Charles D. Chen

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Education

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

Experience

Harvard University · MGH   2023-present
Research fellow (PI: Julie C. Price)
- Established the first biomarker- and neuropsychology-to-neuropathology comparisons for the Harvard Aging Brain Study (HABS)
- Established PET/MR processing pipelines for novel radioligands in multiple sclerosis, Alzheimer disease (AD), and Down syndrome

Washington University in St. Louis   2017-2023
Research assistant (PI: Tammie L.S. Benzinger)
- Created a PET-to-histology approach to evaluate treatments in the first clinical trial in dominantly inherited AD (DIAN-TU-001)
- Provided PET validation of novel CSF (MTBR-tau243) and plasma (p-tau217) biomarkers for sporadic AD in the Knight ADRC
- 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
- Published the first articles on PET-to-histology comparisons for amyloid-β and tau in the DIAN Observational Study (DIAN-Obs)
- Established the imaging-to-pathology core committee (PAINT) for the Knight Alzheimer Disease Research Center (Knight ADRC)
- Mentored trainees in data acquisition, image analysis, computer programming, statistical modeling, and manuscript writing

Washington University in St. Louis/University of Oxford · FMRIB   2012-2015
Research assistant (PI: David C. Van Essen)
- Created the first MRI-to-histology approach to characterize gyral bias in brain maps for the Human Connectome Project (HCP)

Programming languages

Bash, MATLAB, Python, R

Honors and awards

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	$148,592
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

Service

2024-2025	*Alzheimer's Research & Therapy*	*Ad hoc* reviewer
2024-2025	*Alzheimer's & Dementia*	*Ad hoc* reviewer
2024-2025	*Brain*	*Ad hoc* reviewer
2022-2023	Quantitative Imaging Biomarkers Alliance (QIBA) Tau Profile Committee	Assistant to the co-chairs
2022-2023	Imaging Science Student Council Executive Board	Co-founder
2020-2021	*Nature Reviews Neurology*	*Ad hoc* reviewer

Publications

In press   **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*

In press   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*

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

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**, 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)*