

## **Dr. Marie Cheour Curriculum Vitae**

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Citizenship: US and Finnish

### **Education:**

September 2000 Docent in Developmental Neuropsychology University of Turku, Finland.

October 1998 Ph.D. in Psychology, Cognitive Brain Research Unit University of Helsinki, Finland.  
Supervisor Dr. Risto Näätänen.

(Specialized in Cognitive Neuroscience and Neuropsychology with minors in Computer Sciences and Statistics.)

October 1994 MS in Psychology, University of Helsinki, Finland.

### **Postdoctoral Training**

1 Nov 1998-31 Oct 1 1999 Department of Communication Sciences and Disorders,  
Northwestern University Evanston, IL.

October 2 1999- July 31 2002 Neuropsychology and Neuroscience Post-doctoral Fellow at the  
University Of Helsinki Central Hospital, Helsinki, Finland and University of Turku, Center for  
Cognitive Neuroscience.

### **Academic Appointments:**

Jan 5 2015 onwards Associate Professor of Psychology, Neuropsychology coordinator Carlos  
Albizu University.

1 December 2003-May 2008 Associate Professor, Department of Pediatrics, University of Miami Medical  
School.

1 August 2002-May 2008 Associate Professor, Department of Psychology, University of Miami.

1 December -May 31 2002 Full Professor, Department of Psychology, University of Turku,

Finland.

1 January 2000- December 2001 Senior Researcher, Head of the Language and the Developing Brain Laboratory, Centre for Cognitive Neuroscience, University of Turku, Finland.

1 November 1998- October 1999 Post-doctoral position, Department of Communication Sciences and Disorders, Northwestern University, Evanston, IL, US.

1 April 1996-31 Oct 1998 Head of the Developmental Brain Research Laboratory, Cognitive Brain Research Unit (CBRU), University of Helsinki, Finland.

15 January 1993-31 March 1996 Researcher, Intern in the CBRU (under the direction of Dr.Risto Näätänen), University of Helsinki, Finland.

1 June- 31 December 1990 Research Assistant at the Department of Psychology, University of Helsinki, Finland.

Other Academic Positions:

Consulting Partner, Infant MEG Project, Center for Mind, Brain and Learning, University of Washington, Seattle, WA.

2001 Consulting Partner in the Infant ERP Project, Department of Phonetics, University of Stockholm, Sweden.

**Awards and Honors:**

2003 Outstanding Faculty Member Award in appreciation of support for the students of the University of Miami. University of Miami Fraternity/Sorority Community. (Teaching award)

2002 Research Award from the University of Miami

Magna cum Laudatur for doctoral dissertation (Equivalent to Summa Cum Laude) at the University of Helsinki, Finland

Full scholarship from the National Graduate School of Psychology, University of Helsinki, Finland

**Selected Research Support:**

RIKEN Institute, Japan 2003-2006 (Co-PI with Dr. Risto Näätänen)  
University of Miami 2003 (PI)  
University of Miami 2004 (PI) 2004-2005  
Florida International University (Co-PI with Dr. Ilker Yaylali ) 2004-2005  
University of Turku 2001 (PI)  
Cancer Organization of Finland 2000 (Co-PI)  
Human Frontier Science Program Organization 2000-2003 (Co-PI, PI Dr. Patricia Kuhl)  
Several grants from the Centre for International Mobility, Ministry of Education, Finland (CIMO) 1999-2001 (PI)  
Women in Science, Finland 1996 (PI)  
University of Helsinki 1995 (PI)  
Several grants from the European Union and Finnish Academy.

### **Grant Application Evaluations**

The Medical Research Council, United Kingdom, Funding Scheme: Career Establishment Grant.  
Finnish Academy,  
European Science Foundation.

### **Article Reviews**

Archives of General Psychiatry, Child Development, Ear and Hearing, Developmental Neuropsychology, Journal of Cognitive Neuroscience, Journal of Experimental Child Psychology, Journal of Psychophysiology, Psychiatric Research, Nutritional Neuroscience

### **Congress Organizing**

Nordic Organization of Psychophysiology, 3-15 March 1998, Norway  
Symposium Organizer.

III International Congress of Pathophysiology, 28 June-3 July 1998, Finland. Symposium Organizer.

### **Memberships in Professional Organizations**

American Medical Writer's Association, Cognitive Neuroscience Society,  
Society for Neuroscience

### **Leadership and Academic Service**

2015- Onward Curriculum Committee Member, Carlos Albizu University.

2015- Onward Website Committee Member, Carlos Albizu University.

2004-2007 Graduate Faculty Committee member, Department of Psychology, University of Miami.  
(Selecting graduate students, curriculum development etc.)

2000-2002 Executive Committee member of the Centre for Cognitive Neuroscience  
(Overseeing the department, budgeting, scientific research, graduate- and postdoctoral student selection etc.)

1997-1998 Executive Committee member of the Association of Researchers at the  
Academy of Finland (Scientific Research, National selection of graduate students for Psychology, equivalent  
for APA)

1996-1998 Executive Committee member of the Cognitive Brain Research Unit,  
Finland (Budgeting, scientific research, curriculum etc.)

1997-1999 Head of the Executive Committee of the Developmental Brain Research Laboratory, Finland.  
(Budgeting, scientific research, curriculum etc.)

### **Teaching Experience between 1994-2015**

#### **Supervising Doctoral Dissertations of many students such as:**

Olga Martynova (University of Turku, Finland)

Rita Ceponiene (University of Helsinki, Finland)

Leena Mohapatra (University of Miami, US)

#### **Classes:**

Neuroanatomy (graduate, neuropsychology concentrate)  
Department of Psychology, Albizu University.

School Psychology (graduate)  
Department of Psychology; Barry University, in person and on-line

Neuropsychological Assessment (graduate)  
Department of Psychology, Barry University

Introduction to Cognition (undergraduate)  
Department of Psychology, University of Miami, in person and on-line

Language Development (undergraduate)  
Department of Psychology University of Miami, in person and on-line

Child/Adolescent Development (undergraduate)  
Department of Psychology, University of Miami, in person and on-line

Orientation to Psychology (undergraduate)  
Department of Psychology, University of Miami, in person, and on-line

Forum Mentor (undergraduate)  
Department of Psychology, University of Miami

Neurocognitive Disorders (graduate)  
Department of Psychology, University of Miami

Forum Mentor (undergraduate)  
Department of Psychology, University of Miami, on-line

Language Development (undergraduate)  
Department of Psychology, University of Miami, in person and on-line

Methods of Modern Neuroscience (graduate)  
Department of Psychology, University of Miami

Hands on laboratory course on child ERPs (undergraduate)  
University of Turku, Department of Psychology

Cognitive Neuroscience (undergraduate and graduate)  
University of Turku, Department of Medicine, on-line class

Introduction to Psychology (undergraduate)  
Community Colleges of Helsinki, Kotka, Lahti,

Neuropsychology, Perception (undergraduate)  
Community Colleges of Helsinki, Lahti,

1997, 2001 Language Learning (undergraduate)  
TV1, National TV of Finland

Language Development (undergraduate and graduate)  
On-line teaching to five different universities in Finland simultaneously

Child ERPs (graduate)  
Finnish-Russian Winter School, Helsinki.

### **Selected List of Publications in Refereed Journals**

Cheour-Luhtanen, M., Alho, K., Kujala, T., Sainio, K., Reinikainen, K., Renlund, M., Aaltonen, O., Eerola, O. & Näätänen, R. (1995). Mismatch negativity indicated vowel discrimination in newborns. *Hearing Research*, 82, 53-58.

Cheour-Luhtanen, M., Alho, K., Sainio, K., Rinne, T., Reinikainen, K., Pohjavuori, M., Renlund, M., Aaltonen, O., Eerola, O. & Näätänen, R. (1996). The ontogenetically earliest discriminative response of the human brain. *Psychophysiology, Special Report*, 33, 478-481.

Cheour, M., Alho, K., Sainio, K., Reinikainen, K., Renlund, M., Aaltonen, O., Eerola, O. & Näätänen, R. (1997). The mismatch negativity to changes in speech sounds at the age of three months. *Developmental Neuropsychology*, 13 (2), 167-174.

Cheour, M., Haapanen, M-L., Hukki, J., Čeponienė, R., Kurjenluoma, S., Alho, K., Tervaniemi, M. & Näätänen, R. (1997). The first neurophysiological evidence for cognitive brain dysfunctions in children with CATCH-syndrome. *NeuroReport*, 8, 1785-1787.

Alho, K., & Cheour, M. (1997). Auditory discrimination in infants as revealed by the mismatch negativity of the event-related brain potential. *Developmental Neuropsychology*, 13 (2), 157-165.

Näätänen, R., Lehtokoski, A., Lennes, M., Cheour, M., Huotilainen, M., Iivonen, A., Vainio, M., Alku, P., Ilmoniemi, R.J., Luuk, A., Allik, J., Sinkkonen, J. & Alho, K. (1997). Language-specific phoneme representations revealed by electric and magnetic brain responses. *Nature*, 385 (30), 432-434.

Cheour, M., Alho, K., Čeponienė, R., Reinikainen, K., Sainio, K., Pohjavuori, M., Aaltonen, O.,

Näätänen, R. (1998). Maturation of mismatch negativity in infants. *International Journal of Psychophysiology*, 29, 217-226.

Cheour, M., Čeponienė, R., Lehtokoski, A., Luuk, A., Allik, J., Alho, K. & Näätänen, R. (1998). Development of language-specific phoneme representations in the infant brain. *Nature Neuroscience*, 1 (5), 351-353.

Cheour, M., Haapanen, M-L., Čeponienė, R., Hukki, J., Ranta, R., Näätänen, R. (1998). Mismatch negativity (MMN) as an index of auditory sensory memory deficit in cleft-palate and CATCH-syndrome children. *NeuroReport*, 9, 2709-2712.

Alho, K., Conolly, J.F., Cheour, M., Lehtokoski, A., Huotilainen, M., Virtanen, J., Aulanko, R. & Imoniemi, R. (1998). Hemispheric lateralization in preattentive processing of speech sounds. *Neuroscience Letters*, 258, 9-12.

Čeponienė, R., Cheour, M. & Näätänen, R. (1998), Interstimulus interval and auditory event-related potentials in children: Evidence for multiple generators. *Electroencephalography and Clinical Neurophysiology*, 108, 345-354.

Cheour, M., Čeponienė, R., Hukki, J., Haapanen, M-L., Näätänen, R., Alho, K. (1999). Brain dysfunction in neonates with cleft palate revealed by the mismatch negativity (MMN). *Journal of Electroencephalography and Clinical Neurophysiology*, 110(2), 324-8.

Pihko, E, Leppänen, P., Eklund, K., Cheour, M., Guttorm, & Lyytinen, H. (1999). Cortical responses of infants with or without a genetic risk for dyslexia: I Age effects. *Neuro Report*, 6,10 (5), 901-5.

Čeponienė, R., Service, L., Kurjenluoma, S., Cheour, M. & Näätänen, R. (1999). Children's performance on pseudoword repetition depends on auditory trace quality: Evidence from event-related potentials. *Developmental Psychology*, 35, 709-720.

Čeponienė, R., Hukki, J., Cheour, M., Haapanen, M-L., Ranta, R., Näätänen, R. (1999). Cortical auditory dysfunction in children with oral clefts: Relation with cleft type. *Clinical Neurophysiology*, 110, 1921-1926.

Cheour, M., Leppänen, P., & Kraus, N. (2000). Mismatch Negativity (MMN) as a tool for investigating auditory discrimination and auditory sensory memory in infants and children. A review. *Electroencephalography Clinical Neurophysiology*, 117, 4-16.

Kraus, N. & Cheour, M. (2000). Speech sound representation in the brain. Invited Review. *Audiology & Neuro-Otology*, 5, 140-150.

Kaipio, M.-L., Cheour, M., Čeponienė, R., Alku, P., & Näätänen, R. (2000). Increased distractibility in closed head injury as revealed by event-related potentials. *NeuroReport*, 11, 1-6.

Čeponienė, R., Hukki, J., Cheour, M., Haapanen, M-L., Koskinen, M., Alho, K. & Näätänen, R. Dysfunction of the auditory cortex persists in infants with certain cleft types (2000). *Developmental Medicine Child Neurology*, 42, 258-265.

Cheour, M, Korpilahti, P., Martynova, O., & Lang, A. (2001). Mismatch Negativity (MMN) and Late Discriminative Negativity (LDN) in investigating speech perception and learning in children and infants. Invited Review. *Audiology & Neuro-Otology*, 6, 2-11.

Kushnerenko, H., Cheour, M., Čeponienė, R., Fellman, V., Renlund, M., Soininen, K., Alku P., Koskinen M., Sainio, K., Näätänen, R. (2001). Central auditory processing of durational changes in complex speech patterns by newborns: An event-related brain potential study. *Developmental Neuropsychology*, 19 (1), 83-97.

Cheour, M., Čeponienė, R., Leppänen, P., Alho, K., Kujala, T., Renlund, M., Fellman, V., & Näätänen, R. (2002). Auditory sensory memory trace decays rapidly in newborns. *Scandinavian Journal of Psychology*, 43, 33-39.

Cheour, M., Kushnerenko, H., Čeponienė, R., Fellman, V., Näätänen, R. (2002). Electric brain responses obtained from newborn infants to duration changes in complex harmonic tones. *Developmental Psychology*. 22, 471-479.

Cheour, M. Shestakova A, Alku P., Čeponienė R, Näätänen R. (2002). Mismatch negativity shows that 3-6-year-old children can learn to discriminate non-native speech sounds within two months. *Neuroscience Letters*, 14 (3), 187-90.

Cheour, M., Martynova, O., Näätänen, R., Erkkola, R., Sillanpää, M., Kero, P. Raz, A., Kaipio, M.-L., Hiltunen, J., Aaltonen, O., Savela, J., & Hämäläinen. H. (2002). Sleep Can Be Used for On-line Training of Speech Sound Discrimination in Human Newborns. *Nature*, 7, 599-600.



Martynova, O., Kirjavainen, J. & Cheour, M. (2003). Mismatch negativity and late discriminative negativity in sleeping human newborns. *Neuroscience Letters*, 340 (2), 75-78.

Shestakova, A., Huutilainen, M., Čeponienė, R., & Cheour, M. (2003). Event-related potentials associated with second-language learning in children. *Clinical Neurophysiology*, 114, 1507-1512.

Cheour, M., Imada, T., Taulu, S., Ahonen, A., Salonen, J. & Kuhl, P. (2004). Magnetoencephalography (MEG) is feasible for infant assessment of auditory discrimination. Invited articles to the *Experimental Neurology* special Issue on Infant Neuroimaging, 190, 1001, 44-51.

Imada, T., Zhang, Y., Cheour, M., Taulu, S., Ahonen, A., & Kuhl, P. K. (2006). Infant speech perception activates Broca's area: a developmental magnetoencephalography study. *Neuroreport*, 17, 957-962.

Wang T, Ozdamar O, Bohorquez J, Shen Q, Cheour M. Wiener filter deconvolution of overlapping evoked potentials. *Journal of neuroscience methods*. 2006; 158:260–270.

Kaipio, M.-L.; Cheour, M.; Öhman, J.; Salonen, O.; Näätänen, R. (2013). Mismatch negativity abnormality in traumatic brain injury without macroscopic lesions on conventional MRI. *Neuroreport*, 24(8), 440 - 444.

Martynova, O., Tuomainen, J., Savela, J., Aaltonen, O., Erkkola, R., & Cheour, M. (in press). Mismatch Negativity (MMN) to natural and synthetic speech consonant-vowel syllables in neonates and adults.

#### Articles in Non-Refereed Journals

Cheour, M., Haapanen, M-L., Hukki, J., Ceponien , R., Kurjenluoma, S., Alho, K., Tervaniemi, M. & Näätänen, R. (1997). The first neurophysiological evidence for cognitive brain dysfunctions in CATCH-22 children. *Transaction of the 8th Congress on Cleft Palate and Related Craniofacial Anomalies*. Singapore: Singapore press.

Čeponienė, R., Cheour, M., & Näätänen, R. (1997). Interstimulus interval effects on auditory event-related potentials in children: Temporal dynamics of auditory sensory memory. *Transactions of the 8th Congress on Cleft Palate and Related Craniofacial Anomalies*. Singapore: Singapore press.

Cheour, M. (2000). Kuuloärsykkeisiin sidotut jännitevasteet aivojen kehityksen ja kehityksen häiriöiden tutkimusmenetelminä, *Duodecim*. (Auditory event-related potentials as a tool for investigating the maturation and dysfunctions of the brains) *Duodecim*, 116:443-7.

### Other publications

Cheour, M. Mismatch negativity as a tool for investigating auditory discrimination in infants and school-age children. (1998). Doctoral dissertation, Yliopistopaino: Helsinki.

Partanen J, Lang H, Valkonen-Korhonen M, Cheour M. Tapahtumapotentiaalit (ERPs). In: Partanen J, Falck B, Hasan J, Jäntti V, Tolonen U, Salmi T, (Eds) . Kliininen neurofysiologia. (Clinical Neurophysiology) Helsinki: Kustannus Oy Duodecim, 2006. Chapter is in Finnish. (Invited Chapter, Text book for Medical Students)

Cheour, M. (2007). Development of Mismatch Negativity in Infants.p.171-198. (Invited Chapter) In: Infant EEG and Event-Related Potentials (Ed.) Michelle de Haan. Psychology Press: New York.

### Selected Presentations at International Congresses

Cognitive Neuroscience Society. April 18-20, 2004, San Francisco, California. Invited Speaker.

EPIC 14. March 28-31 2004, Leipzig, Germany. Invited Speaker.

Cheour, M. Infants learn while sleeping. Third International Workshop on Mismatch Negativity and Auditory Functions and Dysfunctions. Invited speaker, May 2003, Lyon, France.

Cheour, M. The Neurobiology of Cross-Language Perceptual Learning in Early Childhood. Japanese Society for Baby Science. Invited speaker, October 2002 Yokohama, Japan.

Cheour, M. Development of speech perception in children as revealed by Mismatch Negativity. The World Congress of IOP, 25-30 June, 1996, Tampere, Finland.

Cheour, M., Saher, M., Kurjenluoma, S., Ceponiene, R. & Näätänen, R. The effects of language environment on speech perception in infancy as reflected by the Mismatch Negativity (MMN). 3rd European Congress of Psychophysiology, 28-31 May 1997. Konstanz, Germany. Invited speaker.

Cheour, M. The auditory sensory memory decays rapidly in children with CATCH syndrome. 8th International Congress on Cleft Palate and Related Craniofacial Anomalies, 7-12 September 1997. Singapore.

Cheour, M. Maturation of MMN in children. Nordic Organization of Psychophysiology meeting, 13-15 March 1998 Oslo, Norway. Symposium Organizer.

Cheour, M. Mismatch negativity (MMN) in children and infants. III International Congress of Pathophysiology, 28 June-3 July 1998 Lahti, Finland. Symposium Organizer.

Cheour, M., Čeponienė, R., Alho, K., Näätänen, R. Speech perception in infants and children. Nordic Congress of Psychology, 26-29 August 1998, Finland.

Cheour, M., Čeponienė, R., Lehtokoski, A., Alho, K., Luuk, A., Allik, J., & Näätänen, R. Development of language - specific phoneme representations in infants as revealed by electric brain responses. First International Workshop on Mismatch Negativity and its Clinical Applications. 16-18 October 1998 Helsinki, Finland. Invited speaker.

Cheour, M., Čeponienė, R., Lehtokoski, A., Luuk, A., Allik, J., Alho, K. & Naatanen, R. Development of language-specific phoneme representation in the infant brain. Meeting of Society for Neuroscience, 11-16 November 1998, Los Angeles, USA. 757.5.

Cheour, M. Mismatch Negativity (MMN) and Late Discriminative Negativity (LDN) as tools to investigate speech perception in infants and children. International workshop. Development and Interaction of Linguistic and Non-Linguistic Cognition in Infants. 25 -27 February 2000 Berlin, Germany. Invited Speaker.

Cheour, M. Neuronal basis of speech perception in children. International workshop on Speech Perception in Infants. July 2000 Barcelona, Spain. Invited Speaker.

Cheour, M. Using ERPs to investigate language development in early childhood (EEG and MEG studies), Clinical Neurophysiology Meeting, November, 2001, Tokyo, Japan. Invited Speaker.