Octavio Choi, MD, PhD

ACADEMIC TRAINING

Fellowship in Forensic Psychiatry, University of Pennsylvania, Philadelphia, PA
July 2011 – July 2012

Psychiatry Internship & Residency, UCLA Neuropsychiatric Institute, Los Angeles, CA
July 2004 - July 2008

Doctor of Medicine (MD), University of California, San Diego, La Jolla, CA
Doctor of Philosophy (PhD), **University of California, San Diego**, La Jolla, CA
September 1994 - June 2004
• fully-funded combined MD, PhD program (Medical Scientist Training Program)
• PhD in Neurosciences (molecular neuro-development) in the laboratory of Dennis O'Leary, Salk Institute

Bachelor of Science (BS), Stanford University, Stanford, CA
September 1987 - June 1992
• Bachelor of Science in Symbolic Systems (computational neuroscience)

PROFESSIONAL BACKGROUND

Clinical Associate Professor, Stanford University, August 2019 – Present

Founding Director, Forensic Psychiatry Fellowship, Stanford University

- Created a new forensic psychiatry fellowship which will be the first neurolaw-focused forensic psychiatry fellowship in the country.
    - Tasks include conceptualization of the vision and mission of the fellowship, building relationships with other schools (e.g. Stanford Law School) and neuro disciplines at Stanford, obtaining ACGME accreditation, establishing fellowship rotations with courts and mental health facilities in the region, recruitment of faculty and formulating didactics.
- ACGME approval received Feb 2021
- First fellows arrived July 1, 2022

Forensic Neuropsychiatrist, Program in Psychiatry and the Law, Stanford University

- Provide neuropsychiatric expertise to courts in various criminal and civil cases, primarily involving neuroimaging and brain-based legal claims.
- Provide ongoing didactics to trainees.
- Organize and promote forensic activities amongst Stanford faculty.
- Conduct ongoing research in neurolaw, particularly: neural correlates of psychopathy/criminality, ethical issues regarding mind-reading from brain activity, and phenomenology of mass shootings.

Interventional Neuropsychiatrist, Interventional Psychiatry Group, Stanford University

- Clinical work and research involving neuromodulatory approaches to psychiatric treatment, including TMS, ECT, and VNS.

Co-instructor, "The Brain and the Law," Stanford University

- Designed, developed, and teach on a yearly basis
- 3-unit undergraduate course at Stanford University, 100 students enrolled

Professional Wellness Advisor, Stanford Health Care (SHC)

- Primary responsibilities include evaluating medical staff referred to SHC's Wellbeing Committee and Committee for Professionalism, formulating intervention plans and making recommendations to the committee, and helping to develop treatment resources at Stanford for impaired physicians.

Director, Forensic Evaluation Services, **Oregon State Hospital**, March 2016 – July 2019

The Forensic Evaluation Service of the Oregon State Hospital conducts most court-ordered forensic evaluations in the state of Oregon, with over 1,400 evaluations completed in 2018 (e.g. insanity; competency to stand trial, extreme emotional disturbance).

Job responsibilities of the director include:

- Teaching and supervision of all forensic evaluators at the Oregon State Hospital, providing consultation on complex cases.
- Report writing and testimony in high profile and complex cases
- Specialized skills in evaluation of neuroscience and biological evidence as applied in legal proceedings.
- Teaching and supervision of OHSU forensic psychiatry fellows
- Teaching and supervision of OHSU medical students and psychiatry residents
- Providing consultation to district attorneys, judges, and legislators regarding forensic evaluations and assessments

Affiliate faculty, Division of Public Psychiatry, Oregon Health and Science University, June 2017 – July 2019.

Assistant Professor, Division of Public Psychiatry, Oregon Health and Science University, June 2013 – June 2017

- Academic research: delusional disorder; neurolaw; fMRI-based lie detection; criminal responsibility and brain damage; neural basis of psychopathy; biological influences on behavior
- Organized and presented a conference at OHSU on the topic of Addiction Neuroscience in partnership with the MacArthur Foundation Network on Law and Neuroscience, Oct 2016
- As chair of the Forensic Neuropsychiatry Committee (2014-2017) of the American Academy of Psychiatry and Law, organized and presented yearly workshops, panels, and courses on various topics regarding neuroscience and the law such as "Neuroscience and Criminal Responsibility" and "Pain Neuroimaging: Neuroscience and Forensic Implications." (see Presentations section, below)

Chief Academic Psychiatrist, Oregon State Hospital, July 2014- March 2016
Job responsibilities include:

- Supervised all Oregon Health and Sciences University (OHSU)-affiliated faculty at the Oregon State Hospital
- Recruited faculty to OHSU/OSH
- Arranged academic conferences at OHSU and OSH
- Conducted competency and insanity evaluations for high-profile cases
- Supervised and organized all OHSU student, resident, and fellowship trainee clerkships at Oregon State Hospital
- Course director for psychiatry resident didactics in forensic psychiatry

- **Certificate of Achievement** awarded Feb 1, 2016- for successful implementation of the hospital's involuntary medications process in the electronic medical record
    - Led a team of over 20 people in this effort, which involved mapping, streamlining and redesign of a complex, 20+ step process to maximize clinician efficiency, minimize clinician errors, and maximize legal admissibility.
    - As a result of this effort, the time required to start involuntary medications on a new patient was cut in half (12 days to 6 days)

Supervising Psychiatrist, Oregon State Hospital, July 2014- Dec 2014

- Supervised psychiatrist for the Pathways program (Guilty Except for Insanity units)
- In this capacity, provided expert assistance to unit teams in managing complex patients

Clinical Psychiatrist at Oregon State Hospital, June 2013 – July 2014

- provided clinical psychiatric care on competency restoration units, GEI (Guilty Except for Insanity) units, and civil commitment units.
- conducted forensic evaluations (competency, insanity) at Oregon State Hospital, Salem

Clinical Psychiatrist at Oregon State Hospital-Portland, Sep 2012 – March 2013

- provided clinical psychiatric care for civilly committed patients.

CERTIFICATIONS

General Psychiatry Board Certification #60500, American Board of Psychiatry and Neurology, Jan 2010

Forensic Psychiatry Board Certification #1979, American Board of Psychiatry and Neurology, Oct 2013

MEMBERSHIPS AND ASSOCIATIONS

- American Psychiatric Association (APA), fellow.
- Northern California Psychiatric Society (NCPS), member.
- American Academy of Psychiatry and the Law (AAPL), member.
    - Current member and Former Chair of the Forensic Neuropsychiatry committee in October 2014-2017.
    - Assoc. Editor, Journal of the American Academy of Psychiatry and the Law, Oct 2017-present.

- Member, Association of Directors of Forensic Psychiatry Fellowships committee (ADFPF), July 2021- present
- Member, Special Committee on Fellowship Recruitment and Selection Process, November 2021- present

MEDICAL LICENSURE

CA: A95041, expires 04/30/23

ACADEMIC HONORS/AWARDS

• Recipient of **2020 Innovator Grant**, Stanford University Dept of Psychiatry and Behavioral sciences
  - Winner of competitive grant, which will fund research into causes of mass shootings, culminating in a national conference titled "Insight into the unthinkable: towards an integrated understanding of mass shooters and mass shootings."

• Mind and Life summer research institute scholar, Mind and Life Institute, 2006
• Special recognition for USMLE step I score in 99th percentile
• Received Honors letter for Pathology, Neurology, and Laboratory medicine courses
• Received perfect score on MCAT exam, 1992
• Nominated for the Dean's Award for Academic Achievement, Stanford, 1990

Selected PUBLICATIONS / PRESENTATIONS / POSTER SESSIONS

Choi, O. (2023). Neuroinnovation in Medicine: History and Future. In *Ethics and Clinical Neuroinnovation: Fundamentals, Stakeholders, Case Studies, and Emerging Issues* (pp. 13-55). Cham: Springer International Publishing.

Choi, Octavio (2021). "Acquired criminality and the neuroscience of moral decision-making." Invited lecturer, University of California, San Francisco, Forensic Psychiatry Fellowship Program, Feb 22, 2023.

Choi, Octavio (2023). "Introduction to Forensic Neuroscience." Invited lecturer, Harvard Law School, Law and Neuroscience seminar. Cambridge, MA, Feb 1, 2023.

Choi, Octavio (2022). "Brain-activity based mindreading and privacy." Invited speaker, Stanford Data Sciences Salon, Stanford CA , Nov 7, 2022.

Choi, Octavio (2022). "Tales from the tick tock heart: fitness trackers and crime." Featured speaker, American Academy of Psychiatry and the Law conference, New Orleans, LA, October 29, 2022.

Choi, Octavio (2022). "Introduction to Forensic Neuroscience." Invited lecturer, Stanford Law School, Mental Health Law seminar, Stanford CA, Feb 10, 2022.

Choi, Octavio (2022). "What Neuroscience Can and Cannot Answer in the Courtroom." Grand Rounds

presentation for the Psychiatry Department of University of California School of Medicine, San Francisco CA, Feb 15, 2022.

Choi, Octavio (2022). "Introduction to Forensic Neuroscience." Invited lecturer, Harvard Law School, Law and Neuroscience seminar. Cambridge, MA, Feb 2, 2022.

Choi, Octavio (2021). "The Fellowship Application Process Must Be Reformed."
Featured speaker, American Academy of Psychiatry and the Law conference, online, October 28, 2021.

Choi, Octavio (2021). "The Fellowship Application Process Must Be Reformed." *The Journal of the American Academy of Psychiatry and the Law,* 2021 Sep; 49 (3): 300-310.

Choi, Octavio (2021). "Neuroscience and the Age of Innocence."
Invited lecturer, University of California, San Francisco, Forensic Psychiatry Fellowship Program, March 11, 2021.

Choi, Octavio (2021). "Introduction to Forensic Neuroscience."
Invited lecturer, Harvard Law School, Center for Law, Brain and Behavior, Feb 3, 2021.

Choi, Octavio (2020). "Neural Correlates of Criminality."
Featured speaker, Napa State Hospital CME series, Napa CA, Sep 30, 2020.

Choi, Octavio (2020). "Announcing the First Neurolaw-focused Forensic Psychiatry Fellowship."
Newsletter of the American Academy of Psychiatry and the Law, fall 2020.

Choi, Octavio (2020). "Neural Correlates of Criminality."
Featured speaker, Neuroscience and the Law Symposium, Seton Hall University School of Law, Newark NJ, Feb 14, 2020.

Choi, Octavio (2019). "Neuroscience in the courtroom."
Grand Rounds presentation for the Psychiatry Department of Stanford University School of Medicine, Stanford CA, Oct 10, 2019.

Tacker, Katherine, and Choi, Octavio, (2019). Belonging, Therapeutic Landscapes, and Networks: Implications for Mental Health Practice. *The Journal of the American Academy of Psychiatry and the Law*, 2019 Aug; 47(3): 388-390.

Choi, Octavio (2019). "Neural Correlates of Criminality."
Featured speaker, American Academy of Psychiatry and the Law conference, Baltimore, MD, October 25, 2019.

Choi, Octavio. "High restoration rates in treated patients with delusional disorder", *in preparation*.
Whether delusional disorder (DD) is a treatable condition is an active controversy in forensic psychiatry, with real legal consequences—incompetent defendants who are thought to be unrestorable typically have their charges dismissed, whereas restorable defendants receive treatment until fitness is restored. In addition, the issue of restorability is one of the key factors

in a *Sell*-type order analysis for administration of involuntary medications to non-dangerous defendants *(Sell v US, 2003).*

This paper analyzes a sample of patients with delusional disorder hospitalized at the Oregon State Hospital from 2009-2017 for the purpose of competency restoration, a highly ecologically-valid sample for the purposes of forensic decision-making. Preliminary analysis of our data indicates a 93% restoration rate (13/14) for patients with delusional disorder treated with antipsychotics versus a 27% restoration rate (3/11) for untreated.

Choi, Octavio (2018). "Psychopathy and the Neuroscience of Morality."

Public neuroscience lecture on behalf of Science on Tap (educational non-profit) regarding the neurobiological basis of psychopathy, moral reasoning, and implications for the law. Aladdin Theater, Portland, Oregon, October 30, 2018. Sold out show, 600 seat capacity.

Choi, Octavio (2018). "Neuroimaging in the Courtroom: Distinguishing Neuroscience from Neuro-nonsense".

Invited speaker for the Los Angeles County Criminal Bench Seminar, an annual judicial training conference with over 200 criminal judges from Los Angeles County (the largest trial court in the country) in attendance. October 26, 2018.

Choi, Octavio (2018). "Psychopathy and the Neuroscience of Morality."

Public neuroscience lecture on behalf of OMSI (Oregon Museum of Science and Industry) regarding the neurobiological basis of psychopathy, moral reasoning, and implications for the law. McMenamins Mission Theater, Portland, Oregon, June 7, 2018. Sold out show, 250 seat capacity.

Choi, Octavio (2018). "Neurobiology of Deception."

Featured panel speaker on Pseudologica Fantastica, American Psychiatry Association conference, New York, New York, May 6, 2018.

Choi, Octavio (2018). "Can Neuroscience Eradicate Psychopathy?"

Featured TEDx speaker, Portland State University, Portland, Oregon, Feb 24, 2018.
Link to video, over 29,000 views. https://www.youtube.com/watch?v=RB-qhZl_qLo

Choi, Octavio (2018). "Psychopathy: Neuroscience and Forensic Implications."

Featured speaker, Oregon Law and Mental Health Conference, Portland OR, March 2, 2018.

Choi, Octavio, Tor Wager, Amanda Pustilnik, Stephen Easton (2017). "Pain Neuroimaging: Neuroscience and Forensic Implications."

Organized and led an expert panel presentation highlighting the latest neuroscience-based models of pain perception, efforts to use artificial intelligence and functional neuroimaging to quantify pain levels, and forensic implications of such efforts. American Academy of Psychiatry and the Law conference, Denver, CO, October 29, 2017.

Choi, Octavio, (2017). What Neuroscience Can and Cannot Answer. *The Journal of the American Academy of Psychiatry and the Law*, 2017 Sep; 45(3): 278-285.

This paper summarizes what I regard as the current potential and general limitations of neuroimaging evidence in court, based on experiences testifying in such cases.

Choi, Octavio, Francis Shen, David Faigman, and Mark Mapstone (2017). "Neuroscience and the Law." Judicial training sponsored by the MacArthur Foundation Research Network on Law and Neuroscience and the Advanced Judicial Studies Institute, San Diego CA, June 27, 2017.

Choi, Octavio (2017). "The Criminal Brain."
In 2017, I was selected by OHSU's Brain Institute to be a featured speaker in their "Brain Awareness" lecture series, established in 2000 to communicate the newest developments in neuroscience to the general public. Past speakers have included luminaries such as Christof Koch and Patricia Churchland. This talk reviewed the latest neuroscientific findings regarding the biological basis of psychopathy, and implications for the law. Newmark Theater, Portland, Oregon, March 20, 2017. Over 500 tickets sold.

Choi, Octavio (2017). "Neural Correlates of Moral Reasoning."
Grand Rounds presentation for the Psychiatry Department of the Oregon Health and Sciences University, Portland OR, March 2017.

Choi, Octavio (2017). "Reading Minds with Machines."
Lecture at University of Oregon law school, Portland OR, Nov 2017.

Choi, Octavio, Ken Weiss, Tom Gutheil, et al (2017). "The Evolution of Forensic Psychiatry."
Presentation at the APA's Guttmacher Award Ceremony regarding neuroscience and ethical dilemmas posed by the forensic psychiatrist's dual identities as psychiatrist and forensic expert. American Psychiatric Association conference, San Diego CA, May 21, 2017.
Featured writeup in the Psychiatric Times, "Founder of Modern Forensic Psychiatry Honored with Guttmacher Award", July 28 2017.

Choi, Octavio, Stephen Morse, Francis Shen, Manish Fozdar, et al (2016). "Neurolaw 101: Introduction to Neurolaw for Forensic Psychiatrists."
Organized and taught a forensic neuroscience course highlighting neuroscience's potential and limitations to guide determinations of criminal responsibility, legally-relevant capacities such as testamentary capacity, lie detection, pain measurement, and violence risk prediction. American Academy of Psychiatry and the Law conference, Portland, Oregon, October 29, 2016.

Choi, Octavio, Francis Shen, Michael Posner, Wilson Compton, et al (2016). "Reinventing Reentry: Brain, Behavior, and Better Decision-Making."
Co-organized and presented at MacArthur Foundation Research Network conference aimed at judges, lawyers, clinicians and neuroscientists, addressing issues of the neuroscience of addiction and the law, Oregon Health and Sciences University, Portland, Oregon, October 25, 2016.

Choi, Octavio, Francis Shen, Robert Granacher, et al (2015). "Neuroscience and Criminal Responsibility."
Organized and led panel presentation regarding the current state of neuroscience and its relevance in aiding determinations of criminal responsibility. American Academy of Psychiatry and the Law conference, Ft Lauderdale, Florida, October 23, 2015.

Choi, Octavio (2015). "Mind-reading with fMRI."

Grand Rounds presentation for the Psychiatry Department of the Oregon Health and Sciences University, Portland OR, May 2015.

Choi, Octavio (2015). "Mind-reading with fMRI: promise and perils."
Presentation at University of Oregon law school, Portland OR, Feb 20, 2015.

Choi, Octavio (2015). "The Neurobiology of Borderline Personality Disorder."
Featured presentation at Oregon Psychiatric Association annual meeting, Portland, Oregon, Feb 28, 2015.

Choi, Octavio (2015). "Neuroimaging and Lie Detection: ready for court?"
Book chapter in *Psychiatric Expert Testimony: Emerging Applications*, Kenneth Weiss and Clarence Watson, eds, Oxford University Press, 2015: 84-96. Featured review in the American Journal of Psychiatry, 172:9, Sep 2015: 915.

Choi, Octavio (2014). "You can't hide your lying mind: the neuroscience of lie detection."
Featured presentation at Oregon Psychiatric Association annual meeting, Portland, Oregon, March 1, 2014.

Choi, Octavio (2014). "Neuroimaging 101: an introduction to techniques of functional brain imaging."
Featured presentation at Oregon Psychiatric Association annual meeting, Portland, Oregon, March 1, 2014.

Choi, Octavio (2012). "Neural lie detection: admissibility of functional neuroimaging evidence in US courts."
Presentation at American Psychiatric Association symposium, "Updated Applications of Expert Psychiatric Testimony in Criminal Justice", Philadelphia PA, May 8, 2012.

Choi, Octavio (2012). "Neurolaw: the perils (and promises) of neuro-wizardry."
Presentation at University of Pennsylvania, forensic psychiatry seminar series, Philadelphia PA, April 24, 2012

Choi, Octavio and KJ Weiss (2012). "Adjudicating dangerous and incompetent defendants: civil or criminal?" *Journal of the American Academy of Psychiatry and the Law*, 2012 Apr; 40(2): 279-281.

Choi, Octavio, and MR Irwin (2008). "Insomnia in Aging", Book chapter in: Avidan AY, Alessi C, eds. *Geriatric Sleep Medicine*, New York: Informa Healthcare, 2008, pages 89-112

Choi, Octavio (2001), "The Role of BDNF in the Development of Retinotectal Topographic Projections in the Chick." PhD dissertation, University of California, San Diego, September, 2001

Choi, Octavio, and DDM O'Leary (2000). "BDNF is a branching factor for retinotectal axons in the chick." Presentation at Society for Neurosciences annual meeting, November, 2000

Choi, Octavio, and DDM O'Leary (1999). "Potential role of BDNF and TrkB in Developing Topographic Retinotectal Projections", Poster at Society for Neurosciences, November 1999

Choi SB, Yates PA, and DDM O'Leary (1998). "Localized BDNF application induces branch-like structures along retinal axons", Poster at Society for Neurosciences, November 1998

Choi SB, and MH Tuszynski (1997). "An in vivo method to assay substrates for axon growth after injury in the adult rat", Journal of Neurotrauma, 1997, Volume: 14(10): 803

Choi SB, Anand S, Hotson J (1995). "Transcranial magnetic perturbation of motion and luminance signals in striate and extrastriate cortex", Investigative Ophthalmology & Visual Science, 1995, Volume: 36(4): S56