are 3 societies offering such programs. The oldest is the Figley Fellowship from the American Roentgen Ray Society, which is now geared to young individuals practicing in the United States; and the newer Rogers International Editorial Fellowship, which, as its name implies, is available to those residing outside the United States. Fifty-seven individuals (including myself) have participated in one of these fellowships, and 7 have become journal editors (S. Cappitelli, personal communication; December 2012). The Radiological Society of North America (RSNA) and *Radiology* have offered their Olmsted Fellowship to 7 individuals, but none serve on its Editorial Board (R. Arnold, personal communication; December 2012). The Eyler Fellowship from the RSNA is designed for midcareer individuals, and I have not included it in this discussion. In the Spanish-speaking world, the Spanish Society of Medical Radiology and its journal, *Radiologia*, are the only ones to offer an editorial fellowship. ASNR and *AJNR* have recently started a similar endeavor, and information about this can be found on our blog (www.ajnrblog.org) or Web site.

In conclusion, I think that we have had some degree of early, but encouraging, success by using trainees in the peer-review process of *AJNR*. Their participation has been limited, but the results of their timely reviews do not differ significantly from those of our more senior reviewers. We hope to start implementing new measures that will increase the number of trainee reviewers, standardize their contributions, and recognize their effort.

REFERENCES

1. Lee K, Bero L. **What authors, editors and reviewers should do to improve peer review.** *Nature* (2006), http://www.nature.com/nature/peerreview/debate/nature05007.html. Accessed May 13, 2013
2. Bauerlein M, Gad-el-Hak M, Grody H, et al. **We must stop the avalanche of low-quality research.** *The Chronicle of Higher Education,* June 13, 2010, http://chronicle.com/article/We-Must-Stop-the-Avalanche-of/65890. Accessed May 13, 2013
3. Mainguy G, Motamedi MR, Mietchen D. **Peer review: the newcomers' perspective.** *PLoS Biol* 2005;3:e326
4. Proto AV. **Radiology 2007: reviewing for Radiology.** *Radiology* 2007;244:7–11
5. Provenzale JM, Stanley RJ. **A systematic guide to reviewing a manuscript.** *J Nuclear Med Technol* 2006;34:92–99
6. Callaham ML, Knopp RK, Gallagher EJ. **Effect of written feedback by editors on quality of reviews: two randomized trials.** *JAMA* 2002;287:2781–83
7. Rothwell PM, Martyn CN. **Reproducibility of peer review in clinical neuroscience: is agreement between reviewers any greater than would be expected by chance alone?** *Brain* 2000;123 (pt 9):1964–69
8. Armstrong JS. **Peer review for journals: evidence on quality control, fairness, and innovation.** *Sci Eng Ethics* 1997;3:63–84

EDITORIAL

Editorial Transition

M. Castillo, *Editor-in-Chief*

As many of our readers may know by now, we are terribly saddened by the passing of our colleague and Senior Editor, Dr Lucien Levy. Lucien brought with him considerable enthusiasm and knowledge regarding advanced neuroimaging and was a true gentleman. An obituary with details about his life is also published in this issue of the *American Journal of Neuroradiology* (*AJNR*).

We welcome Dr Jody Tanabe as our new Senior Editor in charge of advanced imaging. She is currently Professor of Radiology, Psychiatry, and Neurology at the University of Colorado, where she is also Chief of Neuroradiology. She was a radiology resident at Cornell Medical School, a neuroradiology fellow at the University of California, San Francisco, and, before moving to Denver, a neuroradiologist at New York University. Dr Tanabe's main areas of interest are neuroimaging of psychiatric and personality disorders and drug addiction, for which she has been awarded 7 NIH and foundation grants as principal investigator. She is a regular member of an NIH study section. Please join us here at *AJNR* in welcoming her; we are indeed lucky to have such a respected researcher to help us make our journal even better.

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EDITORIAL

Human Neuroimaging and the BRAIN Initiative: A Joint Statement from the ASNR and ASFNR, with the support of the RSNA, ACR, ARR, and ISMRM

G. Sze, M. Wintermark, M. Law, P. Mukherjee, and C. Hess

The BRAIN Initiative (Brain Research through Advancing Innovative Neurotechnologies), launched by President Obama on April 1, 2013, and developed by the National Institutes of Health, is the much publicized potentially multidecade Presidential focus, seeking to "revolutionize our understanding of the human brain." Its official charge is "to accelerate the development and application of innovative new technologies to construct a dynamic picture of brain function that integrates neuronal and circuit activity over time and space. The goal is to build on the growing scientific foundation of neuroscience, genetics, physics,

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engineering, informatics, nanoscience, chemistry, mathematics, and other advances of the past few decades, to catalyze an interdisciplinary effort of unprecedented scope." This exciting multiagency initiative will span the next decade and include funding commitments from the National Science Foundation ($20 million per year) and the Defense Advanced Research Programs Agency ($50 million per year). It is important that it demonstrates early successes to convince the public that the funds committed to this project are well-spent tax dollars. Also, and perhaps more important, it is crucial to demonstrate to the public that this initiative will truly impact patient care and ultimately improve the well-being of the American people.

The American Society of Neuroradiology (ASNR), representing more than 5000 neuroradiologists and brain imaging scientists, with the support of the Radiological Society of North America (RSNA), representing over 51,000 members; the American College of Radiology (ACR), representing more than 36,000 members; the International Society of Magnetic Resonance in Medicine (ISMRM), representing more than 8000 members; and the Academy of Radiology Research (ARR), which serves as the overall science policy and advocacy voice for the academic imaging research community, believes that to achieve these goals, a number of approaches need to be pursued concurrently. One approach needs to focus on cellular models and neural circuits to better understand the functioning of the brain from the bottom up. This approach will require molecular studies; large-scale recording technologies; the use of nonhuman models, such as the connectome of *Drosophila*; and viral tracer or microbial techniques to look at neurons in animal models.

A simultaneous, parallel approach is necessary to study the brain from the top down, including brain mapping and circuits. Human neuroimaging is well poised to tackle this task. We, as human brain imagers, have developed a wealth of information concerning systems integration that can be used to effectively probe the complexities of brain structure. Keep in mind that the human brain is a system that contains 100 billion neurons, each with an average of 7000 connections or synapses to other elements, regulated by more than 100 excitatory and inhibitory sets of modulators or neurotransmitters. The magnitude of this anatomic complexity is difficult to even contemplate and will surely defy attempts for accurate characterization unless the problem can be simplified by using evidence derived from functional and anatomic pathways that the brain imaging community has accumulated through decades of research.

Neuroimaging is essential for the treatment of most diseases of the brain, from acute traumatic brain injury to stroke to brain tumors to multiple sclerosis, epilepsy, and so forth. Indeed, the developers of CT and MR imaging have been awarded separate Nobel Prizes, and these tools have become indispensable for neurologic and neurosurgical care. Recently, new advances in microstructural, functional, and molecular human brain imaging have opened the way for a revolution in terms of diagnosis, outcome prediction, and treatment monitoring in even more disorders. These disorders cause great morbidity and mortality, from neurodevelopmental conditions, such as autism, to the psychiatric diseases of schizophrenia, depression, substance abuse, and so forth, to the neurodegenerative diseases, such as Alzheimer disease and Parkinson disease. These new advances include imaging human brain structural and functional connectivity as well as the development of new methods of visualizing pathology at the molecular level, such as chemical exchange saturation transfer, hyperpolarized ^{13}C MR imaging, PET with novel amyloid and τ agents, and so forth.

Both the bottom up and top down approaches will converge in the sense that both involve big data and will require specific developments in terms of computing, which has been defined as the third axis of the Initiative.

The community of brain imagers, encompassing ASNR, RSNA, ACR, ISMRM, and ARR, would like to volunteer its help and support for the human brain imaging component of the Initiative. We have the advantage that as physicians taking care of patients, we can garner public support for this multidecade funding push by demonstrating the advantages to the public of short-term health benefits, while at the same time developing longer term research goals. We have the resources and the structures necessary to facilitate large-scale collaborative efforts in terms of human brain imaging.

Once our understanding of healthy brain organization and function has advanced through this process, we as imagers and "brain health care providers" can apply this knowledge to further generate major breakthroughs in the medical management of patients with a wide variety of disorders that can afflict the human brain. We are also fortunate to have principal investigators of the Human Connectome Project and the ENIGMA consortium, a worldwide network of more than 200 imaging and genetic scientists at 125 institutions, leading translation of brain imaging and genomics into the clinic. Finally, our participation may alleviate the concerns of groups who monitor animal experiments closely.

In conclusion, as physicians and scientists taking care of patients and experts in brain imaging, we would like to pledge our support to the BRAIN Initiative and hope that we will be able to contribute to new programs that will both revolutionize our understanding of the brain and fundamentally impact the care of patients with neurologic disease.

CONTRIBUTORS

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