Workshop: Cognition and Behavior
A Research Initiative of the Faculty of Arts and Social Sciences

Workshop Schedule

9:30   Introduction
10:00  Cluster presentation session 1
11:00  Coffee break
11:15  Cluster presentation session 2
12:15  Lunch
13:00  Round Table
14:00  Close

Workshop Contributions

Basic cognition

1: Nicholas Hon  “Using magnetic resonance imaging (MRI) to investigate how the brain supports mental activity”
2: Trevor Penney  “Time and Memory”
3: Winston Goh  “Examining Lexical and Indexical Codes in Memory”
4: Tomasina Oh  “Language, the mind and the brain: Insights from disordered language”
5: Annett Schirmer  “Interindividual differences in the processing of vocal emotional expression”

Applied cognition

6: Mohanan  “Theoretical linguistics as a mind-brain study”
7: Rajah Ananda  “Religion and Modernity in Singapore: (In)coherent Worldviews?”
### Participating Cluster Affiliates

<table>
<thead>
<tr>
<th>Name</th>
<th>Department</th>
<th>Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annett Schirmer</td>
<td>Psychology</td>
<td><a href="mailto:schirmer@nus.edu.sg">schirmer@nus.edu.sg</a></td>
</tr>
<tr>
<td>Anthony T.H. Chin</td>
<td>Economics</td>
<td><a href="mailto:anthonychin@nus.edu.sg">anthonychin@nus.edu.sg</a></td>
</tr>
<tr>
<td>Byungho Park</td>
<td>Communications and New Media Programme</td>
<td><a href="mailto:park@nus.edu.sg">park@nus.edu.sg</a></td>
</tr>
<tr>
<td>Chua Fook Kee</td>
<td>Psychology</td>
<td><a href="mailto:psycfk@nus.edu.sg">psycfk@nus.edu.sg</a></td>
</tr>
<tr>
<td>K. P. Mohanan</td>
<td>English Language and Literature</td>
<td><a href="mailto:ellkpmoh@nus.edu.sg">ellkpmoh@nus.edu.sg</a></td>
</tr>
<tr>
<td>Nicholas Hon Hsueh Hsien</td>
<td>Psychology</td>
<td><a href="mailto:psyhonn@nus.edu.sg">psyhonn@nus.edu.sg</a></td>
</tr>
<tr>
<td>Steven Graham</td>
<td>Psychology</td>
<td><a href="mailto:psysg@nus.edu.sg">psysg@nus.edu.sg</a></td>
</tr>
<tr>
<td>Tomasina Oh</td>
<td>English Language and Literature</td>
<td><a href="mailto:elltmoss@nus.edu.sg">elltmoss@nus.edu.sg</a></td>
</tr>
<tr>
<td>Trevor B. Penney</td>
<td>Psychology</td>
<td><a href="mailto:penney@nus.edu.sg">penney@nus.edu.sg</a></td>
</tr>
<tr>
<td>Winston D. Goh</td>
<td>Psychology</td>
<td><a href="mailto:psygohw@nus.edu.sg">psygohw@nus.edu.sg</a></td>
</tr>
<tr>
<td>Wong Wei-Kang</td>
<td>Economics</td>
<td><a href="mailto:ecswong@nus.edu.sg">ecswong@nus.edu.sg</a></td>
</tr>
<tr>
<td>Xing Xiaolin</td>
<td>Economics</td>
<td><a href="mailto:ecsxxl@nus.edu.sg">ecsxxl@nus.edu.sg</a></td>
</tr>
</tbody>
</table>

If you are interested in presenting your research through the cluster and/or collaborating with cluster members please send an email to **schirmer@nus.edu.sg** so that your information can be added to the website.
**Presentation Abstracts**

**Nicholas Hon:** Using magnetic resonance imaging (MRI) to investigate how the brain supports mental activity

Recent advances in brain imaging technology have boosted the endeavor of figuring out how the brain supports mind. One of the most popular of these imaging techniques revolves around the use of MRI. I will discuss how this has been used successfully in studying how the brain supports cognition.

**Trevor Penney:** Time and Memory

My research focuses on interval timing in the seconds-to-minutes range, and perceptuo-cognitive processing of visual stimuli such as objects, words, and faces. In pursuing these topics, I have used or am using a variety of participant populations (e.g., from normal children to adult psychiatric patients) and brain imaging techniques such as scalp recorded electroencephalography (EEG), magneto-encephalography (MEG); and event related optical imaging (EROS). In my presentation, I will briefly highlight the research questions that I have been working on in recent years and why I think they are both interesting and important.

**Winston D. Goh:** Examining Lexical and Indexical Codes in Memory

My current research broadly examines how words are represented and stored in memory and how this information is used to remember, recognise and process words. Some examples of more specific questions include the extent of interference between lexical codes such as the semantic and phonological properties of words in the course of memory retrieval; and whether the indexical properties of spoken words are utilised in word recognition. I will briefly present some of the methodologies and paradigms used in my area of research.

**Tomasina Oh:** Language, the mind and the brain: Insights from disordered language

One way to investigate the relationship between language, the mind and brain is to study language when it breaks down. This short presentation will provide an overview of the projects I am currently working on, which includes studies with schizophrenic and aphasic patients.

**Annett Schirmer:** Interindivudual differences in the processing of vocal emotional expression

Our ability to successfully navigate through social relationships critically depends on how sensitive we are to the emotions of interaction partners. To understand how we extract emotional information conveyed in a speaker’s voice, I conducted a series of studies using online measures such as electroencephalography (EEG) and functional magnetic resonance
imaging (fMRI). These measures revealed the time course and neuroanatomical underpinnings of vocal emotional processing and indicated that both may differ as a function of interindividual variables such as gender and social orientation.

**Mohanan: Theoretical linguistics as a mind-brain study**

My area of specialization is theoretical linguistics, pursued from the perspective of language as the mental linguistic system of an individual ("i-language" in the Chomskian terminology) and the human language faculty as the language module of the human mind-brain. I will briefly outline the kinds of things that I have worked on within this research program, and my general interests (not necessarily what I have done any research on) in other mind-brain related matters, such as the neuropsychology of religion and the neuro-psychology of ethics.

**Rajah Ananda: Religion and Modernity in Singapore: (In)coherent Worldviews?**

My initial research interest concerned sociological explanations for the persistence of religiosity in conditions of secular nation-state making in Singapore. These kinds of explanations, contained in numerous studies, have drawn on various theories or theses to explain this phenomenon, none of which seem satisfactory.

A close examination of the empirical evidence contained in such studies, as well as public domain information (largely media-based), indicate that staunch religionists are quite able to function and participate in a secular, industrial-capitalist society or state. I shall offer some examples of the empirical evidence in my brief presentation.

The problem that this evidence presents, in essence, is this: if religions provide worldviews which enable adherents to establish a certain cognitive coherence in everyday life, and if participation in a secular, industrial-capitalist system also requires such adherents to establish non-religiously based forms of cognitive coherence, how then is this to be explained?

My inclination, at this exploratory stage, is to seek out an explanation that goes beyond the sociological, specifically in the area of cognition and behaviour – which may perhaps require consideration of bi-lingual capability, cortical lateralization and ‘mazeways’. The overall intent is to see if current research on cognition and behaviour would be helpful in terms of explaining the behavioural phenomenon (described above) that would or could be consistent with evolutionary theory.