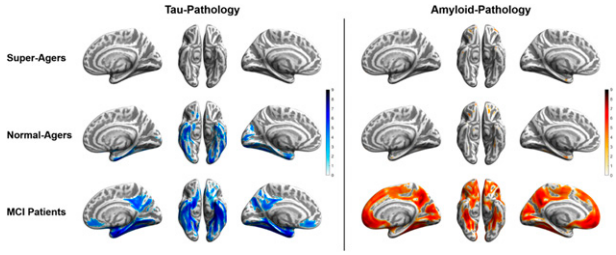
2020 SNMMI Image of the Year

On July 14, as part of the SNMMI Annual Meeting, a figure from a study exploring the relationship between high cognitive function in advanced age and resistance to tau and amyloid pathologies was named as the 2020 SNMMI Image of the Year. The study, "Resistance to tau and amyloid pathology facilitates superaging" was presented by Hoenig et al. from University Hospital Cologne, the Research Center Jülich, and the German Center for Neurodegenerative Diseases (Bonn/Cologne; all in Germany). "The phenomenon of selected individuals cognitively performing above the norm even at high age (so-called superagers) suggests that these individuals must obtain extraordinary resistance mechanisms against brain aging processes and/or neurodegeneration," wrote the authors. "However, not much is known about age-associated molecular hallmarks of neurodegeneration in superagers, particularly concerning proteinopathies, such as the accumulation of amyloid-β and tau."

Using ^{18}F-AV-1451 and ^{18}F-AV-45 PET imaging acquired as part of the Alzheimer's Disease Neuroimaging Initiative, the researchers compared intracerebral amyloid and tau burdens in 3 age- and education-matched groups of superagers, normal agers, and patients with mild cognitive impairment (MCI), all ≥80 years old. An additional control group of younger (median age, 63.2 years old) cognitively normal and amyloid-negative controls was included. Tau and amyloid burdens were compared among the 4 groups. No significant differences were seen in in vivo tau and amyloid burden between the superagers and the younger controls. The normal agers showed a higher tau burden in the inferior temporal and precuneal areas than the controls, but with no significant differences in amyloid burden. Individuals with MCI had both higher amyloid and tau pathology burdens. Differences in amyloid burden differentiated normal agers from those with MCI, and lower tau burden and lower polygenic risk differentiated superagers from those with MCI.



Tau and amyloid distribution patterns in different cognitive aging trajectories. Rows, top to bottom: superagers, normal agers, and individuals with mild cognitive impairment (MCI). Left, tau pathology (in blue). Right, amyloid pathology (in orange).

"The phenomenon of superaging appears to be associated with the resistance to tau and amyloid pathology, which likely permits maintenance of cognitive performance despite advanced age," the authors concluded "In turn, differences between normal aging and MCI appear to be driven by the level of amyloid burden. These results motivate further research to determine responsible resistance factors, which may also inspire the development of novel treatment concepts."

JNM Impact Factor Rises to New High

The Journal of Nuclear Medicine in 2019 achieved its highest ever impact factor rating, ranking fourth among all 133 medical imaging journals worldwide, according to new data released on June 29 in the annual *Journal Citation Reports* by Clarivate Analytics (Philadelphia, PA). *JNM* is the flagship publication of SNMMI. The *JNM* impact factor increased by more than 7%, from 7.354 (2018) to 7.887 (2019). The journal's immediacy index was 2.386, third highest in the medical imaging category. With a total of 26,844 citations, *JNM* had the highest total citations, 5-year impact factor, immediacy index, Eigenfactor score, and article influence score among nuclear medicine journals.

"Thanks to our creative and hard-working team of associate editors, committed editorial board, excellent reviewers, outstanding *JNM* staff, and high-quality contributions by scientists from around the globe for this significant increase in *JNM*'s impact factor," said Johannes Czernin, MD, *JNM* editor in chief and professor of molecular and medical pharmacology and chief of the Ahmanson Translational Theranostics Division at the David Geffen School of Medicine at the University of California, Los Angeles. "As a result of their tireless efforts, *JNM* ranks among the most prominent medical imaging journals published today."

The impact factor—a quantitative measure of the frequency with which an article in a journal is cited—is used to gauge the overall influence of a journal within scientific, professional, and academic communities. The immediacy index is an indicator of the speed with which citations to a specific journal appear in peer-reviewed literature.