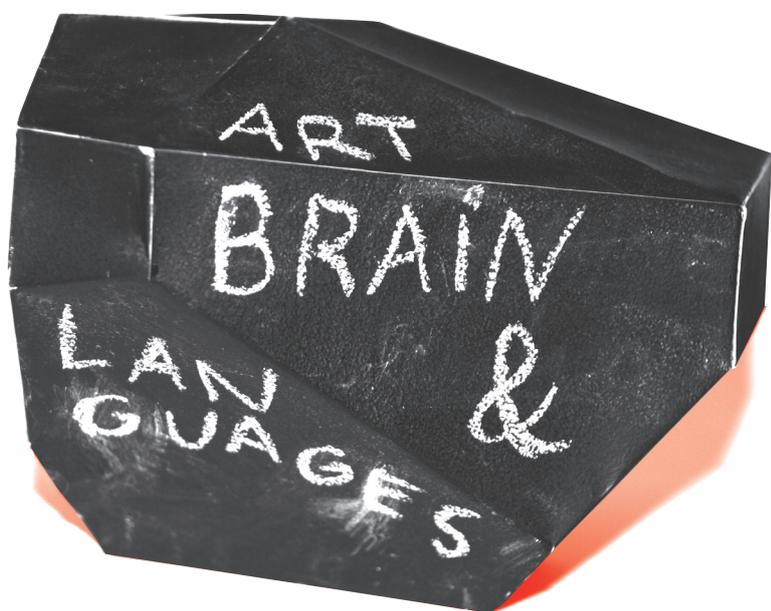


# ***2ND INTERNATIONAL CONGRESS ON ART, BRAIN & LANGUAGES***

**11 & 12TH SEPTEMBER**

**CASA DA MÚSICA / PORTO / PORTUGAL**



## INTERVENIENTS

### **Semir Zeki**

University College London,  
Institute of Neuroesthetics  
- Berkeley, California

### **Régine Kolinsky & José Morais**

Université Libre de Bruxelles,  
Research Unit in Cognitive  
Neurosciences

### **Manfred Clynes**

Georgetown University  
Washington DC

### **Tony Brooks & Eva Petersson**

Aalborg University Esbjerg  
(Denmark), Sensorama Lab

### **Ivar Hagendoorn**

Arnhem School of Dance,  
Netherlands

### **Ana Paula Almeida**

### **& Zé Paulo Neto**

Casa da Música

### **Eduardo Reck Miranda**

University of Plymouth (UK),  
Interdisciplinary Centre for  
Computer Music Research

### **Ana Monção & Rute Costa**

Centro de Linguística da  
Universidade Nova de Lisboa

### **Richard Gaulin & Isabelle Côté**

Aphasic Theatre, Montréal,  
Canadá

### **Vo' Arte**

## TECHNICAL DATA

### **SCIENTIFIC COORDINATION**

ANA MONÇÃO (CLUNL, PORTUGAL)

### **VICE-COORDINATION**

TONY BROOKS (AUE, DINAMARCA)

### **SCIENTIFIC COMMITTEE**

ANA MONÇÃO E RUTE COSTA (CLUNL,  
PORTUGAL), EVA PETERSSON E TONY  
BROOKS (AUE, DINAMARCA), PAUL  
SHARKEY (UR, UK)

### **ORGANIZING COMMITTEE**

PAULO RODRIGUES (DIR. OF  
EDUCATIONAL SERVICE OF CASA  
DA MÚSICA, ANA MONÇÃO (CLUNL,  
PSYCHOLINGUISTICS AND CLINICAL  
LINGUISTICS), ANA REBELO E  
ANDREIA PERIQUITO (CLUNL)

## ORG.

Investigation unit

*Psycholinguistics and Clinical  
Linguistics* (Centro de  
Linguística da Universidade Nova  
de Lisboa) & Casa da Música's  
Educational Service, Porto

### **MORE INFORMATION**

[www.fcsh.unl.pt/psicolinguistica](http://www.fcsh.unl.pt/psicolinguistica)

## PARTNERSHIP



casa da música

## SPONSORING



## PROGRAMME 11TH SEPTEMBER

### THURSDAY 11TH SEPTEMBER MORNING

**10:30 - 13:00** **Helping through Music**  
ICDVRAT/Artabilitation papers presentation

The participants registered in the congress A, B & L can attend to this session with no additional expense.

The participants of ICDVRAT/Artabilitation can attend to A, B & L congress with no additional costs, after registering, cf. registration form.

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### THURSDAY SEPTEMBER 11 AFTERNOON

**13:30** Secretariat opening of A, B & L

**14:00 - 15:00** Workshop & Concert Rehearsal with the **Orquestra Nacional do Porto**  
*Musical direction to be announced*  
**Tony Brooks** interactive visuals  
Programme  
**Luís Tinoco** Zapping  
**Carl Nielsen** Symphony n.º 4,  
*Inextinguishable*, final movement

**15:00 - 15:30** Coffee Break

**15:30 - 15:35** Welcoming/Opening of A, B & L

### **PART I - MUSIC & BRAIN**

**15:35 - 16:30** *How the brain dances music, and music dances the brain: a natural precise process generating emotions - while making timelessness from time:* Keynote speaker  
**Manfred Clynes** (USA)

**16:30 - 17:00** *Singing in the brain: When melody meets language* - **Régine Kolinsky** (Belgium)

**17:00 - 17:30** *Towards Music Neurotechnology for Special Needs and Therapeutic Opportunities* - **Eduardo Reck Miranda** (UK)

**17:30 - 18:00** *Music and Dyslexia* - **José Morais** (Belgium)

**18:00 - 18:30** Debate

### **RECITAL**

**19:00 - 20:30** **Manfred Clynes** on piano

## PROGRAMME 12TH SEPTEMBER

### FRIDAY SEPTEMBER 12 MORNING

### **PART II - MOTION & BRAIN**

**10:30 - 11:00** *The neurology of kinetic art* - **Semir Zeki** (UK)

**11:00 - 11:30** *Dance, Language and the Brain* - **Ivar Hagendoorn** (Netherlands)

### **PART III - VERBAL LANGUAGE & OTHER LANGUAGES**

**11:30 - 12:00** *Designing for Non-formal Learning: New Perspectives on Therapy, Learning, and Communication* - **Eva Petersson** (Denmark)

**12:00 - 12:30** *Investigation perspectives in linguistics in its relations to other sciences and arts* - **Ana Monção and Rute Costa** (Portugal)

**12:30 - 13:00** Debate

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### FRIDAY SEPTEMBER 12 AFTERNOON

### **PART IV - WORKSHOPS & SHOW**

**15:00 - 18:00** **WORKSHOPS** (See next page)

**15:00 - 16:00** **WORKSHOP A1**  
*Sound=Space - virtual electronic instrument* - **Ana Paula Almeida & Paulo Neto** (Portugal)

#### **WORKSHOP B1**

*Aphasic Theatre* - **Isabelle Côté & Richard Gauvin** (Canada)

#### **WORKSHOP C1**

*SoundScapes Virtual Interactive Space (VIS): ArtAbilitation Workshop (2)* - **Tony Brooks** (Denmark)

**16:00 - 16:30** Pause

**16:30 - 17:30** **WORKSHOP A1**  
*Sound=Space - virtual electronic instrument* - **Ana Paula Almeida & Paulo Neto** (Portugal)

#### **WORKSHOP B1**

*Aphasic Theatre* - **Isabelle Côté & Richard Gauvin** (Canada)

#### **WORKSHOP C1**

*SoundScapes Virtual Interactive Space (VIS): ArtAbilitation Workshop (2)* - **Tony Brooks** (Denmark)

**17:30 - 18:00** Pause

### **SHOW**

**18:00 - 19:00** **On Wheels** Transdisciplinary show: dance, theatre, music, circus - **Casa da Música & Vo' ARTE** (Portugal)

## HOW DO WORKSHOPS FUNCTION?

### WORKSHOPS

#### WORKSHOP A1

*Sound=Space - virtual electronic instrument* - Ana Paula Almeida & Paulo Neto (Portugal)

#### WORKSHOP B1

*Aphasic Theatre* - Isabelle Côté & Richard Gaulin (Canada)

#### WORKSHOP C1

*SoundScapes Virtual Interactive Space (VIS): ArtAbilitation Workshop (2)* - Tony Brooks (Denmark)

### FRIDAY SEPTEMBER 12 AFTERNOON

15:00 - 18:00 **WORKSHOPS**

15:00 - 16:00

#### WORKSHOP A1

GROUP A | 20 PEOPLE | ATELIER 1 & 2

#### WORKSHOP B1

GROUP C + D | 40 PEOPLE | SALA 2

#### WORKSHOP C1

GROUP B | 20 PEOPLE | SALA DE ENSAIO 2

16:30 - 17:30

#### WORKSHOP A1

GROUP C | 20 PEOPLE | ATELIER 1 & 2

#### WORKSHOP B1

GROUP A + B | 40 PEOPLE | SALA 2

#### WORKSHOP C1

GROUP D | 20 PEOPLE | SALA DE ENSAIO 2

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• Each participant can choose 2 workshops: *Aphasic Theatre* + Workshop of his preference.

• Each participant chooses/indicates the preferred workshop in the registration form: *Sound=Space - a virtual electronic instrument* or *SoundScape Virtual Interactive Space (VIS): ArtAbilitation Workshop (2)*.

• The workshops have limited attendance: *Aphasic Theatre* - 40 people max and the other 2 workshops - 20 people.

• Participants will be selected by order of registration and balance between groups will be assured.

## LECTURES / ABSTRACTS

**ANA MONÇÃO & RUTE COSTA**

*Investigation perspectives in linguistics  
in its relations to other sciences and arts*

Transdisciplinarity implies revisiting concepts and questioning subjects, it requires change and adaptation, making new paradigms emerge. On the one hand, we will report research that, in an embryonary or more developed way, has allowed to put in relation theories and methodologies specific to linguistics and other sciences and arts such as theatre, dance and areas of clinical practice (psychotherapy, psychiatry and others that have language pathologies as their object of study).

The main objective of part of this transdisciplinary work is to make available and to spread the results to the targeted community. To attain this objective it is necessary to organize and manage data, taking into account the specific characteristics of these professional communities. Therefore, we will propose ourselves to reflect upon the way in which the linguistic specific methodologies and theories contribute to the knowledge management and upon their direct relation with its applications, to be used in specific social situations.

**EDUARDO RECK MIRANDA**

*Towards Music Neurotechnology for Special  
Needs and Therapeutic Opportunities*

Enabling access to music making for people with special needs is a key concern. For instance, for those with severe physical disability (spinal cord injury at the neck, head injury or stroke) opportunities for active participation in music making are extremely limited, despite advances in technology. Whilst developments in electronic technologies take place exponentially in health care and within the music industry, there has been little development addressing the well-being and health of people with physical disability within the health and education sectors. I believe that Music Neurotechnology informed by a better understanding of how music affects the brain offers a brighter future for the development of new technologies for special needs and therapeutic opportunities. Music Neurotechnology is a new research area that is emerging at the crossroads of Neurobiology, Engineering Sciences and Music. The development of brain-computer interfaces for music is one important example of ongoing research into this exciting new area. A brain-computer interface, or BCI, allows a person to communicate with, or control computers by means of electrophysiological signals directly from the brain. Moreover, many research advances in the Neurosciences are leading to a deeper understanding of how the brain processes music. Of particular interest is the fact that music seems to engage a number of brain resources that are responsible for vital functions other than music, such as motor control, attention, memory, imagination and emotion. In addition to those with physical disability, groups who may benefit from such technologies include those with behavioral disorders and people with attention deficit hyperactivity disorder.

**EVA PETERSSON**

*Designing for Non-formal Learning: New  
Perspectives on Therapy, Learning, and  
Communication*

Implementation of information technology is evident within different sectors of society such that adoption presents new opportunities in ever-widening circles. Such widespread use includes by, and for, disabled people. Within this community it has been reported that use of IT can augment opportunities in empowerment of children with impairment, especially in respect of their 'non-formal learning' potentials. The questioning of how to best use the technology so as to optimise possibilities and overcome constraints in education, therapy and rehabilitation is an aspect of my talk.

Additionally, I reflect upon how, by questioning the technology as introduced above, interesting paradigms for design become apparent. Certain of these are application-specific and others are more generic. Such paradigms have been subject of limited research which I suggest should be extended to question from a social semiotic point of view. This is due to the fact that design is a way to configure communicative resources and social interaction (Kress & van Leeuwen, 2001) which, from my position, supports designing for non-formal learning which is at the core of my research. In this presentation, I will introduce my perspective on designing for non-formal learning by elaborating from a position at the juncture of social semiotics and Vygotskian inspired socio-cultural theories. The embodied complex processes of sign transformation, by way of modes, media, play and engagement will be discussed. To support my position I will present examples from my research.

**IVAR HAGENDOORN**

*Dance, Language and the Brain*

Is dance a language? If so, how do we determine the truth of a dance phrase and what are the rules that govern its syntactic, semantic and grammatical structure? If not, how can dance be meaningful and symbolical? I will consider these questions from the point of view of dance, language and the brain. With reference to classical ballet and classical Indian dance I will briefly review why dance is often thought of as a form of language. I will give a brief overview of different aspects of language and of the functions performed by language. I will discuss the similarities and differences between dance and sign language and review research into the mirror system, which suggests a link between action observation and language evolution. I will show how a sequence of movements can give rise to a chain of associations and how dance can be a metaphor. Finally I will discuss the ways in which both dance and language are used as metaphors to describe aspects of other domains.

## LECTURES / ABSTRACTS

**JOSÉ MORAIS**

*Music and Dyslexia*

I will first briefly examine and evaluate reported evidence of associations between musical and literacy abilities or disabilities. Then, I will describe an original experiment comparing explicit segmentation of speech and tonal stimuli on young normal readers and dyslexics. Finally, I will discuss whether there are theoretical reasons for expecting a close relationship between the two domains, which would allow the training of each kind of ability to exert a direct influence on the other.

**MANFRED CLYNES**

*How the brain dances music, and music dances the brain: a natural precise process generating emotions - while making timelessness from time*

Musical tone was invented for storing emotion: taking it out of the present and conserving it for all time, and for all people. In our present world, storing has improved greatly, but production has gone astray: If for a long time music had served to ennoble, now it serves too often to debase. Modern money pressure has enchained the lowest common denominator to market what is easiest and most lucrative. Great and noble music is branded doubly as elitist and as "classical" vis a vis identities such as "country and western", soft rock and a long list of others.

To this tragedy we juxtapose: SuperConductor II. Software that can bring great music to life, to ennoble one. The computer is enlisted in inner human aspirations: not as distraction or entertainment, but rather as a tool for the ennoblement, the real heritage of great music.

In being able to contemplate this, and to understand the process, we have been fortunate to discover laws and principles of interpretation that originate in brain function, which permit music to be realized in its subtlest emotional nature, impact and inference. Our extensive studies with music and SuperConductor have revealed that our brain uses four clocks, three of which are active in music.

Time shapes in music are biologically grounded in sentic forms, the precision of which releases neurohormones and neurotransmitters - an inherent mind-body interaction. As we know the shape of an egg, so we know the shapes of sentic time forms. But the consequences in mind-body interaction differ.

Savoring life through great music engenders compassion and joy. It can avoid and prevent planned and unplanned destruction of our inner life.

Laws we have discovered can be embodied in software, and can be used by anyone to make their own interpretations. The mystery of great music portrays, elucidates, and waves into stories emotions in real time in us awaiting to be awakened. We now know how it is done. But we don't know at all how our archive of emotions was instilled into us.

**RÉGINE KOLINSKY**

*Singing in the brain: When melody meets language*

In cognitive neurosciences, music and language have often been studied for comparing the cognitive processes involved in each of them. Indeed, some authors view music processing as a by-product of language processing (e.g., Pinker, 1997, *How the mind works*), while others argue that music involves specific computational processes (e.g., Peretz, 2006, *Cognition*).

Songs provide an ideal material to study the relations between language and music, since they naturally combine a musical dimension, the tune, and a linguistic dimension, the lyrics. Nevertheless, relatively little is known about how intimate speech and music are in song processing and memory. This topic will be discussed by examining behavioral, electrophysiological and neuroimaging evidence.

**SEMIR ZEKI**

*The neurology of kinetic art*

Prof. Zeki will speak freely about his investigation on the neurobiological basis of art, in particular, kinetic art.

## WORKSHOPS

**RICHARD GAULIN & ISABELLE CÔTÉ**

***Aphasic Theatre Workshop***

The *Aphasic Theater* workshops are meant to help aphasic persons to find ways to regain confidence in themselves. Through different types of exercises, we explore all the possibilities available that would help each individual to redefine the communication process. The range of activities goes from concentration exercises, expressive actions, improvisation, the ability to recreate situation and respond to specified requests or tasks, vocal and breathing techniques, stretching and physical activities, non speaking exercises, free association, free speech abilities, work with emotions and others.

**ANA PAULA ALMEIDA & PAULO NETO**

***Workshop Sound= Space - electronic virtual instrument***

***The body produces the sound***

Electronic virtual instrument, the Sound=Space changes all body movements into sounds. By means of this computerised technological application one can move, flow and listen. It is one of the most gratifying experiences available in the House of Music and it has excellent results at the level of art, education and therapy.

Which sounds does the body produce while moving? The question, even if weird, makes sense when one talks about Sound=Space, one of the most interesting applications of computer technology in the field of music and communication. And what may seem a very difficult thing for those who never tried it is in the end as simple as opening one's arms, jumping or raising a leg: each movement is translated into sounds.

Two simple steps may awake a piano as if the floor had invisible keys; running may involve several instruments; nodding may make bells ring. It all depends on the instructions given to a computer which is formatted to access all the types of will and that is capable of producing different music styles and an infinite variety of sounds that are either blunt and intense or light and whispering.

Within everyone's reach, Sound=Space is an electronic virtual instrument that can be tried by one or several people simultaneously. While they move, as they wish, participants see their own performance transformed into sounds.

For their characteristics and huge possibilities of creation this computerised system inspires artists, thrills the audience, in general, both children and elder people, and it opens new possibilities for citizens with special needs who manage to overcome barriers and to have an active performance in the music world through it.

Conceived by Rolf Gehlhaar, Sound=Space has been set in a permanent regime in the Orange Room of the House of Music. Ultra-sonic sensors installed in two contiguous sides capture the positions and movements made within the space and transmit information that is changed into sounds, rhythms, harmonies.

With this instrument, each person becomes a performer. Nobody takes the risk of making a mistake, everything that happens is a progress, a revelation and a way of self-expression.

**TONY BROOKS**

***SoundScapes Virtual Interactive Space***

***(VIS): ActAbilitation Workshop [2]***

***A review of the conceptualised and realised design aspects\****

(a) Conceptualised: Social and self - Interaction and Awareness; Physical-to-Virtual-to-Physical - a jigsaw metaphor

(b) Realised: "Mindset Labyrinth"- A Public and Private multisensory interactive space for creative expression, playful joy and non-formal learning.

\**Ao Alcance de Todos* (Porto, Casa da Música) contribution April 2008

Originating in 1987, *SoundScapes Virtual Interactive Space (VIS)* was first published in 1999 following many years of experiences gained from researching within institutes for people with profound impairment, those undergoing acquired brain injury rehabilitation and others from the community of disabled. The concept targets users of all ages, abilities and disposition, as well as families, careers and professionals. It has a focus on empowering creative expression and playful interactivity within sensor-rich, non-invasive responsive environments. Achievement, motivation and fun are attributes that are targeted. Improvisation for the user and improvisation by the facilitator are involved with a specific targeted mindset towards optimising experiences toward augmenting development of both via new tools to supplement traditional methods of training. The presentation for *Art, Brain and Languages* features details of the conceptualised and realised designs that contributed to 'Ao Alcance de Todos' in April 2008 in Casa da Musica, Porto. The 3D physical jigsaw concept [a work in progress] will be exemplified and available for delegates to try. *SoundScapes* is active in developing and building the company's concept of "Interactive Multisensory Environments" - interested parties are welcome to contact.

# SHOW

## **ON WHEELS**

***Transdisciplinary show:  
dance, theatre, music, circus***

Everything on wheels, going on wheels, talking about wheels, all around in this small troupe that shows up not knowing from where, but that appears mysteriously sliding. Sliding around and around, the troupe sets up, to speak out stories of the past and the future.

It is with the public that the troupe wants to dance and spin, and in a poetic form to get to know what is the limit of some and the infinity for others, or what feet's on a wheel, but the whole world...

On Wheels is a working project that integrates handicapped people with disabilities and professionals dancers and actors. This project was born from the first experience performed with participants of the Association of Cerebral Palsy in Lisbon for a project in France, as part of European Year of Inclusion and at 2nd European Forum of Young Creators of Adapted Fashion.

## **CREDITS**

### **Artistic Direction**

Ana Rita Barata

### **Executive Direction**

A. Roque

### **Co-Authors & Performers**

Rita Judas, António Oliveira,  
Julieta Rodrigues

### **Performers**

Vento do Nocte

Associação Paralisia Cerebral de Lisboa:

José Marques, Zaida Pugliese, Adelaide  
Oliveira, Jorge Granadas

### **Support Team APCL & Performers**

António Paiva, Carolina Santos

### **Vo'Arte Executive Production**

Ângela Arroja

### **Coordinator**

Célia Carmona

### **Production Assistant APCL**

Ana Melo

### **Co-Production**

APCL - CRPCCG - Vo'Arte

## BIOGRAPHIC NOTES

**ANA MONÇÃO** has a degree in Modern Languages and Literatures, Portuguese and French studies, a post-graduation in Neuropsychology and a PhD in Psycholinguistics. She is currently Professor at Universidade Nova de Lisboa and a researcher at Centro de Linguística da Universidade Nova de Lisboa, where she is the Responsible Investigator for the sub-unit Psycholinguistics and Clinical Linguistics. She was scientific coordinator of the Post-graduation in Linguistics applied to Language Pathologies and co-coordinator of the Post-graduation in Cultures and Emergent Discourses: from the criticism to the artistic manifestations (UNL & Calouste Gulbenkian Foundation, Lisbon), developed from an inter- and transdisciplinary point of view. She co-coordinates a project for the creation of pedagogic and rehabilitative material for children and young people with learning disabilities in cooperation with CORPE and coordinates APHASIA - Interdisciplinary project on aphasic discourse. She is also psychotherapist.

**ANA PAULA ALMEIDA** has a Master's Degree in History of Contemporary Art, and Music degree in Science, both at Faculty of Social Sciences and Humanities, Universidade Nova de Lisboa, Portugal. Presently, she is research fellow at the project Musical Development in Childhood and Early Childhood (CESEM / FCSH - UNL), funded by the Foundation for Science and Technology. As a singer she integrated several ensembles: Grupo Vocal Olisipo, Sons em Cena, Mediae Vox Ensemble, and the Choir of the Calouste Gulbenkian Foundation. She collaborates with Companhia de Música Teatral with which she was involved in shows for children such as: Bebêbabá, Andakibebé, Morte e Nascimento de Uma Flor, Flauta Quase Mágica, and Grande Bichofonia. Since 2006, she is a collaborator at the Educational Services of Casa da Música, directing and creating several workshops (Gudgigudgi Dada, Ziguizá Ziguizú, Contar a Cantar), training workshops and concerts. Recently, she has been developing intensive work with Rolf Gehlhaar's SOUND=SPACE. The outcome of the use of this virtual instrument with people with special needs was SOUND=SPACE Opera.

**EDUARDO RECK MIRANDA** is a composer of chamber and electro acoustic pieces but is most notable in the UK for his scientific research in the combined fields of music and artificial intelligence. He obtained a MSc in Music Technology from the University of York and a PhD in Artificial Intelligence in Music from the Faculty of Music of the Univ. of Edinburgh, Scotland. Miranda is currently working/lecturing in the University of Plymouth (UK) where he established the Interdisciplinary Centre for Computer Music Research (ICCMR), and he is also an active associative member of the Computer Music Lab at the Federal University of Rio Grande do Sul (UFRGS, Porto Alegre). In addition, Miranda is the regional editor for South America of Organized Sound (CUP) and member of Leonardo Music Journal (MIT Press) and Contemporary Music Review (Routledge). He is currently conducting research on neuroscience of music and on simulations of biological natural process in music origins and evolution. His research methodology is predominantly based upon computational modeling and creative practice.

**EVA PETERSSON**, PhD, is vice institute head and lecturer in Medialogy at Aalborg University Esbjerg in Denmark. Her work focuses on the role of artefacts in the development of play, engagement, and learning. She applies this expertise within interdisciplinarity teams developing responsive environments for children with different abilities. Emphasis in her current research lies on user-driven design and non-formal learning in different settings. She has lead and coordinated several research and development projects since 1998. Petersson is member of the board of the Pan-European Game Information (PEGI) and Interactive Software Federation of Europe (ISFE). She has been the secretary of the International Toy Research Association (ITRA). She is co-founder of the international conference Ludic Engagement Designs for All (LEDA) that takes place every third year.

**ISABELLE CÔTÉ** has been the artistic and administrative director of Théâtre Aphasique since 1996. Actress, comedian, teacher and director, she is bachelor in dramatic art from École Supérieure de Théâtre of the Université du Québec, in Montréal. She is in charge of a theater workshop adapted for aphasic patients, writes and directs theatre shows for the aphasic group. She manages all the administrative, financial and artistic needs of the company ([www.theatreaphasique.com](http://www.theatreaphasique.com)).

**IVAR HAGENDOORN** studied econometrics, philosophy and literature at the Erasmus University Rotterdam, at the University of Leiden (both The Netherlands) and at the University College London. He was a visiting scientist and artist at the University of Southern California in Los Angeles and guest lecturer in the Dance Unlimited programme of the Arnhem School of Dance, a post-graduate course in choreography. His research applies insights from philosophy, cognitive neuroscience, psychology and sociology to the study of art. He has published in various academic journals and books (eg. Oxford University press and Journal of Consciousness Studies) about the nature and perception of dance and choreography by the brain, among other subjects. Interdisciplinarity is the key-word for Ivar who believes that specialization is one of the curses of contemporary science. His research, on the one hand, grew out of dissatisfaction with contemporary aesthetics, whilst, on the other, with the work of a handful of neuroscientists who have written about art. He believes that "whereas the former ignores recent insights from cognitive neuroscience, the latter ignores much of what is and has been happening in contemporary art".

## BIOGRAPHIC NOTES

**JOSÉ MORAIS** is full professor at the Université Libre de Bruxelles (ULB), where he has been teaching cognitive psychology as well as cognitive psycholinguistics and neuropsychology. He is co-director of the Research Unit in Cognitive Neurosciences of this University. He was member of the Scientific Committee of the French "Observatoire National de la Lecture" for 12 years, and presently he is vice-president of the "Association de Psychologie Scientifique de Langue Française" and president of the National Committee for Psychological Sciences of the Belgian Academy of Sciences. His main topics of research concern the cognitive organization of the processing systems dealing with both the written and the oral forms of language.

**MANFRED CLYNES** is a scientist, inventor, and musician. His work combines music and science, more particularly, neurophysiology and neuroscience. Clynes' musical achievements embrace performance and interpretation, exploring and clarifying the function of time forms in the expression of music - and of emotions generally - in connection with brain function in its electrical manifestations. As a concert pianist, student and friend of Pablo Casals, he has recorded outstanding versions of Bach's Goldberg Variations and of Beethoven's Diabelli Variations - Albert Einstein considered him "a blessed artist". As an inventor, his inventions (about 40 patents) include, besides the CAT computer for electrical brain research, the online auto- and cross-correlator, and inventions in the field of ultrasound (Clynes invented color ultrasound) as well as telemetering, data recording, and wind energy. The creative process of computer realizations of classical music with SuperConductor® is based on his discoveries of fundamental principles of musicality. Extensive information about M. Clynes' can be found in Wikipedia and in his personal page.

**PAULO ZÉ NETO** finished graduation in Training and Music Theory at the University of Aveiro. Attended course at the Zoltan Kodaly Pedagogical Institute of Music, in Kecskemét in Hungary. Is a team member of the Casa da Música's Educational Department - in Oporto, which develops and produces several workshops. Is a professor of Hear Training, Solfeje and Choir in the Viseu's Piaget Institute and in the Conservatory. Is the musical director and conducts Águeda's Mix Choir. Collaborate as musician / actor in the Music Theatre Company - Lisbon.

**RÉGINE KOLINSKY** has a PhD in Psychology and is a Senior Research Associate of the Fonds de la Recherche Scientifique-FNRS (Free University of Brussels, Belgium). She is also a director of the Research Unit on Cognitive Neurosciences (UNESCOG) from the Faculty of Psychology in the same university. Apart from the internationally renowned studies on literacy and learning to read, Kolinsky has developed, together with colleagues from the lab, research on the auditive agnosia (in particular the disorders in music processing), the relations between mental representations of numbers and mental representations of musical notes, between music and verbal language in learning to sing by heart and on the influence of emotion in the different components of cognitive control. She obtained several prizes among which the prize from the University Texts on Social and Human Sciences Contest, organised by the Portuguese Foundation for Science and Technology (Ministry of Science) and by Calouste Gulbenkian Foundation (with P. Ventura and C. Brito-Mendes), as well as the International Wemaers Prize for the research and dissemination of knowledge, both in 2002.

**RUTE COSTA** has a degree in Modern Languages and Literatures, Portuguese and German studies, a Master's and a PhD in Terminology. She is currently Professor at Universidade Nova de Lisboa and a researcher at Centro de Linguística da Universidade Nova de Lisboa. She was scientific coordinator of the Post-graduation in Cultures and Emergent Discourses: from the criticism to the artistic manifestations (UNL & Calouste Gulbenkian Foundation, Lisbon) and from a Master's in Terminology. She was the President of the European Association of Terminology from 2000 to 2006. She is the scientific coordinator of several projects on Terminology for institutions like the Assembly of the Portuguese Republic, the Instituto Nacional de Estatística or the Instituto Camões. She developed the ExtracTerm that is a Terminology tagger and extractor. She is currently supervising twenty Master's and PhD thesis in Terminology in several universities.

**SEMIR ZEKI** is Professor of Neurobiology at the University College London since 1980. He was Co-Head of the Wellcome Department of Cognitive Neuroscience of this university from 1994 to 2001. Before he worked as a post-doctoral fellow at the University of Wisconsin-Madison and at St. Elizabeths Hospital (Washington, DC) before returning to London, in 1970, as Henry Head Research Fellow of the Royal Society. Among his scientific achievements one should mention the co-discovery of the motion area in the brain, area V5, in parallel with American scientists John Allman and Jon Kaas. Since then he has written over 150 papers and the following books: A Vision of the Brain (1993), Inner Vision: an exploration of art and the brain (1999), translated into six languages, Balthus ou La Quête de l'essentiel (1995), which he co-authored with the late French painter Balthus (Count Klossowski de Rola) and Law and the Brain (2006). In 1994, he began to study the neural basis of creativity and the aesthetic appreciation of art, and of emotions like love and art. In 2001, he founded the Institute of Neuroaesthetics based mainly in Berkeley, California. His Prizes include the Minerva Foundation Prize, The LVMH Science pour l'art Prize, the Rank Prize in opto-electronics, The Electronic Imaging Award, the Koetscher Prize and the King Faisal International Prize in Biology.

## BIOGRAPHIC NOTES

**RICHARD GAULIN** is an actor, comedian, drama teacher and director. Bachelor of dramatic art from the École Supérieure de Théâtre of the Université du Québec, in Montréal, he has been with Théâtre Aphasique since 1998, developing in collaboration with a speech language therapist, theater and video workshops for aphasic patients at the Hôpital de Réadaptation Villa Médica in Montreal (Canada). He wrote and directed the most recent play *Metronome*, performed by the Aphasique theater group that won the public prize and the Jury Special Prize in the International Theatre Festival in Mont - Laurier 2007.

All the performers are aphasic persons and his latest creation has been produced in several cities throughout Quebec, Belgium and France. He also gives acting classes to mentally disabled persons at Muses Art Center in Montreal, in order to bring those artists to a professional level.

**TONY BROOKS** is associate professor at Aalborg University (Esbjerg, Denmark) where he is director of the Virtual Reality SensocamLab. He is also a European expert reviewer. He has developed a body of work that is recognized as a platform for interdisciplinary research within the field of disability, and this is responsible for marketed product. He received the European EUREKA award in 1999 and the Danish research prize in 2006. His research is responsible for published patents and European and National projects amounting to over €3M. He is President & CEO of SoundScapes - a Danish based SME.

**VENTO DO NORTE** is a unique ensemble of young, talented musicians from around the world. They play saxophones of all shapes and sizes, and offer a richly varied repertoire that ranges from Bach to James Brown. The group was formed in 2005 by Henk van Twillert, internationally renowned saxophonist who teaches at the Amsterdam Academy of Music and the College for Music and Performing Arts in Porto (Escola Superior de Música e das Artes do Espectáculo). The ensemble is based in Portugal, from where it is rapidly conquering the world: from festivals and theatres in Southern Europe to stages in Caracas, Venezuela.

**VO' ARTE** is a Cultural Association supported by IPAE/ Ministério da Cultura that has as main goals the promotion and diffusion of arts, the support and production of multifaceted artistic projects, and also the encouragement of the reciprocity and collaboration between artists, the formation and artistic research, at both national and international levels.

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#### TECHNICAL DATA

##### SCIENTIFIC COORDINATION

ANA MONÇÃO (CLUNL, PORTUGAL)

##### VICE-COORDINATION

TONY BROOKS (AUE, DINAMARCA)

##### SCIENTIFIC COMMITTEE

ANA MONÇÃO E RUTE COSTA (CLUNL, PORTUGAL), EVA PETERSSON E TONY BROOKS (AUE, DINAMARCA), PAUL SHARKEY (UR, UK)

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