



# INFANT VISION

**4th Meeting of the Child Vision Research Society**

**EBBS Workshop**

**LYON**

**11 - 13 July 1993**

*SPONSORED BY "FÉDÉRATION DES AVEUGLES DE FRANCE" - LYON SECTION*

**INSERM Unité 371 - 18 avenue du Doyen Lépine 69500 F- BRON  
Tel (33) 78 54 28 62 Fax (33) 72 33 45 95**

## LOCATION

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**Address of the meeting : Salle Molière,  
18-20, quai de Bondy - Lyon 5ème**

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**Further information :  
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Unité 371 INSERM  
Cerveau et Vision  
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69500 BRON  
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## GENERAL PROGRAMME

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### Sunday 11 July

- 13.00      Opening of the meeting  
13.15      Session 1      Anatomy and physiology  
15.00      Session 2      Psychophysics (Part I)

**18.00**      **VIDEOREFRACTION (SEE BELOW)**

### Monday 12 July

- 09.00      Session 2      Psychophysics (Part II)  
10.00      Session 3      Refractive errors  
11.15      Session 4      Amblyopia and clinical assessment (Part I)  
  
14.00      Poster session I  
15.30      Session 4      Amblyopia and clinical assessment (Part II)  
18.00      *Reception at the Hôtel de Ville (XVI<sup>e</sup> Century Palace)*  
20.00      *Organ and Trumpet Concert*

### Tuesday 13 July

- 09.30      Session 5      Cognitive development  
11.00      Session 6      Pathology  
  
14.00      Poster session II  
15.45      Session 7      Therapy and rehabilitation  
17.00      Closing lecture  
20.00      *Social Banquet on a boat along the Rhône and Saône Rivers*

### Wednesday 14 July

*Bastille Day*

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### Sunday 11 July

**18.00**      **TOMEY AG ORGANIZES A WORKSHOP :**

**THE VRB-100 VIDEOREFRACTOR : A COMPUTERIZED INSTRUMENT FOR  
THE COMPLETE ANALYSIS OF THE VISUAL FUNCTION**

**AT HOTEL PHENIX (100 METERS OUTSIDE THE CONFERENCE HALL ON YOUR LEFT)**

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## PROGRAMME

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### Sunday 11 July

13.00 - Opening of the meeting

**SESSION 1 : ANATOMY AND PHYSIOLOGY** Chairman **T. Movshon**  
(New-York)

- 13.15 - **AB. FULTON & R. HANSEN** - Boston (USA)  
Development of human rod function, normal and abnormal
- 13.35 - **H. KENNEDY & C. DEHAY** - Lyon (France)  
Primate corticogenesis
- 13.55 - **C. DISTLER, LG. UNGERLIEDER, J. BACHEVALIER & M. MISIKIN**  
Bochum (Germany)  
Functional development of the cortical pathway for motion analysis in the macaque monkey
- 14.15 - **C. BLAKEMORE & F. VITAL-DURAND** - Oxford (UK), Lyon (France)  
Primate models for the study of visual development
- 14.35 - **J. BULLIER & P. GIRARD** - Lyon (France)  
The physiological basis of blind sight

15.00- *PAUSE*

**SESSION 2 : PSYCHOPHYSICS**  
**Part I : Chairman O. Braddick Cambridge (UK)**

- 15.30 - **R. SIRETEANU** - Frankfurt (Germany)  
The development of the visual field : results from human and animal studies
- 15.45 - **L. KIORPES** - New York (USA)  
Contrast sensitivity development in the central and peripheral visual field in monkeys
- 16.00 - **L. HAINLINE & PM. RIDDELL** - Brooklyn (USA)  
The development of accommodation and convergence in infancy
- 16.15 - **S. LEAT & J. GARGON** - Ontario (Canada)  
Accommodative response in children : results in normal, low vision and special populations
- 16.30 - **C. WESTALL, M. EIZENMAN & K. SAUNDERS** - Toronto (Canada)  
Measurement of binocular function in infants
- 16.45 - **R. HELD, F. THORN & J. GWIAZDA** - Cambridge (USA)  
Concomitant development of sensory and motor binocularity
- 17.00 - **JL. BARBUR** - London (UK)  
Methods for studying chromatic processes in human vision
- 17.15 - **K. KNOBLAUCH** - New York (USA)  
Beyond the brightness question in human infant color vision.
- 17.30 - **MC. MORRONE, DC. BURR & A. FIORENTINI** - Pisa (Italy)  
Spatial and temporal properties of infant contrast sensitivity to chromatic stimuli
- 17.45 - **O. BRADDICK, J. ATKINSON & J. WATTAM-BELL** - Cambridge (UK)  
Infants' sensitivity to second order motion

**Monday 12 July**

**SESSION 2 : PSYCHOPHYSICS**

**Part II : Chairman L. Hainline (New-York)**

- 09.00 - O. BRADDICK, J. ATKINSON & B. HOOD - Cambridge (UK)  
Application of the elite motion analysis system to visuo-motor studies of infants and young children
- 09.15 - C. BUQUET, J. CHARLIER, A. DESMIDT & D. QUERLEU - Lille (France)  
Evaluation of spatial discrimination performances of infants with the visual pursuit of pattern stimuli
- 09.30 - F.A. SERGIENKO - Moscow (Russia)  
Infants eye movements under conditions of dynamic stimulation of different perceptive complexity
- 09.45 - J. WATTAM-BELL - Cambridge (UK)  
The development of sensitivity to motion direction

**SESSION 3 : REFRACTIVE ERRORS Chairman A Fielder (Birmingham)**

- 10.00 - MA. ANGI & E. PILOTTO - Padova (Italy)  
Photorefracton for the detection of amblyogenic defects : past and present
- 10.15 - F. THORN, J. GWIAZDA & R. HELD - Cambridge (USA)  
Interpreting infantile refractive measurements
- 10.30 - J. GWIAZDA, F. TIORN & R. HELD - Cambridge (USA)  
Prediction of myopia in children

10.45- *PAUSE*

**SESSION 4 : AMBLYOPIA AND CLINICAL ASSESSMENT**

**Part I : Chairman R. Boothe (Atlanta)**

- 11.15 - J. ATKINSON, O. BRADDICK & B. HOOD - Cambridge (UK)  
Plasticity of cortical mechanisms in human visual development
- 11.30 - P. APKARIAN - Rotterdam (The Netherlands)  
Practical application of the visual evoked potential in pediatric neuro-ophthalmology
- 11.45 - J. CHARLIER & X. ZANLONGHI - Lille (France)  
Evaluation of spatial discrimination performances of infants with the frequency analysis of pattern visual evoked potentials
- 12.00 - TH. BARANOWSKA-GEORGH, M. DANIEYKO-OSMAN, J. LITWINSKA & L. PUCHALSKA-NIEDBAL - Szczecin (Poland)  
Ophthalmological screening examinations in premature and 3-month old mature-born infants

12.15- *LUNCH*

- 14.00 - **POSTER SESSION I** (presentation of 17 posters)  
Ch. Aktouche n°1 to B. Hood n°17

**SESSION 4 : AMBLYOPIA AND CLINICAL ASSESSMENT**

**Part II : Chairman DC. Burr (Pisa)**

- 15.30 - A. RYDBERG, B. ERICSON, L. JACOBSON, G. LENNESTRAND & E. LINDSTEDT  
Huddinge (Sweden)  
Assessment of vision in children aged 0-1 1/2 years
- 15.45 - F. VITAL-DURAND, L. AYZAC & G. PINZARU - Lyon (France)  
Acuity cards and the determination of risk factors in infant visual development
- 16.00 - R. JAYATUNGA, A. BHIDE, A. WADE, K. DREW & P. SONKSEN - London (UK)  
Evaluation of tests of visual acuity

- 16.15 - PP. SCHMIDT, I.CJ. WOOD & S LEWIN- Columbus (USA), Manchester and Liverpool (UK)  
 Dioptic blur, grating acuity and stereoacuity in infants
- 16.30 - J. VAN HOF-VAN DUIN & JWR. POIT - Rotterdam (The Netherlands)  
 The Rotterdam C-chart : visual acuity values obtained in very low birthweight and-or very prematurely born children at the age of 5 years

**Tuesday 13 July**

**SESSION 5 : COGNITIVE DEVELOPMENT Chairman P. Apkarian (Rotterdam)**

- 09.30 - S. De SCHONEN, C. DERUELLE, O. PASCALIS & J. MANCINI - Marseille (France)  
 Face processing : a developmental neurocognitive approach
- 09.45 - B. HOOD, J. ATKINSON, T. MC CORMICK, S. RAF & C. HUGHES - Cambridge (UK)  
 Visuo-spatial problem solving using the Cambridge test tubes
- 10.00 - V.I.A. TATKO - Moscow (Russia)  
 Main determinants of human visual perception and decision making
- 10.15 - SA. MARINOV - Bratislava (Rep of Slovakia))  
 Discrimination of textures without eye movement

10.30 - *PAUSE*

**SESSION 6 : PATHOLOGY Chairman RII. Duckman**

- 11.00 - RG. BOOTHIE - Atlanta (USA)  
 Visual development following treatment of a unilateral infantile cataract
- 11.15 - A. SJÖSTRÖM, M. ABRAHAMSSON, E. BYIIR & J. SJÖSTRAND - Göteborg (Sweden)  
 Congenital cataract treatment and visual outcome in a swedish region
- 11.30 - J. SHALLO-HOFFMANN, A. MORLAND, J. ACJIESON & M. GREYTY - London (UK)  
 A comparison of nasally - temporally - directed motion perception in subjects with latent nystagmus
- 11.45 - G. CIONI, AE. IPATA, R. CANAPICCHI, B. FAZZI & J. VAN HOF-VAN DUIN  
 Callambrone-Pisa (Italy)  
 Cortical visual impairment in small children : a MRI study

12.00- *LUNCH*

- 14.00 - **POSTER SESSION II** (presentation of 20 posters)  
 D. Karczewicz n°18 to AJ. Wilkins n°37

**SESSION 7 : THERAPY & REHABILITATION Chairman I. Hyvarinen**

- 15.45 - A. FIELDER, E. MOSELEY, R. AULD, K. COCKER, M. IRWIN & H. JONES  
 Birmingham (UK)  
 Objective and subjective measurement of compliance in amblyopia therapy
- 16.00 - RH. DUCKMAN - New York (USA)  
 Visual rehabilitation in severely impaired, multiply-handicapped children
- 16.15 - S. PORTALIER & F. VITAL-DURAND - Lyon (France)  
 Visual instrumentation for use with visually deficient children : Point Mobile

16.30 - *PAUSE*

**CLOSING LECTURE**

- 17.00 - J.A. MOVSHION & L. KIROPES - New York (USA)  
 Biological limits on visual development

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## POSTER SESSIONS

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Ch. AKTOUCHE - Bordeaux (France)

Global care of low vision babies and young children from an orthoptic point of view

J. ATKINSON, F. MACPHERSON, S. RAE & C. HUGHES - Cambridge (UK)

Block constructions in young children : development of spatial grouping ability

J. ATKINSON, F. WEEKS, S. ANKER, S. RAE, F. MACPHERSON & C. HUGHES

- Cambridge (UK)

VEP and Behavioural measures for delayed visual development in VLBW infants

J. ATKINSON, S. ANKER, O. BRADDICK, E. EHRLICH & J. WATTAM-BELL - Cambridge (UK)

Non-cycloplegic videorefraction : applications to infant refractive screening

P. BARONE, C. DEHAY, M. BERLAND, J. BULLIER & H. KENNEDY - Lyon (France)

Remodelling of cortical connections during fetal development in the monkey

P. BARONE, S. RICHARD, M. BERLAND, C. DEHAY & H. KENNEDY - Lyon (France)

Changes in acetylcholinesterase distribution in the visual cortex of developing monkey : relation with cytochrome oxidase activity

M. BOURRON-MADIGNIER, C. HABAULT, S. VETTARD & A. JACQUIN - Lyon (France)

Clinical use of OKN

RJ. BROWN, AM NORCIA, RD HAMER, JR, WILSON & RG BOOTHE - Atlanta and

San Francisco (USA)

Cortical and behavioral development of visual motion processing in the monkey and human infant

I. CARCION & H. BLOCH - Paris (France)

Early beginnings and onset of eye head coordination in young infants

RMW. CHAU, F. REN & ZH. LIANG - Hong Kong (HK)

Active immunity developed against retinoblastoma with isolated or cloned retinal ganglion neurotrophic factors

K. COCKER, M. MOSELEY, J. BISSENDEN & A. FIELDER - Birmingham (UK)

Pupillary responses to grating stimuli in human infants

RH. DUCKMAN & DE. FITZGERALD - New York (USA)

Intra-ocular pressure in children from birth to six years of age

DL. EHRLICH, S. ANKER & OJ. BRADDICK - Cambridge (UK)

On- and Off-axis refractions of infants

E. FAZZI, J. LANNERS, A. MARTINI & G. LANZI - Pavia (Italy)

Blind children : neurodevelopmental outcome in first 3 years of life

CM. HARRIS, M. JACOBS, F. SHAWKAT & D. TAYLOR - London (UK)

Binocular and Monocular Optokinetic nystagmus in infants from 1 to 7 months

L. HYVÄRINEN - Espoo (Finland)

Contrast sensitivity in preschool children

D. KARCZEWICZ, K. MOZOLEWSKA-PIOTROWSKA, O. PALACZ,  
E. PIENKOWSKA MACHOY, T. ADAMCZYK & J. NOWAK - Szczecin (Poland)  
Evaluation of the visual organ in children with IDDM

L. KONDROTAS - Kaunas (Lithuania)  
Surgical treatment of primary optic nerve tumours

A. KRISS, IC. LLOYD, BG. JEFFREY, I. RUSSEL-EGGITT & D. TAYLOR - London (UK)  
Detecting optic nerve hypoplasia in young children : A role for ERG and VEP recording

F. MACPIHERSON, S. RAF, C. HUGHES, J. ATKINSON & S. ANKER - Cambridge (UK)  
ATKINSON battery of child development for examining functional vision (ABCDEFV)

JP. MENU, C. DE LA PORTE DES VAUX, C. HOLZCHUCH & C. CORBE - Bretigny/Orge  
(France)  
Evaluation and rehabilitation method for functional vision

B. NEU & R. SIRETEANU - Frankfurt (Germany)  
Visual acuity assessment in multiply handicapped children

O. PASCALIS, C. DERUELLE, M. FABRE-GRENET, S. de SCHONEN & J. MORTON  
Marseille (France)  
Do 3 to 5 day old neonates recognize their mother's face or head ?

A. PICARD - Garches (France)  
Visual impairment in periventricular leukomalacia

S. RETHY - Dinslaken (Germany)  
Sensitive phase of binocularity determined by extreme rapid adaptations of the infantile brain  
to repeated esodeviation

C. RIETH & R. SIRETEANU - Frankfurt (Germany)  
How do infants perceive subjective contours ?

C. RIETH & R. SIRETEANU - Frankfurt (Germany)  
Texture segmentation in infants : the influence of test field size

D. RODIER, K. RAYE & D. MAYER - Boston (USA)  
Unorthodox acuity card testing : modes, tester reliability and notable cases

AT. SALT, A. WADE, R. JAYATUNGA & PM. SONKSEN - London (UK)  
The maturation of linear acuity and compliance with the Sonksen Silver Acuity in young children

P. STIERS, P. De COCK & E. VANDENBUSSCHE - Leuven (Belgium)  
Perceptual difficulty of unconventional object views in multihandicapped children and normal adults

S. TSUNEISHI - Leuven (Belgium)  
A longitudinal study on the development of visual evoked responses in preterm infants

D. A. THOMPSON, IC. LLOYD, J. DOWLER, BG. JEFFREY, I. RUSSEL-EGGITT,  
D. TAYLOR & A. KRISS - London (UK)  
Maturation of infant grating acuity

R. VAN DIJK - St-Michielsgestel (The Netherlands)  
Effect of early stimulation

R. VANDERKELEN, J. VAN HOEYMISSEN & E. VANDENBUSSCHE - Huldenberg (Belgium)  
Computer assessment of visual object recognition : the recognition of line drawings masked  
by random noise



CA. WESTALL, I. GEER & C. PANTON - Toronto (Canada)  
Signal and noise characteristics of VEPs in a clinical pediatric population

AJ. WILKINS, BJW. EVANS, J. BROWN, A. BUSBY, R. JEANES & J. BALD - Cambridge,  
London, Leeds, Gillingham and Colchester (UK)  
Double-blind placebo-controlled trial of precision spectral filters in children with reading difficulty :  
preliminary report

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### TRAVEL TO LYON

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**TRAIN** : There are two railway stations in Lyon : Lyon Part-Dieu, Lyon Perrache : both are closed to the location of the meeting and connected by Metro. Exit at Hôtel de Ville Station, go toward the Saone that you cross over Pont Lafayette. Salle Molière is just on your left when you are on the Bridge.

**AIR** : From Lyon -Satolas Airport : take the SATOBUS to Perrache Station and follow instructions above.

**CAR** : Be prepared to pay public parking and keep in mind that foreign cars are attractive to delinquents. Never leave valuables inside. Parc Saint Jean is located in front of Salle Molière.