Charles D. Chen

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Executive summary

Imaging scientist with 14 years of experience in neuroscience and neurodegenerative disease research. Proven success in developing neuroimaging and digital pathology pipelines for observational studies and clinical trials, and communicating scientific results through peer-reviewed publications and presentations. Looking to leverage these skills for biomarker discovery and evaluation.

Core competencies

Alzheimer disease biomarkers	Biofluids (CSF, plasma), digital pathology, neuroimaging (MRI, PET)
Clinical trials	Statistical analysis planning, data collection and management, secondary data analysis
Programming	Bash, MATLAB, Python, R
Soft skills	Cross-functional teamwork, mentorship, leadership

Education

Washington University in St. Louis
Ph.D. in Imaging Science	08/2018-05/2023
M.S. in Electrical Engineering	08/2018-12/2022
B.A. in Biochemistry	08/2011-05/2015

Career highlights

Authorship	7 first-author and 27 co-author publications in journals including: *Acta Neuropathologica*, *Lancet Neurology*, *Nature Medicine*, *Science Translational Medicine*, h-index: 26
Committees	Pathology And Imaging Neurodegeneration and Tau (Co-founder), Imaging Science Student Council (Co-founder), RSNA Quantitative Imaging Biomarkers Alliance Tau Profile (Assistant)
Funding	Awarded $402,518 in total, including: PET/MR in ADRD T32 Fellowship, Poletsky Award, Knight ADRC T32 Fellowship, NSF Graduate Research Fellowship Program
Peer review	*NeuroReceptor Mapping Conference*, *Nature Reviews Neurology*, *Brain*, *Alzheimer's & Dementia*, *Alzheimer's Research & Therapy*, *Scientific Reports*, *Acta Neuropathologica Communications*

Experience

Harvard University/Massachusetts General Hospital 08/2023-present
Postdoctoral research fellow (PI: Julie C. Price)
- Established the first biomarker- and neuropsychology-to-neuropathology comparisons for the Harvard Aging Brain Study (HABS)
- Developed a method for segmenting meninges from MR images to characterize meningeal off-target binding in tau PET imaging
- Established pipelines for the first PET/MR studies of fibrin in Alzheimer disease (AD) and respiratory complex I in Down syndrome

Washington University in St. Louis 08/2017-05/2023
Graduate research fellow (PI: Tammie L.S. Benzinger)
- Established PET- and CSF-to-neuropathology comparisons for the first clinical trial in dominantly inherited AD (DIAN-TU-001)
- Developed a method to quantify the level of amyloid-β deposition, tauopathy, microgliosis, and astrocytosis from digital pathology
- Helped establish the first multi-site tau PET validation of novel CSF (MTBR-tau243) and plasma (%p-tau217) AD biomarkers
- Validated the visual read procedure for the first FDA-approved tau PET radioligand (flortaucipir/Tauvid) for the Knight ADRC
- Established the first validation of the regional Centiloid method and applied it to evaluate treatment effects in the DIAN-TU-001
- Established the first PET-to-neuropathology comparisons for amyloid-β and tau in the DIAN Observational Study (DIAN-Obs)
- Mentored trainees (2 postdoctoral research fellows) in image analysis, statistical analysis, and manuscript writing

Washington University in St. Louis/University of Oxford 05/2012-10/2015
Undergraduate research fellow (PI: David C. Van Essen)
- Established the first methods for performing diffusion MRI-to-histology comparisons for the Human Connectome Project (HCP)
- Developed a method to define the gray-white boundary and the orientation of axonal fibers that cross it from digital histology
- Developed a method to define axonal fiber orientations from cleared tissue sections and co-register them to diffusion MR images

Honors and awards

2026	Human Amyloid Imaging Travel Scholarship	$850
2025	Human Amyloid Imaging Travel Scholarship	$600
2024	American Association of Neuropathologists Travel Award	$1,000
2023	PET/MR in Alzheimer's Disease and Related Dementias T32 Fellowship	$224,232
2023	Poletsky Award	$2,000
2021	McKelvey School of Engineering Dean's Scholarly Award	$5,000
2020	Knight Alzheimer Disease Research Center T32 Fellowship	$25,836
2020	Human Amyloid Imaging Travel Scholarship	$1,000
2018	NSF Graduate Research Fellowship Program (GRFP)	$138,000
2013	HHMI Summer Undergraduate Research Fellowship (SURF)	$4,000
2011	National Merit Scholarship	$2,500

Publications

2026 **Charles D Chen**, Cinthya Aguero, Alexandra Melloni, Brian Healy, Emma Thibault, Jessie Fanglu Fu, Michelle Farrell, Stephanie Schultz, Hyun-Sik Yang, Jean-Pierre Bellier, Jasmeer Chhatwal, Pia Kivisäkk Webb, Steven Arnold, Dana Penney, Randall Davis, Dorene Rentz, Teresa Gomez-Isla, Reisa Sperling, Keith Johnson, and Julie C Price. Identifying early changes in imaging, plasma, and digital cognitive biomarkers that correspond to Alzheimer disease pathology in the presence of autopsy-confirmed co-pathologies. *Alzheimer's and Dementia*. https://doi.org/10.1002/alz.71092

2025 Austin McCullough*, **Charles D Chen***, Brian A Gordon*, Nelly Joseph-Mathurin, Clifford R Jack Jr, Robert Koeppe, Russ Hornbeck, Deborah Koudelis, Nicole McKay, Diana Hobbs, Shaney Flores, Sarah Keefe, Neelum Aggarwal, Ricardo F Allegri, Sarah B Berman, Thomas D Bird, Sandra E Black, William S Brooks, Jasmeer Chhatwal, Gregory S Day, Martin R Farlow, Nick C Fox, Serge Gauthier, Lawrence Honig, Ging-Yuek Hsiung, Mathias Jucker, Johannes Levin, Mario Masellis, Colin Masters, Patricio Chrém-Mendez, John M Ringman, B Joy Snider, Stephen Salloway, Peter R Schofield, Hiroyuki Shimada, Kazushi Suzuki, Christophere H van Dyck, Gregory Klein, David Clifford, Carlos Cruchaga, Jason Hassenstab, Yan Li, Eric McDade, Susan Mills, John C Morris, Richard J Perrin, Charlene Supnet-Bell, Guoqiao Wang, Chengjie Xiong, Randall Bateman, Tammie LS Benzinger, and for the DIAN-TU Study Team. Regional effects of gantenerumab on imaging biomarkers in the DIAN-TU-001 trial. *Alzheimer's and Dementia*. https://doi.org/10.1002/alz.70347

2025 Jessie Fanglu Fu, Arun Garimella, Alex Lapointe, William WT Aye, **Charles D Chen**, Joseph H Lee, Sharon J Krinsky-McHale, Shahid Zaman, Ira T Lott, Christy Hom, Beau Ances, Elizabeth Head, Mark Mapstone, Florence Lai, Benjamin L Handen, Charles M Laymon, Sigan L Hartley, Bradley T Christian, Dorene M Rentz, Keith A Johnson, H Diana Rosas, Julie C Price, and the Alzheimer Biomarkers Consortium-Down Syndrome (ABC-DS). Joint spatial associations of amyloid beta and tau pathology in Down syndrome and preclinical Alzheimer's disease: Cross-sectional associations with early cognitive impairments. *Alzheimer's and Dementia*. https://doi.org/10.1002/alz.70424

2025 **Charles D Chen**, Erin E Franklin, Yan Li, Nelly Joseph-Mathurin, Aime L Burns, Diana A Hobbs, Austin A McCullough, Stephanie A Schultz, Chengjie Xiong, Guoqiao Wang, Mario Masellis, Ging-Yuek Robin Hsiung, Serge Gauthier, Sarah B Berman, Erik D Roberson, Lawrence S Honig, Roger Clarnette, John M Ringman, James E Galvin, William Brooks, Kazushi Suzuki, Sandra Black, Johannes Levin, Nellum T Aggarwal, Mathias Jucker, Matthew P Frosch, Julia K Kofler, Charles White III, C Dirk Keene, Jie Chen, Alisha Daniels, Brian A Gordon, Laura Ibanez, Celeste M Karch, Jorge Llibre-Guerra, Eric McDade, John C Morris, Charlene Supnet-Bell, Ricardo F Allegri, Jae-Hong Lee, Gregory S Day, Francisco Lopera, Jee Hoon Roh, Peter R Schofield, Susan Mills, Tammie LS Benzinger, Randall J Bateman, Richard J Perrin, for the DIAN-TU Study Team, and for the DIAN-Obs Study Team. Immunohistochemical evaluation of a trial of gantenerumab or solanezumab in dominantly inherited Alzheimer disease. *Acta Neuropathologica*. https://doi.org/10.1007/s00401-025-02890-7

2024 Michelle E Farrell, Emma G Thibault, J Alex Becker, Julie C Price, Brian C Healy, Bernard J Hanseeuw, Rachel F Buckley, Heidi IL Jacobs, Aaron P Schultz, **Charles D Chen**, Reisa A Sperling, and Keith A Johnson. Spatial extent as a sensitive amyloid-PET metric in preclinical Alzheimer's disease. *Alzheimer's and Dementia*. https://doi.org/10.1002/alz.14036

2024   Stephanie A Schultz, Lei Liu, Aaron P Schultz, Colleen D Fitzpatrick, Raina Levin, Jean-Pierre Bellier, Zahra Shirzadi, Nelly Joseph-Mathurin, **Charles Chen**, Tammie LS Benzinger, Gregory S Day, Martin R Farlow, Brian A Gordon, Jason J Hassenstab, Clifford R Jack Jr, Mathias Jucker, Celeste M Karch, Jae-Hong Lee, Johannes Levin, Richard J Perrin, Peter R Schofield, Chengjie Xiong, Keith A Johnson, Eric McDade, Randall J Bateman, Reisa A Sperling, Dennis J Selkoe, Jasmeer P Chhatwal, and the Dominantly Inherited Alzheimer Network Investigators. γ-secretase activity, clinical features, and biomarkers of autosomal dominant Alzheimer's disease: cross-sectional and longitudinal analysis of the Dominantly Inherited Alzheimer Network observational study (DIAN-OBS). *Lancet Neurology*. https://doi.org/10.1016/S1474-4422(24)00236-9

2024   Stephanie Doering, Austin McCullough, Brian A Gordon, **Charles Chen**, Nicole McKay, Diana Hobbs, Sarah Keefe, Shaney Flores, Jalen Scott, Hunter Smith, Stephen Jarman, Kelley Jackson, Russ Hornbeck, Beau M Ances, Chengjie Xiong, Andrew J Aschenbrenner, Jason Hassenstab, Carlos Cruchaga, Alisha Daniels, Randall J Bateman, the Dominantly Inherited Alzheimer Network (DIAN) Investigators, John C Morris, and Tammie LS Benzinger. Deconstructing pathological tau by biological process in early stages of Alzheimer disease: a method for quantifying tau spatial spread in neuroimaging. *eBioMedicine*. https://doi.org/10.1016/j.ebiom.2024.105080

2024   Karin L Meeker, Patrick H Luckett, Nicolas R Barthélemy, Diana A Hobbs, **Charles Chen**, James Bollinger, Vitaliy Ovod, Shaney Flores, Sarah Keefe, Rachel L Henson, Elizabeth M Herries, Eric McDade, Jason J Hassenstab, Chengjie Xiong, Carlos Cruchaga, Tammie LS Benzinger, David M Holtzman, Suzanne E Schindler, Randall J Bateman, John C Morris, Brian A Gordon, and Beau M Ances. Comparison of cerebrospinal fluid, plasma, and neuroimaging biomarker utility in Alzheimer disease. *Brain Communications*. https://doi.org/10.1093/braincomms/fcae081

2024   Gemma Salvadó, Kanta Horie, Nicolas R Barthélemy, Jacob W Vogel, Alexa Pichet Binette, **Charles D Chen**, Andrew J Aschenbrenner, Brian A Gordon, Tammie LS Benzinger, David M Holtzman, John C Morris, Sebastian Palmqvist, Erik Stomrud, Shorena Janelidze, Rik Ossenkoppele, Suzanne E Schindler, Randall J Bateman, and Oskar Hansson. Disease staging of Alzheimer's disease using a CSF-based biomarker model. *Nature Aging*. https://doi.org/10.1038/s43587-024-00599-y

2024   Nicolas R Barthélemy, Gemma Salvadó, Suzanne Schindler, Yingxin He, Shorena Janelidze, Lyduine Collij, Benjamin Saef, Rachel L Henson, **Charles D Chen**, Brian A Gordon, Tammie LS Benzinger, John C Morris, Niklas Mattsson-Carlgren, Sebastian Palmqvist, Rik Ossenkoppele, Erik Stomrud, Randall J Bateman, and Oskar Hansson. Highly accurate blood test for Alzheimer's disease comparable or superior to clinical CSF tests. *Nature Medicine*. https://doi.org/10.1038/s41591-024-02869-z

2024   Nelly Joseph-Mathurin, Rebecca L Feldman, Zahra Shirzadi, Carmen Toomer, Junie R Saint Clair, Yinjiao Ma, Nicole S McKay, Jeremy F Strain, Collin Kilgore, Karl A Friedrichsen, **Charles D Chen**, Brian A Gordon, Gengsheng Chen, Russ C Hornbeck, Parinaz Massoumzadeh, Austin A McCullough, Qing Wang, Yan Li, Guoqiao Wang, Sarah J Keefe, Stephanie A Schultz, Carlos Cruchaga, Gregory M Preboske, Clifford R Jack Jr, Jorge J Llibre-Guerra, Ricardo F Allegri, Beau M Ances, Sarah B Berman, William S Brooks, David M Cash, Gregory S Day, Nick C Fox, Michael Fulham, Bernardino Ghetti, Keith A Johnson, Mathias Jucker, William E Klunk, Christian la Fougére, Johannes Levin, Yoshiki Niimi, Hwamee Oh, Richard J Perrin, Gerald Reischl, John M Ringman, Andrew J Saykin, Peter R Schofield, Yi Su, Charlene Supnet-Bell, Jonathan Vöglein, Igor Yakushev, Adam M Brickman, John C Morris, Eric McDade, Chengjie Xiong, Randall J Bateman, Jasmeer P Chhatwal, and Tammie LS Benzinger. Presenilin-1 mutation position influences amyloidosis, small vessel disease, and dementia with disease stage. *Alzheimer's and Dementia*. https://doi.org/10.1002/alz.13729

2023   Kanta Horie, Gemma Salvadó, Nico Barthélemy, Shorena Janelidze, Yan Li, Yingxin He, Benjamin Saef, **Charles D Chen**, Hong Jiang, Olof Standberg, Alexa Pichet Binette, Sebastian Palmqvist, Chihiro Sato, Brian A Gordon, Tammie LS Benzinger, David M Holtzman, John C Morris, Niklas Mattsson-Carlgren, Erik Stomrud, Rik Ossenkoppele, Suzanne E Schindler, Oskar Hansson, and Randall J Bateman. CSF MTBR-tau243 is a specific biomarker of tau tangle pathology in Alzheimer's disease. *Nature Medicine*. https://doi.org/10.1038/s41591-023-02443-z

2023   Stephanie A Schultz, Zahra Shirzadi, Aaron P Schultz, Lei Liu, Colleen D Fitzpatrick, Eric McDade, Alan Renton, Bianca Esposito, Nelly Joseph-Mathurin, Carlos Cruchaga, **Charles D Chen**, Alison Goate, Ricardo Francisco Allegri, Tammie LS Benzinger, Sarah Berman, Helena C Chui, Anne M Fagan, Martin R Farlow, Nick C Fox, Brian A Gordon, Neill R Graff-Radford, Jason J Hassenstab, Bernard J Hanseeuw, Anna Hofmann, Clifford R Jack Jr, Mathias Jucker, Celeste M Karch, Robert A Koeppe, Jae-Hong Lee, Allan I Levey, Johannes Levin, Ralph N Martins, Hiroshi Mori, John C Morris, James Noble, Richard J Perrin, Pedro Rosa-Neto, Stephen P Salloway, Raquel Sanchez-Valle, Peter R Schofield, Chengjie Xiong, Keith A Johnson, Randall J Bateman, Reisa A Sperling, Jasmeer P Chhatwal, and the Dominantly Inherited Alzheimer Network Investigators. Location of pathogenic variants in PSEN1 impacts progression of cognitive, clinical, and neurodegenerative measures in autosomal-dominant AD. *Aging Cell*. http://doi.org/10.1111/acel.13871

2023 **Charles Chen***, Maria Rosana Ponisio*, Jordan Lang, Shaney Flores, Suzanne Schindler, Anne Fagan, John Morris, and Tammie Benzinger. Comparing tau PET visual interpretation with tau PET quantification, CSF biomarkers, and longitudinal clinical assessment. *Journal of Alzheimer's Disease.* https://doi.org/10.3233/JAD-230032

2023 **Charles D Chen***, Austin McCullough*, Brian A Gordon*, Nelly Joseph-Mathurin, Shaney Flores, Nicole S McKay, Diana Hobbs, Russ Hornbeck, Anne M Fagan, Carlos Cruchaga, Alison M Goate, Richard J Perrin, Guoqiao Wang, Yan Li, Xinyu Shi, Chengjie Xiong, Michael J Pontecorvo, Gregory Klein, Yi Su, William E Klunk, Clifford Jack, Robert Koeppe, B Joy Snider, Sarah B Berman, Erik D Roberson, Jared Brosch, Ghulam Surti, Ivonne Z Jiménez-Velázquez, Douglas Galasko, Lawrence S Honig, William S Brooks, Roger Clarnette, David Wallon, Bruno Dubois, Jérémie Pariente, Florence Pasquier, Raquel Sanchez-Valle, Sergey Shcherbinin, Ixavier Higgins, Ilke Tunali, Colin L Masters, Christopher H van Dyck, Mario Masellis, Robin Hsiung, Serge Gauthier, Steve Salloway, David B Clifford, Susan Mills, Charlene Supnet-Bell, Eric McDade, Randall J Bateman, Tammie LS Benzinger, and for the DIAN-TU Study Team. Longitudinal head-to-head comparison of ^{11}C-PiB and ^{18}F-florbetapir PET in a Phase 2/3 clinical trial of anti-amyloid-β monoclonal antibodies in dominantly inherited Alzheimer disease. *European Journal of Nuclear Medicine and Molecular Imaging.* https://doi.org/10.1007/s00259-023-06209-0

2023 Nicole S McKay, Brian A Gordon, Russ C Hornbeck, Aylin Dincer, Shaney Flores, Sarah Keefe, Nelly Joseph-Mathurin, Clifford R Jack, Robert Koeppe, Peter R Millar, Beau M Ances, **Charles D Chen**, Alisha Daniels, Diana A Hobbs, Kelley Jackson, Deborah Koudelis, Parinaz Massoumzadeh, Austin McCullough, Michael L Nickels, Farzaneh Rahmani, Laura Swisher, Qing Wang, Ricardo F Allegri, Sarah B Berman, Adam M Brickman, William S Brooks, David M Cash, Jasmeer P Chhatwal, Gregg Day, Martin R Farlow, Christian laFougère, Nick C Fox, Michael Fulham, Bernardino Ghetti, Neill Graff-Radford, Takeshi Ikeuchi, William Klunk, Jae-Hong Lee, Ralph Martins, Colin L Masters, Jonathan McConathy, Hiroshi Mori, James M Noble, Gerald Reischl, Christopher Rowe, Stephen Salloway, Raquel Sanchez-Valle, Peter R Schofield, Hiroyuki Shimada, Mikio Shoji, Yi Su, Kazushi Suzuki, Jonathan Vöglein, Igor Yakushev, Carlos Cruchaga, Jason Hassenstab, Celeste Karch, Eric McDade, Richard J Perrin, Chengjie Xiong, John C Morris, Randall J Bateman, Tammie LS Benzinger, and for the Dominantly Inherited Alzheimer Network. Positron emission tomography and magnetic resonance imaging methods and datasets within the Dominantly Inherited Alzheimer Network (DIAN). *Nature Neuroscience.* https://doi.org/10.1038/s41593-023-01359-8

2023 Farzaneh Rahmani, Saurabh Jindal, Cyrus A Raji, Wei Wang, Arash Nazeri, Gloria Guzman Perez-Carillo, Michelle M Miller-Thomas, Philipp Garner, Benedicte Marechal, Amit Shah, Mathis Zimmermann, **Charles D Chen**, Sarah Keefe, Pamela LaMontagne, and Tammie LS Benzinger. Validity assessment of an automated brain morphometry tool using patients with a de novo memory complaint. *American Journal of Neuroradiology.* https://doi.org/10.3174/ajnr.A7790

2023 Anna H Boerwinkle, Brian A Gordon, Julie Wisch, Shaney Flores, Rachel L Henson, Omar H Butt, Nicole McKay, **Charles D Chen**, Tammie LS Benzinger, Anne M Fagan, Benjamin L Handen, Bradley T Christian, Elizabeth Head, Mark Mapstone, Michael S Rafii, Sid O'Bryant, Florence Lai, H Diana Rosas, Joseph H Lee, Wayne Silverman, Adam M Brickman, Jasmeer P Chhatwal, Carlos Cruchaga, Richard J Perrin, Chengjie Xiong, Jason Hassenstab, Eric McDade, Randall J Bateman, Beau M Ances, on behalf of the Alzheimer's Biomarker Consortium-Down Syndrome, and the Dominantly Inherited Alzheimer Network. Amyloid PET in genetic causes of Alzheimer disease: Down syndrome versus autosomal dominant. *The Lancet Neurology.* https://doi.org/10.1016/S1474-4422(22)00408-2

2022 Aylin Dincer, **Charles D Chen**, Nicole S McKay, Lauren N Koenig, Austin McCullough, Shaney Flores, Sarah J Keefe, Stephanie A Schultz, Rebecca L Feldman, Nelly Joseph-Mathurin, Russ C Hornbeck, Carlos Cruchaga, Suzanne E Schindler, David M Holtzman, John C Morris, Anne M Fagan, Tammie LS Benzinger, and Brian A Gordon. APOE ε4 genotype, amyloid-β, and sex interact to predict tau in regions of high APOE mRNA expression. *Science Translational Medicine.* http://doi.org/10.1126/scitranslmed.abl7646

2022 Guoqiao Wang*, Yan Li*, Chengjie Xiong, Eric McDade, David B Clifford, Susan L Mills, Anna M Santacruz, Andrew J Aschenbrenner, Jason Hassenstab, Tammie LS Benzinger, Brian A Gordon, Anne M Fagan, Kelley A Coalier, Jorge J Libre-Guerra, Austin McCullough, Nelly Joseph-Mathurin, **Charles Chen**, Catherine Mummery, Barbara A Wendelberger, Serge Gauthier, Mario Masellis, Karen C Holdridge, Roy Yaari, Saptarshi Chatterjee, John Sims, Paul Delmar, Geoffrey A Kerchner, Tobias Bittner, Carsten Hofmann, Randall J Bateman, and for the DIAN-TU Study Team. Evaluation of dose-dependent treatment effects after mid-trial dose escalation in biomarker, clinical, and cognitive outcomes for gantenerumab or solanezumab in dominantly inherited Alzheimer's disease. *Alzheimer's & Dementia: Diagnosis, Assessment & Disease Monitoring.* http://doi.org/10.1002/dad2.12367

2022   Nelly Joseph-Mathurin*, Jorge J Llibre-Guerra*, Yan Li, Austin A McCullough, Carsten Hofmann, Jakub Wojtowicz, Ethan Park, Guoqiao Wang, Gregory M Preboske, Qing Wang, Brian A Gordon, **Charles D Chen**, Shaney Flores, Neelum Aggarwal, Sarah B Berman, Thomas D Bird, Sandra E Black, Bret Borowski, William S Brooks, Jasmeer P Chhatwal, Roger Clarnette, Carlos Cruchaga, Anne M Fagan, Martin Farlow, Nick C Fox, Serge Gauthier, Jason Hassenstab, Diana A Hobbs, Karen C Holdridge, Lawrence S Honig, Russ C Hornbeck, Ging-Yuek R Hsiung, Clifford R Jack Jr, Ivonne Z Jimenez-Velazquez, Mathias Jucker, Gregory Klein, Johannes Levin, Michele Mancini, Mario Masellis, Nicole S McKay, Catherine J Mummery, John M Ringman, Hiroyuki Shimada, Joy Snider, Kazushi Suzuki, David Wallon, Chengjie Xiong, Roy Yaari, Eric McDade, Richard J Perrin, Randall J Bateman, Stephen P Salloway, Tammie LS Benzinger, David B Clifford, and for the Dominantly Inherited Alzheimer Network Trials Unit. Amyloid-related imaging abnormalities in the DIAN-TU-001 trial of gantenerumab and solanezumab: lessons from a trial in dominantly inherited Alzheimer disease. *Annals of Neurology*. https://doi.org/10.1002/ana.26511

2022   Shaney Flores, **Charles D Chen**, Yi Su, Aylin Dincer, Sarah J Keefe, Nicole S McKay, Angela M Paulick, Gloria Guzman Perez-Carillo, Russ C Hornbeck, Manu S Goyal, Andrei G Vlassenko, Sally W Schwarz, Michael L Nickels, Dean F Wong, Zhude Tu, Jonathan McConathy, John C Morris, Tammie Benzinger, and Brian A Gordon. Investigating tau and amyloid tracer skull binding in studies of Alzheimer disease. *Journal of Nuclear Medicine*. https://doi.org/10.2967/jnumed.122.263948

2022   Patrick H Luckett, **Charlie Chen**, Brian A Gordon, Julie Wisch, Sarah B Berman, Jasmeer P Chhatwal, Carlos Cruchaga, Anne M Fagan, Martin R Farlow, Nick C Fox, Mathias Jucker, Johannes Levin, Colin L Masters, Hiroshi Mori, James M Noble, Stephen Salloway, Peter R Schofield, Adam M Brickman, William S Brooks, David M Cash, Michael J Fulham, Bernardino Ghetti, Clifford R Jack, Jonathan Vöglein, William Klunk, Robert Koeppe, Yi Su, Michael Weiner, Qing Wang, Dan Marcus, Deborah Koudelis, Nelly Joseph-Mathurin, Lisa Cash, Russ Hornbeck, Chengjie Xiong, Richard J Perrin, Celeste M Karch, Jason Hassenstab, Eric McDade, John C Morris, Tammie LS Benzinger, Randall J Bateman, Beau M Ances, and for the Dominantly Inherited Alzheimer Network (DIAN). Biomarker clustering in autosomal dominant Alzheimer disease. *Alzheimer's & Dementia*. https://doi.org/10.1002/alz.052149

2022   Farzaneh Rahmani, Marina Nguyen, **Charles D Chen**, Nicole McKay, Aylin Dincer, Nelly Joseph-Mathurin, Gengsheng Chen, Jingxia Liu, Hilary LP Orlowski, John C Morris, and Tammie Benzinger. Intracranial internal carotid artery calcification is not predictive of future cognitive decline. *Alzheimer's Research & Therapy*. https://doi.org/10.1186/s13195-022-00972-2

2021   **Charles D Chen**, Nelly Joseph-Mathurin*, Namita Sinha*, Aihong Zhou*, Yan Li, Karl Friedrichsen, Austin McCullough, Erin E Franklin, Russ Hornbeck, Brian Gordon, Vijay Sharma, Carlos Cruchaga, Alison Goate, Celeste Karch, Eric McDade, Chengjie Xiong, Randall J Bateman, Bernardino Ghetti, John M Ringman, Jasmeer Chhatwal, Colin L Masters, Catriona McLean, Tammaryn Lashley, Yi Su, Robert Koeppe, Clifford Jack, William Klunk, John C Morris, Richard J Perrin, Nigel J Cairns**, and Tammie LS Benzinger**. Comparing amyloid-β plaque burden with antemortem PiB PET in autosomal dominant and late-onset Alzheimer disease. *Acta Neuropathologica*. https://doi.org/10.1007/s00401-021-02342-y

2021   Anna H Boerwinkle*, Julie K Wisch*, **Charles D Chen**, Brian A Gordon, Omar H Butt, Suzanne E Schindler, Courtney Sutphen, Shaney Flores, Aylin Dincer, Tammie LS Benzinger, Anne M Fagan, John C Morris, and Beau M Ances. Temporal correlation of CSF and neuroimaging in the Amyloid-Tau-Neurodegeneration model of Alzheimer disease. *Neurology*. https://doi.org/10.1212/WNL.0000000000012123

2020   **Charles D Chen**, Timothy R Holden, Brian A Gordon, Erin E Franklin, Yan Li, Dean W Coble, Hongbo Luo, Randall J Bateman, for the Dominantly Inherited Alzheimer Network (DIAN), for the Dominantly Inherited Alzheimer Network Trials Unit (DIAN-TU), Beau M Ances, Richard J Perrin, Tammie LS Benzinger, Nigel J Cairns, and John C Morris. Ante- and postmortem tau in autosomal dominant and late-onset Alzheimer disease. *Annals of Clinical and Translational Neurology*. https://doi.org/10.1002/acn3.51237

2019   Brian A Gordon, Tyler M Blazey, Jon Christensen, Aylin Dincer, Shaney Flores, Sarah Keefe, **Charles Chen**, Yi Su, Eric M McDade, Guoqiao Wang, Yan Li, Jason Hassenstab, Andrew Aschenbrenner, Russ Hornbeck, Clifford R Jack, Jr, Beau M Ances, Sarah B Berman, Jared R Brosch, Douglas Galasko, Serge Gauthier, James J Lah, Mario Masellis, Christopher H van Dyck, Mark Mintun, Gregory Klein, Smiljana Ristic, Nigel J Cairns, Daniel S Marcus, Chengjie Xiong, David M Holtzman, Marcus E Raichle, John C Morris, Randall J Bateman, and Tammie LS Benzinger. Tau PET in autosomal dominant Alzheimer's disease: relationship with cognition, dementia and other biomarkers. *Brain*. https://doi.org/10.1093/brain/awz019

2019   Qing Wang, Yong Wang, Jingxia Liu, Courtney L Sutphen, Carlos Cruchaga, Tyler Blazey, Brian A Gordon, Yi Su, **Charlie Chen**, Joshua S Shimony, Beau M Ances, Nigel J Cairns, Anne M Fagan, John C Morris, and Tammie LS Benzinger. Quantification of white matter cellularity and damage in preclinical and early symptomatic Alzheimer's disease. *NeuroImage: Clinical*. https://doi.org/10.1016/j.nicl.2019.101767

2019	Kaining Zhang, **Charles D Chen**, and Ilya E Monosov. Novelty, salience, and surprise timing are signaled by neurons in the basal forebrain. *Current Biology*. https://doi.org/10.1016/j.cub.2018.11.012
2018	Michiel Cottaar, Matteo Bastiani, **Charles Chen**, Krikor Dikranian, David Van Essen, Timothy E Behrens, Stamatios N Sotiropoulos, and Saad Jbabdi. A gyral coordinate system predictive of fibre orientations. *NeuroImage*. https://doi.org/10.1016/j.neuroimage.2018.04.040
2016	Noah M Ledbetter, **Charles D Chen**, and Ilya E Monosov. Multiple mechanisms for processing reward uncertainty in the primate basal forebrain. *Journal of Neuroscience*. https://doi.org/10.1523/jneurosci.1123-16.2016

Book chapters

2014	David C Van Essen, Saad Jbabdi, Stamatios N Sotiropoulos, **Charles Chen**, Krikor Dikranian, Tim Coalson, John Harwell, Timothy EJ Behrens, and Matthew F Glasser. Mapping connections in humans and non-human primates: aspirations and challenges for diffusion imaging. *Diffusion MRI: From Quantitative Measurement to In vivo Neuroanatomy*. https://doi.org/10.1016/B978-0-12-396460-1.00016-0

Conference talks

2026	**Charles D Chen**, Jessie Fanglu Fu, Amal Tiss, Elliott Slade, Emma Thibault, Keith A Johnson, and Julie C Price. The effects of ^{18}F-MK-6240 PET extracerebellar off-target signal on the cerebellum and its substructures. *Human Amyloid Imaging (HAI)*
2024	**Charles D Chen**, Erin E Franklin, Yan Li, Nelly Joseph-Mathurin, Aime L Burns, Guoqiao Wang, Tammie LS Benzinger, Randall Bateman, and Richard J Perrin. Autopsy findings versus biomarker outcomes in a clinical trial of anti-Aβ therapies in dominantly inherited Alzheimer disease. *American Association of Neuropathologists (AANP)*
2024	**Charles D Chen**, Erin E Franklin, Yan Li, Nelly Joseph-Mathurin, Aime L Burns, Diana A Hobbs, Austin A McCullough, Stephanie A Schultz, Chengjie Xiong, Guoqiao Wang, Tammie LS Benzinger, Randall Bateman, and Richard J Perrin. Anti-amyloid-beta treatment effects on dominantly inherited Alzheimer disease neuropathology: Preliminary autopsy findings from the DIAN-TU-001 trial of gantenerumab or solanezumab. *Alzheimer's and Parkinson's Diseases Conference (AD/PD)*
2021	**Charles D Chen**, Jordan A Lang, Shaney Flores, Suzanne E Schindler, Anne M Fagan, John C Morris, Tammie LS Benzinger, and Maria Rosana Ponisio. Concordance of PET tau visual reads with PET tau quantification and CSF pTau. *Radiological Society of North America (RSNA)*
2020	**Charles D Chen**, Timothy R Holden, Brian A Gordon, Erin E Franklin, Richard J Perrin, John C Morris, Randall Bateman, Tammie LS Benzinger, Nigel J Cairns, and for the Dominantly Inherited Alzheimer Network (DIAN). Tauopathy in autosomal dominant and late-onset Alzheimer disease. *Alzheimer's Association International Conference (AAIC)*
2013	Stamatios N Sotiropoulos, **Charlie Chen**, Krikor Dikranian, Saad Jbabdi, Timothy EJ Behrens, David C Van Essen, and Matthew F Glasser. Comparison of diffusion MRI predictions and histology in the macaque brain. *International Society for Magnetic Resonance in Medicine (ISMRM)*. <u>ISMRM Merit Award summa cum laude</u>

Conference posters

2025	**Charles D Chen**, Cinthya Aguero Murillo, Alexandra Melloni, Emma G Thibault, Jessie Fanglu Fu, Michelle E Farrell, Cristina Lois, Teresa Gomez-Isla, Reisa A Sperling, Keith A Johnson, and Julie C Price. Preliminary autopsy findings from the Harvard Aging Brain Study. *Alzheimer's Association International Conference (AAIC)*
2025	**Charles D Chen**, Jessie Fanglu Fu, Oula Puonti, Emma Thibault, Keith A Johnson, and Julie C Price. Two distinct sources of ^{18}F-MK-6240 off-target signal identified by individualized head modeling and PET kinetics. *Human Amyloid Imaging (HAI)*
2024	**Charles D Chen**, Erin E Franklin, Yan Li, Nelly Joseph-Mathurin, Aime L Burns, Diana A Hobbs, Austin A McCullough, Stephanie A Schultz, Guoqiao Wang, Tammie LS Benzinger, Randall Bateman, the DIAN-TU & DIAN-Obs Study Teams, and Richard J Perrin. Anti-Aβ treatment effects on dominantly inherited AD: comparing neuropathology findings with biomarker outcomes from the DIAN-TU-001 trial of gantenerumab or solanezumab. *Alzheimer's Association International Conference (AAIC)*

2021   **Charles D Chen**, Austin A McCullough, Brian A Gordon, Nelly Joseph-Mathurin, Guoqiao Wang, Yan Li, Chengjie Xiong, Michael J Pontecorvo, Gregory Klein, Sergey Shcherbinin, Ixavier A Higgins, Colin L Masters, David B Clifford, Christopher H van Dyck, Mario Masellis, Ging-Yuek Robin Hsiung, Serge Gauthier, Randall J Bateman, Eric McDade, Stephen P Salloway, and Tammie LS Benzinger. [11C]PiB and [18F]AV45 PET radiotracers show different rates of amyloid-β clearance. *Alzheimer's Association International Conference (AAIC)*

2020   **Charles Chen**, Brian A Gordon, Austin McCullough, Aiad Zaza, Christopher Mejias, Aylin Dincer, Shaney Flores, Sarah Keefe, Angela Paulick, Kelley Jackson, Deborah Koudelis, Yi Su, John C Morris, and Tammie LS Benzinger. Quantifying tau PET imaging reliably in the presence of off-target binding. *Human Amyloid Imaging (HAI)*. <u>Young Investigator Award Finalist</u>

2018   **Charles D Chen**, Leah A Gilligan, Qing Wang, Erin E Franklin, Richard J Perrin, Nigel J Cairns, John C Morris, Yong Wang, and Tammie LS Benzinger. Evaluating neuroimmune imaging as a biomarker of tissue cellularity in postmortem human brain. *Alzheimer's Association International Conference (AAIC)*

2016   **Charles D Chen** and Ilya E Monosov. Reward-timing prediction errors in the brain. *Society for Neuroscience (SfN)*