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Letter from the symposium chair

Gabriele Arendt

On behalf of the Organizing Committee, I want to welcome you to the 4th International Symposium on NeuroVirology and the 10th Conference on Neuroscience of HIV-infection. This marks the first time that these meetings are held conjointly.

We are most fortunate to have Professor Stanley Prusiner, the 1997th Nobel Laureate, inaugurate this meeting by delivering the Presidential Lecture. Dr. Prusiner is the leading expert on prion disease and will present an overview on new developments in this area.

There will be 11 plenary sessions on all major topics in neurovirology and HIV-1-associated diseases. Topics include cell activation and differentiation, cellular trafficking, cytokine biology, emerging viral infections, neuronal dysfunction and apoptosis, viral infections and autoimmune disease, viral neuropathogenesis, animal models, vaccine development, cerebro-spinal fluid virology, blood-brain barrier and markers of AIDS dementia, neuropsychology in HIV-infection, antiretroviral therapy, drug abuse comorbidity, HIV-1-associated peripheral nerve diseases, diagnostic neuro-imaging, prion disease, and many others. In addition to the plenary sessions, five basic science and five clinical science workshops are offered in order to provide young scientists with the opportunity to present their work to a broader audience. Specialized workshops on Borna virus, HIV-associated neuronal injury and apoptosis, excitotoxins, chemokines, and caspases are scheduled throughout the meeting.

All presentations—plenary, oral, and poster—are published in the supplement issue of the Journal of NeuroVirology and are available to conference participants and subscribers to the Journal. The meeting organizers are grateful for the opportunity to publish the abstracts and, thus, preserve the knowledge imparted by this international assembly of researchers and clinicians.

With the support and hard work of the organizers, we have attracted the leading experts in the field of neurovirology and the neuroscience of HIV-infection, all of whom have taken time from their very busy schedules to share their knowledge and expertise. The conference presenters and participants are truly international and represent 21 countries from around the world.

On behalf of the Organizing Committee, I welcome you to Düsseldorf, Germany and hope that you will find this meeting very exciting and informative.

Gabriele Arendt
Symposium Chair
On behalf of the Organizing Committee

Lecture

Presidential lecture

Chairpersons: G. Arendt (Düsseldorf, D)
D. Riesner (Düsseldorf, D)

1

Mad cows, demented people, and the biology of neurodegeneration

S. Prusiner
University of California Institute for Neurodegenerative Diseases (San Francisco, USA)

Among the neurodegenerative diseases caused by prions are Creutzfeldt-Jakob disease (CJD) of humans, scrapie of sheep and bovine spongiform encephalopathy (BSE) of cattle. Four new concepts have emerged from studies of prions. First, prions are infectious proteins that are devoid of nucleic acid. Second, prion diseases may be manifest as infectious, genetic and sporadic disorders. Third, prion diseases result from the accumulation of PrPSc, the conformation of which differs substantially from that of its precursor PrPC. Fourth, PrPSc can exist in a variety of different conformations, each of which seems to specify a specific disease phenotype.

The discovery of prions and many other findings permit a molecular definition and classification of the neurodegenerative diseases including Alzheimer's and Parkinson's diseases as well as amyotrophic lateral sclerosis (ALS), frontotemporal dementia (FTD), Huntington's disease and the spinocerebellar ataxias. All of these diseases are disorders of protein processing. Until recently clinical signs and neuropathologic lesions were the primary means of describing these disorders. Developing effective therapies for neurodegenerative diseases is likely to involve many new approaches as targets for intervention are identified. In the prion diseases, the use acridine derivatives is being widely studied as a possible therapy for these invariably fatal disorders.