BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors in the order listed on Form Page 2.
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NAME	POSITION TITLE
Price, Cathy Janet	Professor in Cognitive Neuroscience
eRA COMMONS USER NAME (credential, e.g., agency login)	
Pricecj	

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	MM/YY	FIELD OF STUDY
Bedford College, University of London	BSc	1981-1984	Physiology/Psychology
Birkbeck College, University of London	PhD	1985-1990	Neuropsychology
Hammersmith Hospital, London.	Post-doc	1991-1994	Neuroimaging
Institute of Neurology, University College London	Post-doc	1994-1997	Neuroimaging

A. Personal Statement

The goal of my research is to predict language outcome and recovery after stroke. In the first 15 years of my program, I focused on developing a functional-anatomical model of language from which the effect of lesions could be predicted. One challenge relates to how we define a lesion. Stroke lesions tend to be large, damaging multiple areas; and we have shown that the effect of damage to one functional region depends on the presence or absence of damage to other functional regions. Each lesion therefore needs to be defined in terms of the network of areas that have been damaged (i.e. a network lesion). In the past 5 years, I have supplemented predictions based on the language model with predictions based on data from other patients. This is because the most intuitive information that we can provide a patient, and his/her carers, is a description of the time course of recovery in other patients with the same network lesion. For example*, "80% of patients with the same lesion as you recovered their speech within the one year".* To make such statements, we are developing a database that holds details of the lesion site and language performance of hundreds of patients. When a new patient is assessed, we can search the database for other similar patients and make estimates of how fast the recovery of different functions will occur. The database can also be used to investigate inter-patient variability in recovery courses. *Why do some patients recover faster than others?* and *How can the recovery course be speeded up?* We are investigating these questions by considering how recovery is affected by a range of demographic factors, brain activity across the processing network (as measured by fMRI and MEG); and behavioral and drug therapies. In summary, my research program combines different sorts of information to understand how and when speech recovery occurs and how the recovery process might be facilitated.

B. Positions and Honors
Professional History (in chronological order)

Dates	**Detail of position held**	**Institution**
1997-2000	Senior Lecturer	Institute of Neurology, UCL
2000-2003	Reader	Institute of Neurology, UCL
2003 -	Full Professor	Institute of Neurology, UCL

Other Appointments and Affiliations
Editor for all language papers submitted to NeuroImage
Associate editor for Human Brain Mapping,
Past Secretary for the Organisation of Human Brain Mapping (OHBM)
Executive committee for Wellcome Trust Centre for NeuroImaging
Member of Academic Board, Institute of Neurology
Education committee, Institute of Neurology
Member for the Society for Neuroscience.

Prizes, Awards and other Honours:

Dates	Detail of prize, award or honour	Awarding/electing body
1989	The Minnie Mitchel Goodall Studentship	London University *(Open PhD scholarship)*
2001	Wiley Young Investigator award *(for contributions to human brain mapping)*	Organisation for HBM. *(annual conference award)*
2006	Editor's Choice Award	Human Brain Mapping
2008	Justine et Yves Sergent award *(in cognitive neuroscience)*	University of Montreal *(international award)*

C. Selected Peer-reviewed publications (from total of 186).

Price, C.J. Seghier ML, Leff AP (2010) Predicting language outcome and recovery after stroke: the PLORAS system. *Nature Reviews Neurology. 6(4):202-10*

Price, C.J. (2010) The anatomy of Language: A review of 100 papers published online in 2009. *Ann NY Acad Sci. 1191(1):62-88*

Price C.J., Crinion J.T., Leff A.P., Richardson F.M., Schofield T., Prejawa S., Ramsden S., Gazarian K., Lawrence M., Ambridge L., Andric M., Small S.L., Seghier M.L. (2010). Lesion sites that predict the ability to gesture how an object is used. *Archives Italiennes de biologie. in press*

Leff AP, Schofield TM, Crinion JT, Seghier ML, Grogan A, Green DW, **Price CJ** (2010)
The left superior temporal gyrus is a shared substrate for auditory short-term memory and speech comprehension: evidence from 210 patients with stroke. *Brain 132(12) 3401-3410.*

Seghier ML., Zeidman, P, Neufeld, N, Leff AP, **Price CJ** (2011). Identifying abnormal connectivity in patients using Dynamic Causal Modelling of fMRI responses. *Frontiers in Systems Neuroscience. in press.*

Seghier M.L., Kherif F., Josse G, **Price CJ** (2011). Regional and hemispheric determinants of language laterality: implications for preoperative fMRI. *Human Brain Mapping. in press*

Green, D.W., Grogan, A., Crinion, J., Ali, N., Sutton, C, **Price, C.J.** (2010) Language control and parallel recovery of language in individuals with aphasia. *Aphasiology 24 (2), 188-209.*

Hu W, Lee HL, Zhang Q, Liu T, Geng LB, Seghier ML, Shakeshaft C, Twomey T, Green DW, Yang YM, **Price CJ.** (2010) Developmental dyslexia in Chinese and English populations: dissociating the effect of dyslexia from language differences. *Brain 133:1694-706*

Hartwigsen G, Baumgaertner A, **Price CJ**, Koehnke M, Ulmer S, Siebner HR. (2010). Phonological decisions require both the left and right supramarginal gyri. *PNAS in press.*

Carreiras M, Seghier ML, Baquero S, Estévez A, Lozano A, Devlin JT, **Price CJ**. (2009).
An anatomical signature for literacy. *Nature. 461(7266):983-6.*

Josse G, Kherif F, Flandin G, Seghier ML, **Price CJ**. (2009). Predicting language lateralization from gray matter. *Journal of Neuroscience. 29(43):13516-23.*

Schofield, T.M. Iverson P, Kiebel S.J., Stephan K.E., Kilner J.M., Friston K.J, Crinion JT, **Price C.J.**, Leff, AP (2009). Changing meaning causes coupling changes within higher levels of the cortical hierarchy.

PNAS 106(28):11765-70.

Kherif, F., Josse, G., Seghier, M., **Price. C.J** (2009). The main sources of inter-subject variability in neuronal activation for reading aloud. *Journal of Cognitive Neuroscience 21 (4) 14132-9*

Seghier M., **Price. C.J**. (2009). Dissociating functional brain networks by decoding the between-subject variability. *NeuroImage 45(2):349-59.*

Grogan, A., Crinion, J.T., Ali, N, Green, D.W., **Price, C.J.** *(2009)* Structural correlates of semantic and phonemic fluency ability in first and second languages. *Cerebral Cortex 19(11):2690-8.*

Richardson FM, **Price CJ** (2009) Structural MRI studies of language function in the undamaged brain. *Brain Struct Funct. 213(6):511-23.*

Seghier, M,L. Lee, HW., Schofield, T., **Price. C.J** *(2008).* Inter-subject variability in the use of two different neuronal networks for reading aloud familiar words. *NeuroImage 42 (3): 1226-36*

Seghier, M,L. Ramlackhansingh, A., Crinion, JT, Leff A.P., **Price. C.J** *(2008)* Lesion identification using unified segmentation-normalisation models and fuzzy clustering. *NeuroImage 41(4):1253-66*

Leff A., Schofield, T.M., Stefan, K.E., Crinion J.T., Friston K.J., **Price. C.J.** (2008) The cortical dynamics of intelligible speech. *Journal of Neuroscience 28(49):13209-15.*

Crinion, J., Ashburner, J., Leff AP, Brett, M, **Price. C.J**., Friston, K.J. (2007) Spatial normalization of lesioned brains: Performance evaluation and impact on fMRI analyses. *Neuroimage 37 (3): 866-875.*

Price. C.J, Crinion J, Friston K.J. (2006) Design and analysis of fMRI studies with neurologically impaired patients. *Journal of Magnetic Resonanace Imaging. 23(6):816-26.*

Price. C.J, & Crinion, J. (2005) The latest on functional imaging studies of aphasic stroke. *Current Opinion in Neurology 18(4):429-34.*

D. Research Support

In the past 3 years, my research program has been entirely funded by the **Wellcome Trust** and the **James S McDonnell Foundation.** My responsibility as team leader is to integrate the team, motivate publication of the key findings and ensure that each researcher is supported by the full set of expertise in a collective group.

2007 -2012 Wellcome Trust Senior Research Fellowship
Title: *"Structure-function models of language and its recovery"*
This grant provides the core funding for acquiring, storing and analyzing patient data. It includes half of my salary and the salaries for a *Speech and Language therapist* who recruits and assesses the patients; a *data manager* and *an imaging methods expert* who develops new methods for the analysis of stroke data.

2009-2012 Wellcome Trust Project Grant (PI with Dr David Green)
Title: *"A research programme into the causal basis of bilingual aphasia"*
This grant allows the core research funded in my main Wellcome Trust grant above to be extended to patients whose native language is not English. It funds a speech and language therapist who recruits bilingual patients and assesses their languages abilities in all the languages that they speak; and a post doc who investigates how the functional anatomy of language varies in bilinguals and monolinguals, for native versus nonnative languages and for alphabetic versus nonalphabetic languages.

2005-2010   James S McDonnell Foundation (PI= Dr Randy McIntosh**)**
Title: *"Brain Network Recovery Group (NRG) "*
This grant extends the Wellcome Trust grants above by allowing us to study the network mechanisms that support language following stroke; and by supporting collaborations with other members of the NRG. In my lab, the funding pays two post docs who use dynamic causal modeling to understand how fMRI or MEG activity in different brain regions is functionally connected during language tasks; and how these functional connections vary across healthy individuals and change with damage to different parts of the network.