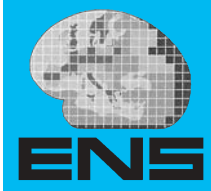
J Neurol (2004) 251 : 1425–1427
DOI 10.1007/s00415-004-0691-x



Communications of the European Neurological Society

Address for Correspondence:

Dr. Clay E. Reilly
Gstaltenrainweg 73
4125 Riehen, Switzerland

Phone and Fax (+41) 61/6015746
E-Mail: cer@datanetworks.ch

I. Dr. Pavel Seeman's ENS Fellowship Activities in Erlangen, Germany

Holders of the ENS fellowship stipend, such as Dagmara Mirowska, Ravil Mukhamedzyanov, Alexander Vrancken, Christina Papadimitriou and Antonio Orlacchio, have reported that the realisation of their scientific project in a well-equipped laboratory in another country brought with it not only rewarding experiences, but also the opportunity to build solid research co-operation with the host facility. What began as a fledgling idea by a young, talented, researcher can develop into an on-going project, a project which extends over several years for the benefit of both the host and the holder of an ENS fellowship. Synergism of this kind represents the purpose of the ENS fellowship programme, and one who has taken advantage of this opportunity to advance it into a long-term project is Pavel Seeman of Prague, Czech Republic.

Dr. Pavel Seeman, who is head of the DNA Laboratory of the Department of Child Neurology, 2nd School of Medicine, Charles University of Prague, received his first ENS fellowship stipend for the year 2003 (for more information, readers may refer to: I. Report on ENS Fellowship Project of Dr. Pavel Seeman, ENS Communications, J Neurol (2002) 249:240–241). The host institute was the Neurological Department of the University of Erlangen, Germany. Under the auspices of Prof. Dr. B. Neundörfer, and the head of the Department of Neuromuscular Diseases, Prof. Dr. D. Heuss, Pavel Seeman carried out a very successful project for a period of three months. The research co-operation was so productive that he applied for a second ENS fellowship in Erlangen for the year 2004, which was granted. Dr. Seeman's collaboration with Erlangen can now be viewed as a continuous exchange of scientific expertise, the value of which is only beginning to surface. Here is a summary of Pavel Seeman's recent research activities in the area of inherited peripheral neuropathies, such as exhibited in Charcot-Marie-Tooth (CMT) disease.

In collaboration with colleagues from the University of Erlangen, Germany, Pavel Seeman studied an interesting family with dominant deafness starting in their late teens, which was followed by late onset axonal CMT disease more than a decade later. He and his colleagues believe that the disease is caused by a novel mutation in the myelin protein zero gene (MPZ or P0), and that the hearing loss can be considered a first feature of CMT disease. This observation was recently published in the journal Neurology. Excellent equipment for studying molecular genetics at the Institute for Human Genetics in Erlangen, together with PD Dr. B. Rautenstrauss and Dr. K. Huehne, and in combination with the effective collaboration with colleagues from Erlangen's Department of Neurology, Dr. Seeman was able to study the phenotypic diversity in Czech patients with the MPZ – P0 mutations. They studied, and described, three families with 5 individuals exhibiting MPZ mutations. In two of the families with infantile onset severe demyelinating CMT disease (also known as HMSN III), they detected the same Arg98Cys mutation. In both families the mutation occurred de-novo, because the parents of the patients were unaffected and were not carriers of the mutation. Other patients with a completely different course of disease, namely late onset and axonal neuropathy with abnormal pupillar reaction, also carry a Thr124Met mutation in the MPZ gene. These patients are the first reported Czech patients with CMT due to MPZ mutations.

In general, the ENS fellowship allowed Dr. Pavel Seeman to study both clinically and molecular genet-

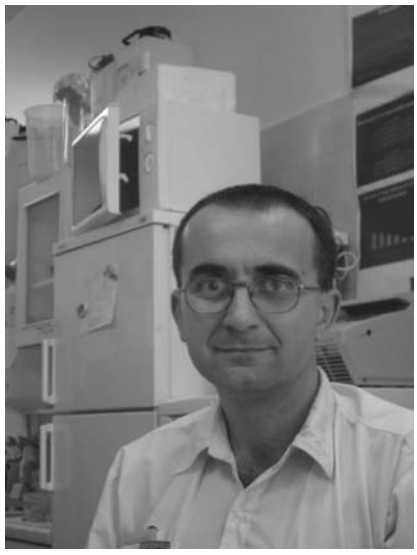
ically, Czech CMT patients and families by being able to collaborate with well-equipped neurogenetic laboratories in Europe, as well as around the world.

During their systematic molecular genetic and neurogenetic approach on the study of CMT disorders in the Czech Republic, Dr. Seeman and his colleagues were able to identify several families with autosomal dominant CMT in cases where the molecular basis remained unclear even after several gene tests. Such families were examined both clinically and electrophysiologically by their team. DNA was collected in three large, and five smaller, CMT families with unknown gene defect. In a unique family containing affected individuals within the span of at least seven generations, i. e. lived for approximately 200 years in one region in the north-eastern part of the Czech Republic, they diagnosed a distal hereditary pure motor neuropathy type II (dHMNII) disorder. This Czech family enabled the European CMT Consortium – mainly due to collaboration with the University of Antwerp – to discover the responsible gene defect in small heat shock protein 22 (HSP22), for more information refer to the June 2004 issue of Nature Genetics.

Dr. Seeman and his associates also recruited two large Czech autosomal dominant CMT2, and intermediate, families, which were examined clinically and electrophysiologically, including the collection of their DNA. These two promising families are now being tested by linkage analysis in collaboration with colleagues from Erlangen. In the first step, all known chromosomal loci for AD CMT are excluded. The next procedure is to scan the whole genome of these families, for which he and his colleagues have applied for grants from Germany, as well as the Czech Republic.

Dr. Pavel Seeman pointed out that collaboration with the University of Erlangen, and support by the ENS, allowed him to study a large and interesting family with males multiply affected by Pelizaeus Merzbacher disease, which is an X-linked recessive disorder of CNS characterised by CNS dysmyelination, early nystagmus, developmental delay, spasticity and cerebellar syndrome. In 70 % of cases a PLP1 gene duplication can be detected. Dr. Seeman and his colleagues studied this family clinically, and on the DNA level, thereby detecting an interesting recombination within the duplicated region in this family. This observation could contribute to the better characterisation of the instability of this region affecting the dose sensitive PLP1 gene. The results of this study were presented at the 14th ENS Meeting in Barcelona, Spain.

In the year 2005, Dr. Seeman and colleagues plan to continue collaboration with the University of Erlangen's Departments of Human Genetics and Neurology in order to continue the project investigating linkage analysis in Czech CMT families. During the next year, they will also clinically examine families who were not available during the initial examination program. Large scale DNA tests using large sets of microsatellite markers spread through the genome will be performed using the modern equipment of the Human Genetics Institute in Erlangen, and later in the Microsatellite Center in Berlin. Dr. Seeman noted that such procedures are not possible in the Czech Republic, and the necessary collaboration with such centres in Europe is the only possibility to perform such studies. The ENS fellowship enabled Dr. Pavel Seeman to study all the important neurogenetic topics and to improve his expertise, clinically, as well as in the laboratory, in a field which stands at the borderline between neurology and genetics.



Dr. Pavel Seeman

Dr. Pavel Seeman wishes to thank Prof. Dr. B. Neundörfer and Prof. Dr. D. Heuss, his hosts in Erlangen, for providing him with the necessary support. Dr. Seeman expresses gratitude to his colleagues in Erlangen's Institute for Human Genetics, especially PD Dr. B. Rautenstrauss and Dr. K. Huehne, along with colleagues in the Department of Neurology, for their excellent expertise and intense interest in his ENS fellowship project. Moreover, he is grateful to the ENS for awarding him the stipends to Erlangen, without which he would not have been able to realise the reported project.

Dr. Pavel Seeman may be contacted under the following addresses:
Dr. Pavel Seeman
Department of Child Neurology
DNA Laboratory
Second School of Medicine
Charles University of Prague
V úvalu 84
150 06 Prague 5, Czech Republic
E-Mail:
pavel.seeman@lfmotol.cuni.cz

Congress Announcements

The Global College of Neuroprotection & Neuroregeneration, 2nd Annual Conference

7–10 March 2005, Hilton Innsbruck, Innsbruck, Austria

The Annual Conference is designed to cover the broad spread of diseases that have some element of neurodegeneration: approached from the neuroprotection or neuroregenerative point of view.

For more information, please contact:
Mr. Russell Pendleton
Tel.: +44(0)115-9692016
Fax: +44(0)115-9692017

24th Annual Meeting of the European Malignant Hyperthermia Group

19–21 May 2005, Mainz, Germany

For further information, please contact:
Frau Dr. I. Tzanova
Klinik für Anästhesiologie
Johannes Gutenberg-Universität Mainz
Langenbeckstraße 1
55131 Mainz, Germany
Tel.: +49-6131/17-1 (Piepser 517)
Fax: +49-6131/17-6649
E-Mail: nohles@anaesthesie.klinik.uni-mainz.de

10th Meeting on the European Society of Neurosonology and Cerebral Hemodynamics

21–24 May 2005, Padova, Italy

For further information, please contact:
Ms. Annalisa Leone
Tel.: +39-049/8213600
Fax: +39-049/8751770
E-Mail: annalisa.leone@unipol.it

16th International Congress on Parkinson's Disease and Related Disorders

5–9 June 2005, Berlin, Germany

For further information, please contact:
CPO Hanser Service GmbH
Paulsborner Str. 44
14193 Berlin, Germany
Tel.: +49-30/3006690
Fax: +49-30/3057391
E-Mail: berlin@cpo-hanser.de
Website: www.parkinson-berlin.de

15th Meeting of the European Neurological Society

18–22 June 2005, Vienna, Austria

For further information, please contact:
ENS Administrative Secretariat
c/o AKM Congress Service
P. O. Box
4005 Basel, Switzerland
Tel.: +41-61/686-7711
Fax: +41-61/686-7788
E-Mail: info@akm.ch
Website: www.ensinfo.cm

XIth Congress of Neuromuscular Diseases

2–8 July 2006, Istanbul, Turkey

For more information, please contact by E-Mail:
Professor Piraye Serdaroglu at
pirayes@hotmail.com or
Haluk Topaloglu at
htopalog@hacettepe.edu.tr