

## **Andrew E. Czeizel**, Medical Geneticist

**Date and Place of Birth:** April 3, 1935; Budapest as Hungarian citizen

### **Education, Fellowship and Scientific Degrees:**

Faculty of General Medicine, Semmelweis University for Medical Sciences, Budapest (M.D.) (1953-1959), Specialty of General Laboratory (1963), Ph.D. Thesis: "Investigations on the pathogenesis of the fetal abnormalities" (1965), WHO Fellowship in Copenhagen/Glostrup, Denmark (1969) and in London and Edinburgh, UK (1971), Academic Doctorate of Medical Sciences Thesis: "Etiological studies of common isolated congenital abnormalities in Hungary" (1978), Specialty in Human Genetics (1978), Professor, Faculty of Genetics, Eötvös Loránd University of Sciences, Budapest (1996)

### **Chronology of Employment:**

Research fellow, National Institute of Hygiene (NIH) (1959-1973), Head of the newly established Laboratory of Human Genetics, NIH (1973-1988), Director of the WHO Collaborating Centre for the Community Control of Hereditary Diseases (1984-1998), Head of the newly established Department of Human Genetics and Teratology, NIH (1988-1998), Chief director of National Institute of Health Promotion (1996-1998), retirement (1998), Scientific director of Foundation for the Community Control of Hereditary Diseases (1991-)

### **International Professional Positions:**

International Clearinghouse for Birth Defects Monitoring Systems (one of 7 founders, Chairman in 1982), European Environmental Mutagen Society (President in 1988-89), 8th International Congress of Human Genetics, Washington D.C., 1991 (Vice-president), Hungarian Society for High Ability (President, 1994-2004, Emeritus president 2005-), Membership of Editorial Board of Am J Med Genet, J Med Genet, Hum Genet, Congenit Anom, Balk J Med Genet.

## **Research Areas**

### **I. Public health and/or community genetic activity**

The establishment of the **Hungarian Congenital Abnormality Registry** in 1970, several clusters were detected, e.g. a 227 fold increase of Down syndrome in Rinyaszentkirály, 1989-91 which resulted in the detection of aneuploid trichlorfon.

The establishment of the **Hungarian Case-Control Surveillance of Congenital Abnormalities** in 1980, at present this data set contains the highest number of cases and controls with prospective medically recorded exposures (drugs and maternal diseases) in the world and was used in several international collaborations.

The establishment of the **Budapest Monitoring System of Self-poisoned Pregnant Women** in 1980 because pregnant women who attempt suicide during pregnancy represent a unique "disaster epidemiological model" for the study of teratogenic and mutagenic effect of chemicals.

**Ad hoc epidemiological studies** were organized based on the active ascertainment of all possible cases with specified congenital abnormalities, these results were published in three English books.

The first modern **population genetic** study was performed in the Hungarian population based on 26 genetic markers due to the collaboration of the German and Hungarian Academy of Sciences, and the results were published in two English books.

### **II. Clinical activity**

**Genetic Counselling Clinic** was founded in NIH, 1973, and the so-called information guided counselling method was introduced in Hungary as an intermediate between the previous directive and expected non-directive counselling because the latter was not accepted by Hungarian clients.

**Periconceptional care/service** was introduced in 1984 for the prospective parents at low risk for the request of WHO and a national network was established in Hungary, 1989, first in the world. This periconceptional care provided an opportunity to organize **randomised controlled trial** to show that a multivitamin containing physiological dose of folic acid (0.8 mg) is effective for the reduction of first occurrence of neural-tube defects, in addition cardiovascular malformations, urinary tract's defects and congenital limb deficiencies

### **Honours and other Special Scientific Recognitions**

Markusovszky Award (1970, 1973), Award of the Hungarian Academy of Sciences (1976, 1979), Award for Youth (1986), Eminent Medical Doctor (1989), Grand Cross of Hungarian Republic (1995), Award for Children (1996), Medal of Ministry of Health, United Arab Emirates (1996), Kennedy Award, US (2000), Certificate of US National Council on Folic Acid (2002), Grand Star Cross of Hungarian Republic (2005), Meinhard von Pfaundler Prize for Paediatric Prevention (German Child Health Foundation) (2010), Award for Nation (2011), Award of Radnóti (2012), Semmelweis Award (2014).

### **Twin Registries and twin studies**

Establishment of the Budapest Twin Registry (BTR) in 1970-199 and of the national voluntary adult, twin registry. Twin studies in national and in international collaborations were performed with the some new findings, e.g., the detection of the hereditary model of lactose intolerance and the higher frequency of twin pregnancies of the periconceptional multivitamin supplementation containing folic acid.