Session 1: Introduction, Epidemiology and Clinical Studies
W. Herrmann – Principles of homocysteine metabolism in health and disease (D)
I. Graham – Homocysteine in the context of the total risk (IR)
J.D. Spence – Reduction of carotid plaque area by homocysteine lowering therapy (CAN)
C.D. Stehouwer – Association of blood pressure and hyperhomocysteinemia (NL)

Session 2: Hyperhomocysteinemia – Associations with Folate, Cancer and Endothelial Dysfunction
O. Stanger – Physiology of folic acid in health and disease (A)
I.F. McDowell – Folic acid improves endothelial function in CAD (UK)
J.M. Scott – The role of B-vitamins in reducing the risk for vascular disease (IR)
B. Fowler – Folate and the risk of cancer (CH)

Session 3: Associations of Hyperhomocysteinemia with Age and Neurodegenerative Diseases
P.M. Ueland – Hyperhomocysteinemia and B-vitamin deficiencies from infancy to adolescence (NO)
P.A. Weiβ – Associations of hyperhomocysteinemia with dementia and Alzheimer's disease (USA)
A. McCaddon – Homocysteine and cognitive decline in healthy elderly (UK)
G. Scalabrino – Neurotropic action of vitamin B-12 (IT)
S.J. Duthie – Homocysteine, B-vitamins, and cognitive function in the elderly (UK)

Session 4: The Role of Oxidative Stress in Hyperhomocysteinemia
H. Jakubowski – Homocysteine thiolactone: implications for atherosclerosis (USA)
J.C. Chambers – Relationship between oxidative stress of homocysteine and endothelial dysfunction (UK)
N. Weiss – Influence of hyperhomocysteinemia on the cellular redox state (D)
D. Fuchs – Moderate hyperhomocysteinemia and oxidative stress (A)

Session 5: Hyperhomocysteinemia in Women and Impaired Pregnancy
S.F. Daly – Elevated homocysteine in early pregnancy: risk factor for severe preeclampsia (IR)
H.J. Blom – Association of homocysteine and B-vitamins with the risk of neural tube defects (NL)
V. De Leo – Effects of hormone replacement therapy on the homocysteine concentration in women (IT)
K. Pietrzok – MTHFR modulates homocysteine reduction by folate treatment in women (D)

Session 6: Diet and Genetics in Hyperhomocysteinemia
J. Gielis – The role of genetic factors in the development of hyperhomocysteinemia (D)
J.L. Gueret – Increased homocysteine and genetic determinants of B-12 metabolism in neurological disorders (F)
J. Delles – Nutritional and genetic factors are determinants of homocysteine concentration (D)
A. Rydlewicz – The effect of folic acid supplementation on plasma homocysteine in an elderly population (UK)

Session 7: Associations of Thrombosis and Renal Disease with Hyperhomocysteinemia
M. den Heijer – Is hyperhomocysteinemia a risk factor for venous thrombosis? (NL)
M. Catanese – Interrelations of B-vitamins and deep vein thrombosis (IT)
J. Quist – Methylfolate and homocysteine as risk factors for venous thromboembolism (F)
G. van Guldener – Association of homocysteine and methionine metabolism with ESRD (NL)
G. Sunder-Plassmann – Treatment of hyperhomocysteinemia in ESRD (A)

Session 8: New Markers
M.C. Stühlinger – Homocysteine impairs the NOS pathway: role of ADMA (A)
R.H. Böger – Association of ADMA and endothelial dysfunction (D)
M. Naruszewicz – Effect of homocysteine on CD-36 expression in humans (PL)
E. Nexo – Holo-transcobalamin quantification: a new approach for the detection of vitamin B-12 deficiency (NO)

Posters on the topic hyperhomocysteinemia may be presented.
The Organising Committee will select which posters will be displayed after reviewing the poster abstract.
Abstract deadline: 31st January 2003
Author guidelines for abstract preparations can be found at our homepage:
www.uniklinik-saarland.de/zentrallabor/homocysteine-conference.html

Online registration available at:
www.uniklinik-saarland.de/zentrallabor/homocysteine-conference.html
Historical Aspects and Perspectives

The strong rising prevalence of chronic diseases in most of the industrialised countries causes major problems in the health system of these countries. High blood cholesterol by high fat consumption, hypertension, low physical activity, and smoking are the most discussed risk factors responsible for the high rate of heart infarction, stroke or peripheral arterial disease in these countries. Many studies and investigations have documented that a moderately elevated plasma homocysteine level is also a strong and independent risk factor for atherosclerotic vessel diseases, like heart infarction, stroke or peripheral vessel disease.

Abnormalities in the homocysteine metabolism with homocystinuria were first described in 1962 by Carson and Neill on two siblings, both with mental retardation. Gerritson et al. (1962) discovered an infant with congenital anomalies, mental retardation and provided definitive chemical proof of homocysteine excretion into the urine. Thereafter, the relationship between folate and homocysteine was described by Carey et al. (1966). Later, McCully (1969) suggested the association between homocysteine and the characteristic, premature atherosclerotic vascular disease in these patients. In 1976 Wilcken and Wilcken applied all these principles to the coronary disease population.

Nowadays, the homocysteine literature is rapidly growing. Beside the role of hyperhomocysteinemia as an important risk factor for atherosclerotic vessel diseases, elevated homocysteine levels have been recognised as a risk factor for venous thrombosis. Furthermore, hyperhomocysteinemia is discussed to play an important role in the development of neural tube defects, pregnancy complications, cognitive impairments in the elderly and several neuro-psychiatric disorders.

The prevalence of hyperhomocysteinemia as a result of vitamin deficiency is very high in the elderly population and rises strongly with advancing age. In industrialised countries the number of elderly people is rapidly growing and a great portion of this population is effected by this condition. Furthermore, supplementation with vitamins (folic acid, vitamin B-12, vitamin B-6) is efficient and inexpensive in lowering homocysteine concentrations, even in subjects without overt vitamin deficiencies. Several ongoing studies will contribute to clarify the causality of hyperhomocysteinemia and the value of homocysteine lowering therapy, especially whether this treatment may affect the progression of the atherosclerotic process.

The third conference on hyperhomocysteinemia at the Saarland University in Saarbrücken will bring together different international research groups working on various fields of hyperhomocysteinemia to exchange their experiences and to stimulate further research work. The organisers of this conference hope that the meeting will contribute to the further progress in our field of science and above all in the practical sphere in the diagnosis and treatment of patients.