



# 13<sup>th</sup> International Symposium on Hepatic Encephalopathy and Nitrogen Metabolism

The 13<sup>th</sup> ISHEN



Abano Terme (Padova) Italy  
APRIL 28<sup>th</sup> - MAY 1<sup>st</sup> 2008

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## Organizers

P. AMODIO (ISHEN President)  
A. GATTA (Director of the Veneto Regional Centre for Liver Diseases)

## Local Committee

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# PROGRAM

**Monday, April 28<sup>th</sup>, 2008**

Morning Arrival

12:00 Registration

12.30 Lunch

15.00 Opening

## **Session 1: Acute Hepatic Encephalopathy in ALF**

### **PART A: INVITED LECTURES**

**Chairs: Blei A.T. (Chicago, USA), Rose C. (Montreal, Canada)**

15:15 **Stolze Larsen F. (Copenhagen, Denmark)**

THE BRAIN IN ACUTE LIVER FAILURE

15:40 **Vaquero J. (Montreal, Canada)**

HYPOTHERMIA IN THE TREATMENT OF ACUTE LIVER FAILURE

16:0 **Jalan R. (London, UK)**

THE ROLE OF ARTIFICIAL DEVICES IN THE MANAGEMENT  
OF HE IN ACUTE AND ACUTE ON CHRONIC LIVER FAILURE

16:30 **Millis M. (Chicago, USA)**

NEW ACHIEVEMENTS IN THE DEVELOPMENT OF A BIOARTIFICIAL LIVER

17:00 Coffee break

### **PART B: SELECTED PRESENTATIONS**

**Chairs: D'Amico F. (Padua, Italy), Jalan R. (London, UK)**

17:35 **Sawara K., Desjardins P., Jiang W., Bélanger M., Kato A., Suzuki K.,**

**Butterworth R.F. (Montreal, Canada)**

ALTERATIONS IN EXPRESSION OF VASCULAR ENDOTHELIAL GENES  
IN BRAINS OF RATS WITH ACUTE LIVER FAILURE AND EFFECT  
OF MILD HYPOTHERMIA

17:50 **Cauli O., Pilar López-Larrubia, Rodrigues T. B., Cerdán S., Felipo V. (Valencia, Spain)**

MAGNETIC RESONANCE ANALYSIS OF THE EFFECTS OF ACUTE AMMONIA  
INTOXICATION ON RAT BRAIN. ROLE OF NMDA RECEPTORS

- 18:05 **Ytrebø L.M., Lindal S., Myreng K., Kristiansen R.G., Revhaug A., Rose C. (Tromsø, Norway)**  
ULTRASTRUCTURAL CHANGES OF THE BRAIN IN PIGS  
WITH ACUTE LIVER FAILURE
- 18:20 **Vaquero J., Jiang W., Rose C., Chatauret N., Butterworth R.F. (Montreal, Canada)**  
ISOLEUCINE INFUSION DOES NOT PREVENT ENCEPHALOPATHY,  
BRAIN EDEMA OR CEREBRAL LACTATE ACCUMULATION IN RATS  
WITH ACUTE LIVER FAILURE
- 18:35 **Bémeur C., Desjardins P., Qu H., Butterworth R.F. (Montreal, Canada)**  
N-ACETYLCYSTEINE SELECTIVELY MODULATES INFLAMMATORY  
CYTOKINES IN NON-ACETOMINOPHEN ACUTE LIVER FAILURE IN MICE
- 18:50 **Iversen P., Sørensen M., Vafae M.S., Borghammer P., Jensen S.B., Kristoffer Bak L., Waagepetersen H.S., Schousboe A., Ott P., Vilstrup H., Gjedde A., Keiding S. (Aarhus, Denmark)**  
DISSOCIATED CEREBRAL BLOOD FLOW AND OXYGEN METABOLISM  
IN CIRRHOSIS PATIENTS WITH ACUTE HEPATIC ENCEPHALOPATHY
- 20:00 Welcome dinner at the Congress Venue

**Tuesday, April 29<sup>th</sup>, 2008**

**Session 1: Inflammation, interleukins and brain dysfunction**

**PART A: INVITED LECTURES**

**Chairs: Gatta A. (Padua, Italy), Maes M. (Antwerp, Belgium)**

08:15 **Maes M. (Antwerp, Belgium)**

SYSTEMIC INFLAMMATION, DEPRESSION AND FATIGUE

08:40 **Myint A.M. (Munich, Germany)**

NEUROPSYCHIATRIC DISORDERS RELATED TO INTERFERON  
AND INTERLEUKIN TREATMENTS

09:05 **Annane D. (Garches, France)**

PATHOPHYSIOLOGY AND CLINICAL FEATURES OF SEPTIC ENCEPHALOPATHY

**PART B: SELECTED PRESENTATIONS**

**Chairs: Shawcross D. (London, UK), Perini G (Padua, Italy)**

09.30 **Sharifi Y., Yeoman A.D., Austin M.J., Abeles R.D., Portal A.J., Sizer E.,**

**Auzinger G., Bernal W., Wendon J., Shawcross D.L. (London, UK)**

DEFINING THE OUTCOMES OF SEVERE HEPATIC ENCEPHALOPATHY  
IN CIRRHOSIS: INFLAMMATION IS THE KEY

09.45 **Ferronato C., Amodio P., Schiff S., Burra P., Senzolo M. (Padua, Italy)**

ROLE OF HCV AND INFLAMMATION IN NEUROCOGNITIVE ALTERATIONS  
OF PATIENTS WITH HCV INFECTIONS

10.00 **Montoliu C., Urios A., Serra M.A., del Olmo J.A., Rodrigo J.M., Felipo V. (Valencia, Spain)**

IL-6 AND IL-18 IN SERUM MAY DISCRIMINATE CIRRHOTIC PATIENTS  
WITH AND WITHOUT MINIMAL HEPATIC ENCEPHALOPATHY

10:15 **Coffee Break**

**Session 2: Basic mechanisms of neurotoxicity in HE**

**PART A: INVITED LECTURES**

**Chairs: Parpura V. (Birmingham, USA), Moroni F. (Florence, Italy)**

10:45 **Carmignoto G. (Padua, Italy)**

ASTROCYTES IN BRAIN FUNCTION AND DYSFUNCTION

11:10 **Albrecht J. (Warsaw, Poland)**

A GENERAL OVERVIEW ON NEUROTRANSMISSION IN HE

11:35 **Felipo V. (Valencia, Spain)**

GLUTAMATERGIC-GABAERGIC NEUROTRANSMISSION  
AND NEURONAL CIRCUITS IN HE

12:00 **Baraldi M. (Modena, Italy)**

NATURAL BENZODIAZEPINE SOURCE AND BEHAVIOUR

## PART B: SELECTED PRESENTATIONS

Chairs: Felipo V. (Valencia, Spain), Battistin L. (Padua, Italy)

- 12:25 **Schliess F., Kruczek C., Görg B., Keitel V., Kröncke K.D., Häussinger D. (Düsseldorf, Germany)**  
HYPOSMOTIC SWELLING AND AMMONIA INCREASE INTRACELLULAR FREE ZINC AND METALLOTHIONEIN mRNA EXPRESSION IN CULTURED RAT ASTROCYTES
- 12:40 **Görg B., Qvartskhava N., Keitel V., Bidmon H. J., Selbach O., Schliess F., Häussinger D. (Düsseldorf, Germany)**  
RNA-OXIDATION BY AMMONIA IN CULTURED RAT ASTROCYTES AND RAT BRAIN IN-VIVO
- 12:55 **Konopacka A., Konopacki F.A., Albrecht J. (Warsaw, Poland)**  
INHIBITION OF PROTEIN KINASE G PREVENTS AMMONIA-INDUCED SWELLING OF ASTROCYTES
- 13:10 **Ni Y., Parpura V. (Bethesda , USA)**  
REGULATION OF EXOCYTOTIC RELEASE OF GLUTAMATE BY VESICULAR GLUTAMATE TRANSPORTERS AND CYTOPLASMIC GLUTAMATE IN ASTROCYTES

13:30 Lunch

## RECOMMENDATION SECTION

- 14:45 **Recommendations for imaging and tracer studies of HE**  
Chairs: Taylor-Robinson S. (London, UK), Berding G. (Hanover, Germany)  
Introduction: Berding G.: Imaging and tracer studies in HE  
Discussion with the floor  
Conclusions Taylor-Robinson S. and Berding G.
- 15:30 **Recommendations for neurophysiologic investigation of HE**  
Chairs: Guérit J.M. (Bruxelles, Belgium); Amodio P. (Padua, Italy)  
Introduction Guérit J.M.: Neurophysiologic investigation and its applicability to HE  
Discussion with the floor  
Conclusions Guérit J.M. and Amodio P.
- 16:15 End of the session
- 17:00 Departure for Padua
- 18:00 Official Welcome Ceremony in the Historical Main Hall of the University Palace of Padua
- 19:00 Visit to the «Ragione» Palace of Padua (13<sup>th</sup> Century) and dinner in the Major Palace

**Wednesday, April 30<sup>th</sup>, 2008**

**Session 1: Ammonia and the neurobiology of HE**

**PART A: INVITED LECTURES**

**Chairs: Butterworth R. (Montreal, Canada), Norenberg M. (Miami, USA)**

- 08:15 **Rose C. (Montreal, Canada)**  
BRAIN AMMONIA NEUROTOXICITY
- 08:40 **Norenberg M. (Miami, USA)**  
MITOCHONDRIA AND AMMONIA NEUROTOXICITY
- 09:05 **Haüssinger D. (Düsseldorf, Germany)**  
MECHANISMS OF ASTROCYTE SWELLING  
AND BRAIN DYSFUNCTION IN HE
- 09:30 **Schousboe A. (Copenhagen, Denmark)**  
BRANCHED CHAIN AMINO ACIDS ROLE IN AMMONIA HOMEOSTASIS  
AND GABA BIOSYNTHESIS

**PART B: SELECTED PRESENTATIONS**

**Chairs: Häussinger D (Düsseldorf, Germany), Schousboe A. (Aarhus, Denmark)**

- 09:55 **Kelly T., Roderigo C., Rose C.R. (Düsseldorf, Germany)**  
AMMONIUM-EVOKED ALTERATIONS IN INTRACELLULAR SODIUM  
AND pH HOMEOSTASIS INHIBIT GLUTAMATE TRANSPORT ACTIVITY  
IN CULTURED ASTROCYTES
- 10:10 **Mardini H., Blamire A., Smith F.E., Record C. (Newcastle, UK)**  
BRAIN WATER ASSESSED BY DIFFUSION WEIGHTED IMAGING CORRELATES  
WITH BLOOD AMMONIA DURING INDUCED HYPERAMMONIEMIA  
IN PATIENTS WITH CIRRHOSIS
- 10:25 **Zielinska M., Frisko I., Hilgier W., Wgrzynowicz M., Oja S.S., Saransaari P.,  
Albrecht J. (Warsaw, Poland)**  
EFFECTS OF GLUTAMINE ON THE NITRIC OXIDE-DEPENDENT  
GENERATION OF CYCLIC GMP IN AMMONIA-EXPOSED BRAIN TISSUE
- 10:40 **Perazzo J.C., Arnaiz S.L., Roselló D.M., Czemiczyniec A., Lago N., Tallis S.,  
Lemberg A., Bustamante J. (Benos Aires, Argentina)**  
HIPPOCAMPAL APOPTOSIS IN A LOW-GRADE HEPATIC ENCEPHALOPATHY  
MODEL

**10.55 Coffee Break**

## Session 2: Inter-organ nitrogen exchange, hyperammonaemia and metabolism

### PART A: INVITED LECTURES

Chairs: Vilstrup H. (Aarhus, Denmark), Marchesini G. (Bologna, Italy)

- 11:15 **Romero Gomez M. (Sivilla, Spain)**  
GUT PRODUCTION OF AMMONIA AND ITS MODULATION
- 11:40 **Garibotto G. (Genova, Italy)**  
MECHANISMS OF RENAL AMMONIA PRODUCTION  
AND PROTEIN TURNOVER
- 12:05 **Olde Damnik S. (Maastricht, The Netherlands)**  
INTER-ORGAN AMMONIA TRAFFICKING

### PART B: SELECTED PRESENTATIONS

Chairs: Schliess F. (Düsseldorf, Germany), Tessari P. (Padua, Italy)

- 12:30 **Mannaioni G., Ridola L., Angeloni S., Merli M., Carlà V., Moroni F., Riggio O. (Florence, Italy)**  
PERIPHERAL AND SPLANCHNIC INDOLE/OXINDOLE CONCENTRATION BEFORE AND AFTER TRANSJUGULAR INTRAHEPATIC PORTOSYSTEMIC SHUNT (TIPS)
- 12:45 **Angeloni S., Cerini F., Ridola L., De Santis A., Maria Salvatori F., Attili A.F., Merli M., Riggio O. (Rome, Italy)**  
INCIDENCE, NATURAL HISTORY AND RISK FACTORS OF HEPATIC ENCEPHALOPATHY AFTER TRANSJUGULAR INTRAHEPATIC PORTOSYSTEMIC SHUNT WITH POLYTETRAFLUOROETHYLENE-COVERED STENT-GRAFTS
- 13:00 **Sørensen M., Keiding S., Munk O.L., Bass L. (Aarhus, Denmark)**  
AMMONIA BACKFLUX FROM BRAIN TO BLOOD IN HUMANS WITH AND WITHOUT HEPATIC ENCEPHALOPATHY

13:15 Lunch

14:15 **Poster session**

Discussant: Taylor-Robinson S. (London, UK), Forton D. (London, UK)

15:15 **Recommendations for in vivo & in vitro experimental models of HE**

Chairs: Butterworth R. (Montreal, Canada), Felipe V. (Valencia, Spain), Ferenci P. (Vienna, Austria), Norenberg (Miami, USA)

Introduction: Butterworth R.: In vivo and in vitro experimental models of HE

Discussion with the floor

Conclusions: Felipe V. and Ferenci P.



### Session 3: Diagnostic and monitoring procedures

Chairs: Morgan M.Y. (London, UK), Zeneroli, M.L. (Modena, Italy)

- 16:00 Oria M., Chatauret N., Raguer N., Córdoba J. (Barcelona, Spain)  
MONITORING MOTOR EVOKED POTENTIALS IN AWAKE RATS ARE A GOOD TOOL TO ASSESS HEPATIC ENCEPHALOPATHY
- 16:15 Goldbecker A., Weissenborn K., Ennen J.C., Ahl B., Krause J., Süß T., Giewekemeyer K., Heidemann M., Ellringmann U., Alwan G., Tryc A., Schomerus G., Hecker H. (Hannover, Germany)  
RE-EVALUATION OF THE PSYCHOMETRIC HEPATIC ENCEPHALOPATHY SCORE
- 16:30 Sivri S., Nager W., Jackson C., Montagnese S., Heeren M., Goldbecker A., Tountopoulou A., Bahr M., Ohlmeier M., Morgan M.Y., Weissenborn K. (Hannover, Germany)  
THE SENSITIVITY & SPECIFICITY OF VARIABLES USED FOR THE DIAGNOSIS OF MINIMAL HEPATIC ENCEPHALOPATHY (HE): THE BASIS FOR A MULTICENTRE STUDY
- 16:45 Thumburu K.K., Kurmi R., Dhiman R.K., Venkataramarao S.H., Prabhakar S., Singh P., Agarwal R., Duseja A., Chawla Y. (Chandigarh, India)  
PSYCHOMETRIC HEPATIC ENCEPHALOPATHY SCORE, CRITICAL FLICKER FREQUENCY AND P300 EVENT-RELATED POTENTIAL FOR THE DIAGNOSIS OF MINIMAL HEPATIC ENCEPHALOPATHY: EVIDENCE THAT PSYCHOMETRIC HEPATIC ENCEPHALOPATHY SCORE IS ENOUGH
- 17:00 Marks M., Montagnese S., Jackson C.D., Jenkins C.W., Head I.M., Morris R.W., Morgan M.Y. (London, UK)  
DERIVATION OF A NORMATIVE UK DATABASE FOR THE PSYCHOMETRIC HEPATIC ENCEPHALOPATHY SCORE (PHES): CONFOUNDING EFFECT OF ETHNICITY AND TEST SCORING
- 17:15 Alonso J., Chavarria L., Aymerich F.X., Garcia R., Córdoba J., Rovira A. (Barcelona, Spain)  
ANALYSIS OF THE BRAIN WATER SIGNAL DECAY IN MR DIFFUSION-WEIGHTED IMAGING IN PATIENTS WITH LIVER CIRRHOSIS

17:30 **GENERAL ASSEMBLY OF THE SOCIETY**

19.30 Dinner at the Catajo Castle (16<sup>th</sup> Century)

**Thursday, May 1<sup>st</sup>, 2008**

**Session 1: Potentials confounders and miscellanea**

**PART A: INVITED LECTURES**

Chairs: Cordoba J. (Barcelona, Spain), Record C. (New Castle, UK)

08:15 **Saner F.H. (Essen, Germany)**

THE BRAIN AFTER OLTX

08:40 **Butterworth R. (Montreal, Canada)**

COMMON PATHOPHYSIOLOGIC MECHANISMS IN WERNICKE'S  
AND HEPATIC ENCEPHALOPATHIES

09:05 **Weissenborn K. (Hannover, Germany)**

HCV AND THE BRAIN

**PART B: SELECTED PRESENTATIONS**

Chairs: Romero-Gómez M. (Seville, Spain), Loguercio C. (Naples, Italy)

09:30 **Heeren M., Pflugrad H., Tillmann H.L., Arvanitis D., Bokemeyer M., Hecker H.,  
Tountopoulou A., Goldbecker A., Grosskreutz J., Peschel T., Worthmann H.,  
Weissenborn K. (Hannover, Germany)**

HEALTH RELATED QUALITY OF LIFE, FATIGUE AND COGNITIVE  
DYSFUNCTION IN PCR-POSITIVE AND PCR-NEGATIVE HCV-AFFLICTED  
PATIENTS WITH ONLY MILD LIVER DISEASE

09.45 **Campagna F., Schiff S., Ruzzoli M., Biancardi A., Raduazzo I.D., Pavanello D.,  
Dall'Arche A., Mapelli D., Pujatti P., Angeli P., Amodio P. (Padua, Italy)**

THE IMPACT OF ALCOHOL ABUSE, HCV INFECTION  
AND LIVER CIRRHOSIS ON NEUROPSYCHOLOGICAL  
AND NEUROPHYSIOLOGICAL PROFILE

10.00 **Cavalletto L., Bertazzo A., Ferri G., Bernardinello E., Comai S., Zoccarato S.,  
Perini G., Gottardo A., Gatta A., L. Chemello. (Padua, Italy)**

PREDICTION AND PREVENTION OF NEUROPSYCHIATRIC SIDE EFFECTS  
DURING ANTIVIRAL THERAPY FOR CHRONIC HEPATITIS C:  
AN INTEGRATED APPRAISAL IN OUTPATIENT HEPATOLOGIC UNITS

**10.15 Coffee Break**

## Session 2: Management of HE 2008

### PART A: INVITED LECTURES

Chairs Ferenci P. (Vienna, Austria), Riggio O. (Rome, Italy)

10:45 **Merli M. (Rome, Italy)**

DIETETIC AND NUTRITIONAL INDICATIONS IN HE

11:10 **Bengmark S. (London, UK)**

BIOECOLOGICAL CONTROL OF CHRONIC LIVER DISEASE AND HE

11:35 **Morgan M. (London, UK)**

WHAT ARE THE PROMISING TREATMENTS FOR HE?

### PART B: SELECTED PRESENTATIONS

Chairs: Dhiman. R. (Chandigarh, India), Kato A. (Iwate, Japan)

12:00 **Sharma P., Sharma B.C, Puri V., Sarin S.K. (New Delhi, India)**

AN OPEN LABEL RANDOMIZED CONTROLLED TRIAL OF LACTULOSE AND PROBIOTICS IN THE TREATMENT OF MINIMAL HEPATIC ENCEPHALOPATHY

12.15 **Mc Guire B., Gargosky S., Syplyviy V., Zupanets I. (University of Alabama, USA)**

PHARMACOKINETIC (PK) SAFETY STUDY OF SODIUM PHENYLACETATE AND SODIUM BENZOATE ADMINISTERED TO SUBJECTS WITH HEPATIC IMPAIRMENT

12.30 **Del Piccolo F., Raduazzo I.D., Marchetti P., Montagnese S., Campagna F., Biancardi A., Dall'Arche A., Pavanello D., Schiff S., Amodio P. (Padua, Italy)**

ORAL ZINC SUPPLEMENTATION IN SUBJECTS WITH MHE AND HYPOZINCEMIA: A DOUBLE BLIND PLACEBO CONTROLLED TRIAL

12.45 **Ridola L., Cerini F., Angeloni S., Marzano C., Salvatori F.M., Merli M., Riggio O. (Rome, Italy)**

COMPARISON BETWEEN COVERED STENTS WITH DIFFERENT DIAMETER FOR TIPS: PRELIMINARY RESULTS OF A RANDOMIZED CONTROLLED TRIAL

13:15 Lunch

14:15 **Poster session**

Discussant: Jalan R. (London, UK), Merkel C. (Padua, Italy)

15:15 **Recommendations for neuropsychological investigation of HE**

Chairs: Randolph C. (Chicago, USA), Weissenborn K. (Hanover, Germany)

Introduction: Randolph C.: Neurophysiological Investigation of HE

Discussion with the floor

Conclusions: Weissenborn K. and Randolph C.

- 16:00 **Recommendations for clinical diagnosis and assessment of HE**  
Chairs: Häussinger D. (Düsseldorf, Germany), Mullen K. (Cleveland, USA), Riggio O. (Rome, Italy)  
Introduction: Mullen K.: Clinical diagnosis and assessment of HE  
Discussion with the floor  
Conclusions: Häussinger D. and Riggio O.
- 16:45 **Recommendations for End points in clinical trials**  
Chairs: Cordoba J. (Barcelona, Spain), Morgan M. (London, UK), Morris R. (London, UK)  
Introduction: Morris R. End points in clinical trials: the case of HE  
Discussion with the floor  
Conclusions: Cordoba J. and Morgan M.

### Session 3: Consequences of HE

#### SELECTED PRESENTATIONS

Chairs: Mullen K. (Cleveland, USA); Yurdaydin C. (Ankara, Turkey)

- 17:15 Kircheis G., Knoche A., Hilger N., Manhart F., Schnitzler A., Schulze H., Häussinger D. (Düsseldorf, Germany)  
HEPATIC ENCEPHALOPATHY AND FITNESS TO DRIVE
- 17:30 Bajaj J., Hafeezullah M., Hoffmann R.G., Saeian K. (Milwaukee, USA)  
DRIVING IMPAIRMENT IS SEEN IN PATIENTS WITH OVERT HEPATIC ENCEPHALOPATHY DESPITE RESPONSE TO THERAPY
- 17.45 Montagnese S., Middleton B., Skene D.J., Morgan M.Y. (London, UK)  
NIGHT-TIME SLEEP DISTURBANCE IS NOT A FEATURE OF HEPATIC ENCEPHALOPATHY
- 18.00 Oikawa T., Sawara K., Kato A., Suzuki K. (Morioka, Japan)  
THE USEFULNESS OF WRIST ACTIGRAPHY IN THE DETECTION OF SLEEP DISTURBANCE IN PATIENTS WITH LIVER CIRRHOSIS

18.30 Symposium Closure and Announcement of the 14<sup>th</sup> ISHEN

20:00 Goodbye «pizza» at the Congress Venue

## Selected Posters

**Bajaj J.S., Hafeezullah M., Hoffmann R., Saeian K. (Wisconsin, USA)**

Effect of beta-blockers on minimal hepatic encephalopathy diagnosis

**Bajaj J.S. Hafeezullah M., Hoffmann R., Hammeke T., Saeian K. (Wisconsin, USA)**

Patients with minimal hepatic encephalopathy have poor insight into their driving skills

**Biancardi A., Moroni F., Amodio P., Schiff S., Campagna F., Dall'Arche A., Pavanello D., Raduazzo I.D., Carraro P., Angeli P., Gatta A., Mannaioni G. (Padua, Italy)**

Thryptophane (TRY) gut derived metabolites in minimal hepatic encephalopathy

**Campagna F., Olianas S., Mapelli D., Iannizzi P., Biancardi A., Raduazzo I.D., Dall'Arche A., Pavanello D., Schiff S., Gatta A., Amodio P. (Padua, Italy)**

PHES standardization in Italy and its comparison to EEG findings

**D'Avanzo C., Schiff S., Amodio P., Sparacino G. (Padua, Italy)**

Implementation of a Wavelet-based procedure for EEG quantification during cognitive task

**Ferri G., Zoccarato S., Ortolan M., Zanone Poma S., Ermani M., Cavalletto L., Chemello L., Perini G. (Padua, Italy)**

Preventing Interferon-induced depression in a sample of 44 chronic hepatitis C patients with risk factors for depression

**Francini-Pesenti F., Brocadello F., Manara R., Santelli L., Laroni A., Caregaro L. (Padua, Italy)**

The Wernicke's syndrome during parenteral feeding: not an unusual complication

**Heeren M., Arvanitis D., Berding G., Goldbecker A., Bokemeyer M., Tountopoulou A., Peschel T., Grosskreutzand J., Weissenborn K. (Hanover, Germany)**

Regional reductions of cerebral glucose metabolism in hepatitis c virus-afflicted patients do not depend on virus replication status

**Hole ek M., Šafránek R., Kova ík M., Šišpera L. (Hradec Králové, Czech Republic)**

Effect of changes in glutamine synthesis on protein and amino acid metabolism in skeletal muscle

**Jover M., Camacho I., Díaz D., García-Fernandez M., Madrazo A., Puche J.E., Nuñez D., García D., Castilla-Cortazar I., Gil E., Grande L., Bautista J., Romero-Gómez M. (Seville, Spain)**

Role of insulin-like grow factor type-1 (IGF-1) in hepatic encephalopathy

**Jover M., Grande L., Pardo B., Camacho I., Madrazo A., Figueruela B., Romero-Gómez M. (Seville, Spain)**

Altered oral glutamine challenge response in cirrhotics with abnormal critical flicker frequency predicts shorter survival

**Kircheis G., Bode J.G., Hilger N., Kramer T., Schnitzler A., Häussinger D. (Düsseldorf, Germany)**

Diagnostic and prognostic value of critical flicker frequency (CFF) determination in patients undergoing TIPS-implantation

**Leke R., Bak L.K., Schousboe A., Iversenc P., Sørensen M., Keiding S., Vilstrup H., Gjedde A., Ott P., Waagepetersen H.S. (Aarhus, Denmark; Porto Alegre, Brazil)**

Increased GABA biosynthesis via the TCA cycle in co-cultures of cortical Neurons and astrocytes exposed ammonia

**Mannaioni G., Ridola L., Angeloni S., Merli M., Carlà V., Moroni F., Riggio O. (Florence/Rome, Italy)**  
Increased indole plasma concentration in cirrhotic patients with hepatic encephalopathy (HE)

**Marchetti P., Orsato R., Sparacino G., Schiff S., Toffolo G., Amodio P. (Padua, Italy)**  
EEG dynamycs in cirrhosis suggests a dysfunction of basal ganglia-corticofrontal loops

**Mardini H., Saxby B., Record C. (Newcastle,U.K.)**

Paper and pencil or computer assessment of minimal encephalopathy: effect of nitrogen challenge and liver transplant

**Marotta F., Helmy A., Pathak S., Bozzani A., Lorenzetti A., Marandola P. (Pavia, Italy)**

Investigation the metabolic kinetic of nitrogen in experimental acute hepatic failure

**Pavanello D., Dall'Arche A., Orsato R., Iannizzi P., Ferri G., Bernardinello E., Cavalletto L., Chemello L., Perini G., Biancardi A., Campagna F., Raduazzo I.D., Gatta A., Amodio P. (Padua, Italy)**

Heart rate variability parallels changes in psychiatric scales in interferon-treated patients with chronic hepatitis

**Ridola L., Angeloni S., Merli M., Mecarelli O., Randi F., Accornero N., Riggio O. (Roma, Italy)**

Evaluation of hepatic encephalopathy: comparison between different diagnostic tools

**Riello L, D'Antiga L, Schiff S., Zancan L, Amodio P. (Padua, Italy)**

Clinical features of portal hypertension due to portal vein thrombosis: preliminary data on the existance of minimal hepatic encephalopathy

**Schiff S., Veronese E., Sparacino G., Toffolo M.G., Bisiacchi P., Gatta A., Amodio P. (Padua, Italy)**

Mechanisms of P300 amplitude reduction in cirrhotic patients

**Sharma P., Sharma B.C, Puri V., Sarin S.K. (New Delhi, India)**

Critical flicker frequency for assessing recovery of minimal hepatic encephalopathy

**Sharifi Y., Yeoman A.D., Austin M.J., Abeles R.D., Portal A.J., Sizer E., Auzinger G., Bernal W., Wendon J., Shawcross SD.L. (London, UK)**

Defining the outcomes of severe hepatic encephalopathy in cirrhosis: inflammation is the key

**Tessari P., Kiwanuka E., Vettore M., Cecchet D., Orlando R. (Padua, Italy)**

Phenylalanine and tyrosine kinetics in compensated liver cirrhosis: effects of meal ingestion

**Villano G., Turato C., Gatta A., Amodio P., Pontisso P. (Padua, Italy)**

High brain expression of squamous cell carcinoma antigen enhances brain injury in a transgenic mouse model of acute liver failure: a pilot study

**Wegrzynowicz M., Dybel A., Bogacinska-Karas M., Albrecht J. (Warsaw, Poland)**

Increased expression and/or activity of amino acid transporters and enzymes involved in glutathione synthesis and release in ammonia-treated glial cells

**Zileri Dal Verme L., Gaspari R., Avolio A.W., Merra G., Santoro M., Castagneto M., Proietti R., Gasbarrini A. (Rome, Italy)**

Molecular adsorbent recirculating system in patients with primary non-function and other causes of graft dysfunction after liver transplantation

## ENDORSEMENTS

### Scientific societies

*European Association for the Study of the Liver*  
*Italian Association for the Study of the Liver*  
*Italian Society of Internal Medicine*  
*Italian College of Internal Medicine*

### Institutions



Veneto  
Region



Provincia  
di Padova



Città di  
Abano Terme



University  
of Padua



Padua Faculty  
of Medicine



## GENERAL INFORMATION

### Venue

HOTEL TERME ALEXANDER PALACE

Via Martiri d'Ungheria, 24 - 35031 Abano Terme (Padua) Italy

Abano Terme is 50 Km from Venice (Italy), on the railway route Venice-Bologna (50 min from Venice). Connection to Venice Airport is provided by a shuttle taxi service. Detailed information can be obtained from the Symposium website ([www.ishen.org/symposium13.htm](http://www.ishen.org/symposium13.htm))

### Organizing Agency

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### Registration & Accommodation

<http://www.sabiwork.it/internationalconferences.php>

### ECM

15 Italian credits will be given to this course's participants.

13<sup>th</sup> International Symposium  
on Hepatic Encephalopathy  
and Nitrogen Metabolism  
The 13<sup>th</sup> ISHEN

Abano Terme (Padova) Italy  
April 28<sup>th</sup> - May 1<sup>st</sup> 2008

Secretariat

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