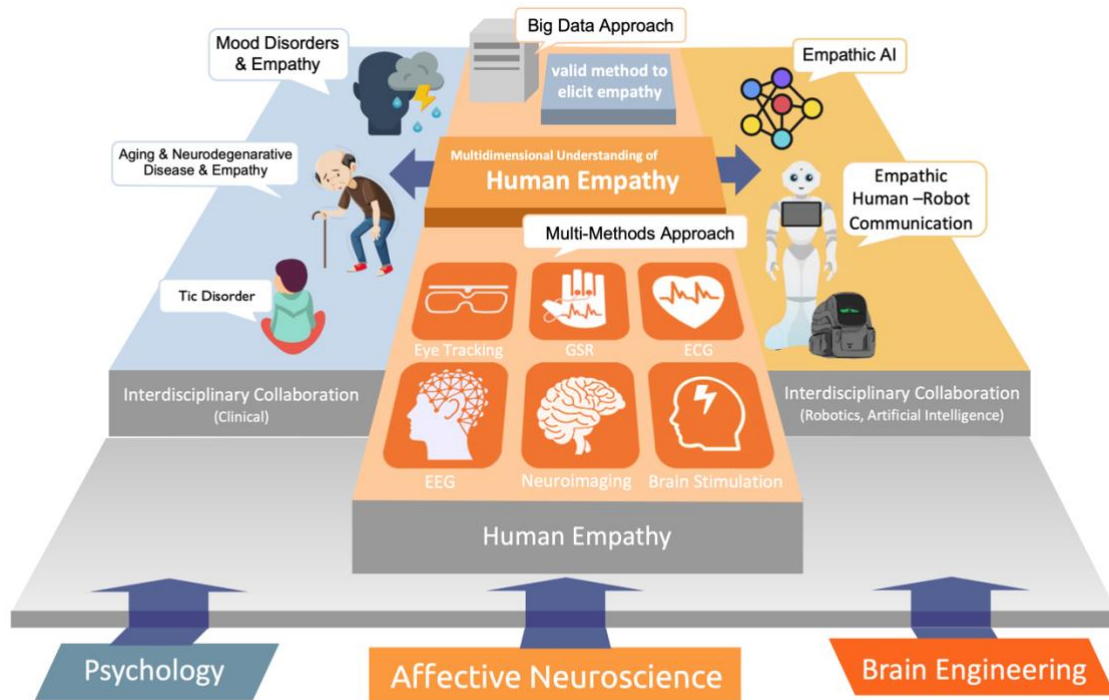


June Christoph Kang

Affective Neuroscientist

Summary



Interdisciplinary Background : Psychology, Philosophy, Biomedical Science, Cognitive Brain Engineering

Explore human empathy using cutting-edge methods including neuroimaging, autonomic response, eye-tracking, psychophysics, and A.I. Based on the interdisciplinary background, conduct various collaboration studies with clinical and engineering field.

Personal Information

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Research Topic

- Empathy
- Automatic Emotion Processing
- Mood Disorder
- Empathic Human-Robot Interaction

Research Area

- Multimodal Neuroimaging
- Psychophysiology
- Emotion Elicitation & Assessment
- Non-Invasive Brain Stimulation
- Psychophysics

Experience

Research Professor 03.2018 – Current
Department of Brain and Cognitive Engineering, Korea University

Lecturer 03.2024 – 06.2023
Department of Data Science, Hanyang University

Lecturer 03.2022 – 02.2023
Department of Psychology, Yonsei University

Lecturer 03.2017 – 02.2018
Department of Biomedical Science, Korea University

Education

Ph.D. Biomedical Science, Korea University 03.2013 – 02.2018
Dissertation Title : Altered brain connectivity and structures in bipolar disorders and their effect on trait empathy

M.A. Clinical Psychology, Korea University 03.2010 – 02.2013
Dissertation Title : A study on the individual differences in empathy : using emotional priming

B.A. Psychology, Korea University 03.2006 – 02.2010

Publications (first & corresponding)

- Kim, H.-M., **Kang, J. C.**, Ko, Y.-H., Shin, C., & Yoon, H.-K. (2025). Physiological Responses to Video Conferencing Exposure in Individuals with Social Anxiety: An iPPG-Based HRV Analysis. *Acta Neuropsychiatrica*, 1–29.
- Ryu, H. S., **Kang, J. C.**, & Kwon, D. Y. (2025). Structured speech tasks reveal temporal facial variability as an objective measure in the de-novo Parkinson's disease patients. *Parkinsonism & Related Disorders*, 135, 107840.
- Cho, H., **Kang, J. C.**, Park, H. J., Park, Y. H., Park, Y. E., Hwang, I., & Kang, H. J. (2025). The impact of intimate partner violence on facial emotion recognition among Korean baby boomers. *European Journal of Psychotraumatology*, 16(1), 2474890.
- **Kang, J. C.**, Chi, S., Mok, Y. E., Kim, J. A., Kim, S. H., & Lee, M. S. (2024). Diffusion indices alteration in major white matter tracts of children with tic disorder using TRACULA. *Journal of Neurodevelopmental Disorders*, 16(1), 40.
- Kim, H. M., Kang, C., Chae, B., **Kang, J. C.**, & Yoon, H. K. (2024). Exploring Brainstem Structural Abnormalities: Potential Biomarkers for Panic Disorder. *Experimental Neurobiology*, 33(1), 18-24.
- **Kang, J.**, Park, Y. E., Yoon, H. K. (2022). Feeling Blue and Getting Red: An exploratory study on the Effect of Color in the Processing of Emotion Information. *Frontiers in Psychology*, 13:515215, 1-9.
- **Kang, J.**, Kim, A., Kang, Y., Han, K. M., & Ham, B. J. (2022). The Indirect Effect of Prefrontal Gray Matter Volume on Suicide Attempts among Individuals with Major Depressive Disorder. *Experimental neurobiology*, 31(2),97-104.
- Chae, B., **Kang, J.**, Shin, C., Ko, Y. H., & Yoon, H. K. (2021). Insomnia in Emotional Labor: Its Role in Autonomic Nervous System Regulation. *Psychiatry Investigation*, 18(9), 889.
- Hyung, W. S. W., **Kang, J.**, Kim, J., Lee, S., Youn, H., Ham, B. J., ... & Jeong, H. G.(2021). Cerebral amyloid accumulation is associated with distinct structural and functional alterations in the brain of depressed elders with mild cognitive impairment. *Journal of Affective Disorders*, 281, 459-466.
- Park, Y. E., Yoon, H. K., Kim, S. Y., Williamson, J., Wallraven, C., & **Kang, J.** (2019). A Preliminary Study for Translation and Validation of the Korean Version of The Cognitive, Affective, and Somatic Empathy Scale in Young Adults. *Psychiatry investigation*, 16(9), 671-678.
- **Kang, J.**, Derva, D., Kwon, D. Y., & Wallraven, C. (2019). Voluntary and spontaneous facial mimicry toward other's emotional expression in patients with Parkinson's disease. *PloS one*, 14(4), e0214957.
- **Kang, J.**, Ham, B. J., & Wallraven, C. (2017). Cannot avert the eyes: reduced attentional blink toward others' emotional expressions in empathic people. *Psychonomic Bulletin & Review*, 24(3), 810-820.
- Won, E., **Kang, J.**, Kim, A., Choi, S., Han, K. M., Tae, W. S., ... & Lee, M. S. (2016). Influence of BclI C/G (rs41423247) on hippocampal shape and white matter integrity of the parahippocampal cingulum in major depressive disorder. *Psychoneuroendocrinology*, 72, 147-155.

Publications (co-authored)

- Lee, H., Lee, N., Lim, Y., **Kang, J. C.**, Gim, J. A., & Lee, M. S. Changes in Heart Rate Variability in Adolescent Patients With Tic Disorders: A 1-Year Prospective Study. *Psychiatry investigation*.
- Mok, Y. E., Chi, S., **Kang, J.**, Gim, J. A., Ko, J. K., & Lee, M. S. (2025). The usefulness of heart rate variability in adolescents with tic disorder: Focused on interplay with quality of life. *PloS one*, 20(4), e0321369.
- Chi, S., Ko, J. K., **Kang, J.**, Gim, J. A., & Lee, M. S. (2025). Longitudinal Analysis of Cytokine Profiles and Their Impact on Tic Disorder Severity Over One Year. *Clinical Psychopharmacology and Neuroscience*, 1-7.
- Siddiquee, A. T., Hwang, Y. H., Kim, S., Shin, S. J., Lee, J. S., **Kang, J. C.**, ... & Shin, C. (2025). Middle-age cerebral small vessel disease and cognitive function in later life: a population-based prospective cohort study. *The Lancet Regional Health–Western Pacific*, 55.
- Chi, S., Mok, Y. E., **Kang, J.**, Gim, J. A., & Lee, M. S. (2025). Network hub changes in the pars opercularis indicate impaired inhibition in tic disorder patients. *Acta Neuropsychiatrica*, 37, e6.

- Ko, Y. K., Chi, S., Nam, G. H., Baek, K. W., Ahn, K., Ahn, Y., **Kang, J. C.**, Lee, M.S., & Gim, J. A. (2024). Epigenome-wide association study for tic disorders in children: a preliminary study in Korean population. *Clinical Psychopharmacology and Neuroscience*, 22(2), 295.
- Chi, S., Mok, Y. E., **Kang, J.**, Gim, J. A., Han, C., & Lee, M. S. (2023). Cytokine levels reflect tic symptoms more prominently during mild phases. *BMC neuroscience*, 24(1), 57.
- Roh, H., **Kang, J.**, Koh, S. B., & Kim, J. H. (2021). Hippocampal volume is related to olfactory impairment in Parkinson's disease. *Journal of Neuroimaging*, 31(6), 1176-1183.
- Roh, H., **Kang, J.**, Hwang, S. Y., Koh, S. B., & Kim, J. H. (2021). Regional Cerebral Cortical Atrophy is Related to Urinary Tract Symptoms in Parkinson's Disease. *Journal of Neuroimaging*. 31(2), 363-371.
- Kang, W., Shin, J. H., Han, K. M., Kim, A., Kang, Y., **Kang, J.**, ... & Ham, B. J. (2020). Local shape volume alterations in subcortical structures of suicide attempters with major depressive disorder. *Human brain mapping*, 41(17), 4925-4934.
- Han, K. M., Tae, W. S., Kim, A., Kang, Y., Kang, W., **Kang, J.**, ... & Ham, B. J. (2020). Serum FAM19A5 levels: A novel biomarker for neuroinflammation and neurodegeneration in major depressive disorder. *Brain, Behavior, and Immunity*, 87, 852-859.
- Lee, J., Han, C., Ko, Y. H., **Kang, J.**, Byun, Y., Son, Y., & Yoon, H. K. (2020). Emotional Changes and Protective Factors of Emotional Workers in the Public and Private Sector. *Psychiatry investigation*, 17(7), 645-653.
- Han, K. M., Han, M. R., Kim, A., Kang, W., Kang, Y., **Kang, J.**, ... & Ham, B. J. (2020). A study combining whole-exome sequencing and structural neuroimaging analysis for major depressive disorder. *Journal of affective disorders*, 262, 31- 39.
- Ju, U., **Kang, J.**, & Wallraven, C. (2019). To brake or not to brake? Personality traits predict decision-making in an accident situation. *Frontiers in Psychology*, 10, 134.
- Han, K. M., Kim, A., Kang, W., Kang, Y., **Kang, J.**, Won, E., ... & Ham, B. J. (2019). Hippocampal subfield volumes in major depressive disorder and bipolar disorder. *European Psychiatry*, 57, 70-77.
- Ju, U., **Kang, J.**, & Wallraven, C. (2019). You or me? Personality traits predict sacrificial decisions in an accident situation. *IEEE transactions on visualization and computer graphics*, 25(5), 1898-1907.
- Han, M. R., Han, K. M., Kim, A., Kang, W., Kang, Y., Kang, J., ... & Ham, B. J. (2019). Whole-exome sequencing identifies variants associated with structural MRI markers in patients with bipolar disorders. *Journal of affective disorders*, 249, 159-168.
- Derya, D., **Kang, J.**, Kwon, D. Y., & Wallraven, C. (2019). Facial Expression Processing Is Not Affected by Parkinson's Disease, but by Age-Related Factors. *Frontiers in Psychology*, 10, 2458.
- Na, K. S., Won, E., **Kang, J.**, Kim, A., Choi, S., Tae, W. S., ... & Ham, B. J. (2018). Differential effect of COMT gene methylation on the prefrontal connectivity in subjects with depression versus healthy subjects. *Neuropharmacology*, 137, 59- 70.
- Han, K. M., Won, E., **Kang, J.**, Choi, S., Kim, A., Lee, M. S., ... & Ham, B. J. (2017). TESC gene-regulating genetic variant (rs7294919) affects hippocampal subfield volumes and parahippocampal cingulum white matter integrity in major depressive disorder. *Journal of Psychiatric Research*, 93, 20-29.
- Won, E., Han, K. M., **Kang, J.**, Kim, A., Yoon, H. K., Chang, H. S., ... & Ham, B. J. (2017). Vesicular monoamine transporter 1 gene polymorphism and white matter integrity in major depressive disorder. *Progress in Neuro- Psychopharmacology and Biological Psychiatry*, 77, 138-145.
- Han, K. M., Won, E., **Kang, J.**, Kim, A., Yoon, H. K., Chang, H. S., ... & Ham, B. J. (2017). Local gyrification index in patients with major depressive disorder and its association with tryptophan hydroxylase-2 (TPH2) polymorphism. *Human brain mapping*, 38(3), 1299-1310.
- Han, K. M., Won, E., Sim, Y., **Kang, J.**, Han, C., Kim, Y. K., ... & Ham, B. J. (2017). Influence of FKBP5 polymorphism and DNA methylation on structural changes of the brain in major depressive disorder. *Scientific Reports*, 7(1), 1-12.
- Han, K. M., Kim, D., Sim, Y., **Kang, J.**, Kim, A., Won, E., ... & Ham, B. J. (2017). Alterations in the brainstem volume of patients with major depressive disorder and their relationship with antidepressant treatment. *Journal of affective disorders*, 208, 68-75.
- Kang, S. G., Yoon, H. K., Cho, C. H., Kwon, S., **Kang, J.**, ... & Lee, H. J. (2016). Decrease in fMRI brain activation during working memory performed after sleeping under 10 lux light. *Scientific reports*, 6, 36731.

- Won, E., Choi, S., **Kang, J.**, Lee, M. S., & Ham, B. J. (2016). Regional cortical thinning of the orbitofrontal cortex in medication-naïve female patients with major depressive disorder is not associated with MAOA-uVNTR polymorphism. *Annals of general psychiatry*, 15(1), 1-8.
- Choi, S., Han, K. M., **Kang, J.**, Won, E., Chang, H. S., Tae, W. S., ... & Ham, B. J. (2016). Effects of a polymorphism of the neuronal amino acid transporter SLC6A15 gene on structural integrity of white matter tracts in major depressive disorder. *PloS one*, 11(10), e0164301.
- Won, E., Choi, S., **Kang, J.**, Kim, A., Han, K. M., Chang, H. S., ... & Ham, B. J. (2016). Association between reduced white matter integrity in the corpus callosum and serotonin transporter gene DNA methylation in medication-naïve patients with major depressive disorder. *Translational psychiatry*, 6(8), e866.
- Kwon, D., Ham., B., **Kang, J.**, Yoon, H., (2016). Frontoparietal cortical thinning in respiratory-type panic disorder: a preliminary report. *Psychiatric Investigation*, 13(1), 146-151.
- Chang, H. J., **Kang, J.**, Ham, B. J., & Lee, Y. M. (2016). A functional neuroimaging study of the clinical reasoning of medical students. *Advances in Health Sciences Education*, 1-14.
- Na, K. S., Won, E., **Kang, J.**, Chang, H. S., Yoon, H. K., Tae, W. S., ... & Ham, B. J. (2016). Brain-derived neurotrophic factor promoter methylation and cortical thickness in recurrent major depressive disorder. *Scientific reports*, 6(1), 1-10.
- Jung, J., **Kang, J.**, Won, E., Nam, K., Lee, M. S., Tae, W. S., & Ham, B. J. (2014). Impact of lingual gyrus volume on antidepressant response and neurocognitive functions in Major Depressive Disorder: A voxel-based morphometry study. *Journal of affective disorders*, 169, 179-187.
- Ko, S. G., **Kang, J.**, Ko, Y. G. (2012). Does depressed person perceive time as passing slowly?. *Korean Journal of Social and Personality Psychology*, 169, 179-187.

Conference Proceedings

- **Kang, J.** (2025). The effect of taVNS stimulation on empathic choice toward negative emotion of others. *Brain Stimulation: Basic, Translational, and Clinical Research in Neuromodulation*, 18(1), 393.
- **Kang, J.**, & Park, Y. E. (2021, August). A preliminary study on Reading the Mind in the Eyes of the Robot. In *2021 30th IEEE International Conference on Robot & Human Interactive Communication (RO-MAN)* (pp. 839-843). IEEE.
- **Kang, J.**, Park, Y., Lim, H., & Wallraven, C. (2019). Modulating emotional empathy using individualized tACS protocol. *Brain Stimulation: Basic, Translational, and Clinical Research in Neuromodulation*, 12(2), 399.
- **Kang, J.**, Ham, B., Kang, J. W., Kang, W. Y., Kim, A., Shim, G.J., Ham, H., Functional Characteristics of Brain Reward Circuitry in the Altruistic and Self- Oriented Reward Processing. *2018 American Psychiatric Association Annual Meeting*.
- Lim, H., Park, Y., Wallraven, C., & **Kang, J.** (2018). Research on Important Facial Regions for Emotion Recognition Using Composite Faces. *Proceedings of the Spring Conference of the Korean Society for Emotion and Sensibility*, 79-80.
- Park, Y. E., Lim, H., **Kang, J.**, & Wallraven, C. (2018). Influence of Emotional Information in Working Memory Tasks. *Proceedings of the Spring Conference of the Korean Society for Emotion and Sensibility*, 2018, 83-84.
- Park, Y. E., **Kang, J.**, Lim, H., & Wallraven, C. (2018). Smile, the world smiles toward you or your smile? The effect of emotions and facial identity on working memory process. *21th Annual Meeting of the Korean Society for Brain and Neural Science*.
- Derya, D., Kwon D. Y., **Kang, J.**, & Wallraven, C. (2018). Let's face it: which factor impacts communicative and emotional facial expressions? Parkinson's disease or age. *21th Annual Meeting of the Korean Society for Brain and Neural Science*.
- Lim, H., Won, E., Park, Y. E., **Kang, J.** (2018). Current genetic understanding of individual variance in emotional intelligence. *21th Annual Meeting of the Korean Society for Brain and Neural Science*.
- **Kang, J.**, Ham, B., (2016). Empathic readiness- Resting-state functional connectivity reflects individual difference in trait empathy. *British Association for Cognitive Neuroscience Annual Conference*.
- **Kang, J.**, Jung, J. Ham, B., (2015). Trait empathy and facial mimicry toward goal- irrelevant presentation of others' emotional expressions. *Society for Social Neuroscience Annual Conference*.

- **Kang, J.,** Ham, B., (2015). Development and Validation of East-Asian Dynamic Facial Expression Stimulus. *Current Trends in Biomedical Science*.
- **Kang, J.,** Won, E., Ham, B., (2015). Validation of Korean Version of Questionnaire of Affective and Cognitive Empathy. *Current Trends in Biomedical Science*.
- **Kang, J.,** Shin, A., Wallraven, C., (2015). Cross-Validation of EADFES using automatic FACS coding system. *Current Trends in Biomedical Science*.

Patents

- Intelligent healthcare device and system for emotional care (10-2024-0033801, Patent Pending)
- Social anxiety treatment system through biofeedback and exposure therapy based on video conference and recording medium in which a program for executing the method of the same is recorded (10-2499966) : Patent registered in Korea; patent applications pending in the U.S. and EU.

Awards

- Bronze Award, 2nd Korean Emotion Recognition Competition (Korean Smart Media Society, Chonnam National University)
- Best Paper Presentation Award (2018 Spring Conference of the Korean Society for Emotion and Sensibility: "Influence of Emotional Information in Working Memory Tasks")
- Best Paper Presentation Award (2018 Spring Conference of the Korean Society for Emotion and Sensibility: "Research on Important Facial Regions for Emotion Recognition Using Composite Faces")
- NVIDIA GPU Grant (2018)

Services

- Committee of Inclusion at 30th IEEE International Conference on Robot and Human Interactive Communication, 2021, Canada (Virtual)
- Philips Neuro (EGI) Workshop 2020, Seoul, Korea
- Behavior Experiment without coding using SuperLab, 2018 Fall Conference of the Korean Clinical Psychology Association.

Teaching

- Neuroimaging, (SOI4004), Department of Data Science , Hanyang University, March 2025 – June 2025
- Neuroimaging, (SOI4004), Department of Data Science , Hanyang University, March 2024 – June 2024
- Social and affective Neuroscience, (PSY4130), Department of Psychology, Yonsei University, September 2022 – December 2022
- Introduction to the Cognitive Neuroscience, (PSY3146), Department of Psychology, Yonsei University, March 2022 – June 2022
- Social Brain and Human Behavior (PMED230), College of Medicine, Korea University, September 2021 – December 2021
- Social Brain and Human Behavior (PMED230), College of Medicine, Korea University, September 2020 – December 2020

- Introduction to White Matter Analysis (BMS536), Department of Biomedical Science, Korea University, September 2018 – December 2018
- Introduction to Neuroimaging Research (BMS691), Department of Biomedical Science, Korea University, March 2017 – August 2017
- Structural Neuroimaging Analysis for Mental Disorder Research (BMS712), Department of Biomedical Science, Korea University, September 2016 – December 2016

Open Lecture

- ‘Neuroscience of Empathy’ K-MOOC (Korean Massive Open Online Courses) 2024
- ‘The automaticity of Empathy’, Friday Science Touch (24th session), 2019, Jeongdok Public Library, October 11. 2019

Research Grants

- 2023~ now | P.I. | Decision to Care : The neuroplasticity of the brain and autonomic nervous system associated to care experience (RS-2023-00272647)
- 2021~2023 | P.I. | Translational approach on prognosis of Tic disorder using neuroimaging and EEG technologies (HI21C0012020021)
- 2018~ 2023 | P.I. | Multi-level approach to the automaticity of empathy : individual variance and expandability of empathic ability (NRF-2018R1D1A1B07048820)
- 2018~ 2019 | P.I. | Measuring empathy bias toward outgroup members and reducing the bias with non-invasive brain stimulation techniques - in the context of multicultural society and minority hatred (NRF- 6/6 2018R1E1A2A02086661)
- 2017-2018 | P.I. | Decoding individual pattern of emotional empathy and elicitation using HD-EEG and non-invasive brain stimulation technique (NRF-2017R1E1A2A01079266)

Licenses and Certifications

- Survey Analyst, Junior (National Certification #: 15202073653M)
- Clinical Psychology Practitioner (National Certification #: 17201073924L)
- Big-Data Analysis Engineer (National Certification #: BAE-010002165)