

DIALOG: Understanding Disorganisation

A Language-focused Global Initiative in Psychosis

Hsi (Tiana) Wei¹, Federico Frau², Lena Palaniyappan¹

1Douglas Mental Health
Institute, McGill University
2University School for
Advanced Studies IUSS
Pavia

A NEGLECTED SYMPTOM

1 **Disorganised patients are less likely to be invited for research studies**

Riedel et al., *Eur. Arch. Psych.* 2005; Spencer et al., *Psychol. Med.* 2017; Spencer et al., *BJPsych* 2018

3

DISCOURSE
IN PSYCHOSIS

300+ members, 6 continents
Harmonised protocol in 14 languages

"ideal core of collaboration to bring diversity to language research"
(Mota Psychiatry Res. 2023)

10 of 22 DIALOG researchers are early career (ECRs)

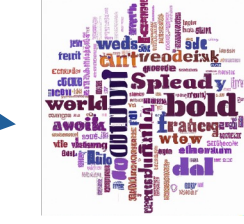
2 **DISORGANISATION**

SOCIAL, CLINICAL and RESEARCH EXCLUSION

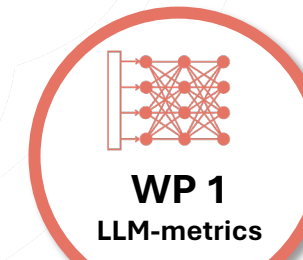
Lonely, silent fight

Disorganisation

4 **Naturalistic speech**



DIALOG: A RARE OPPORTUNITY



WP1
LLM-metrics



Sommer
Psychiatrist
Groningen, NLD

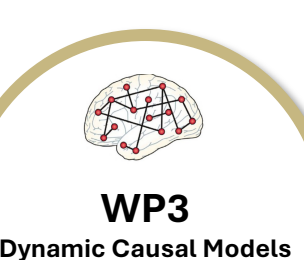


WP2
Synaptic Loss
[11C]-UCB-J PET
in Language Network



Kircher
Psychiatrist
Marburg, GER

SFB/TRR 393
Trajectories of
Affective Disorders
DFG-funded recruitment



WP3
Dynamic Causal Models
resting fMRI in the Language
Network



WP4
Concise Language
Paradigm + Story Task
in MEG



Harrison
Psychiatrist
Cardiff, UK



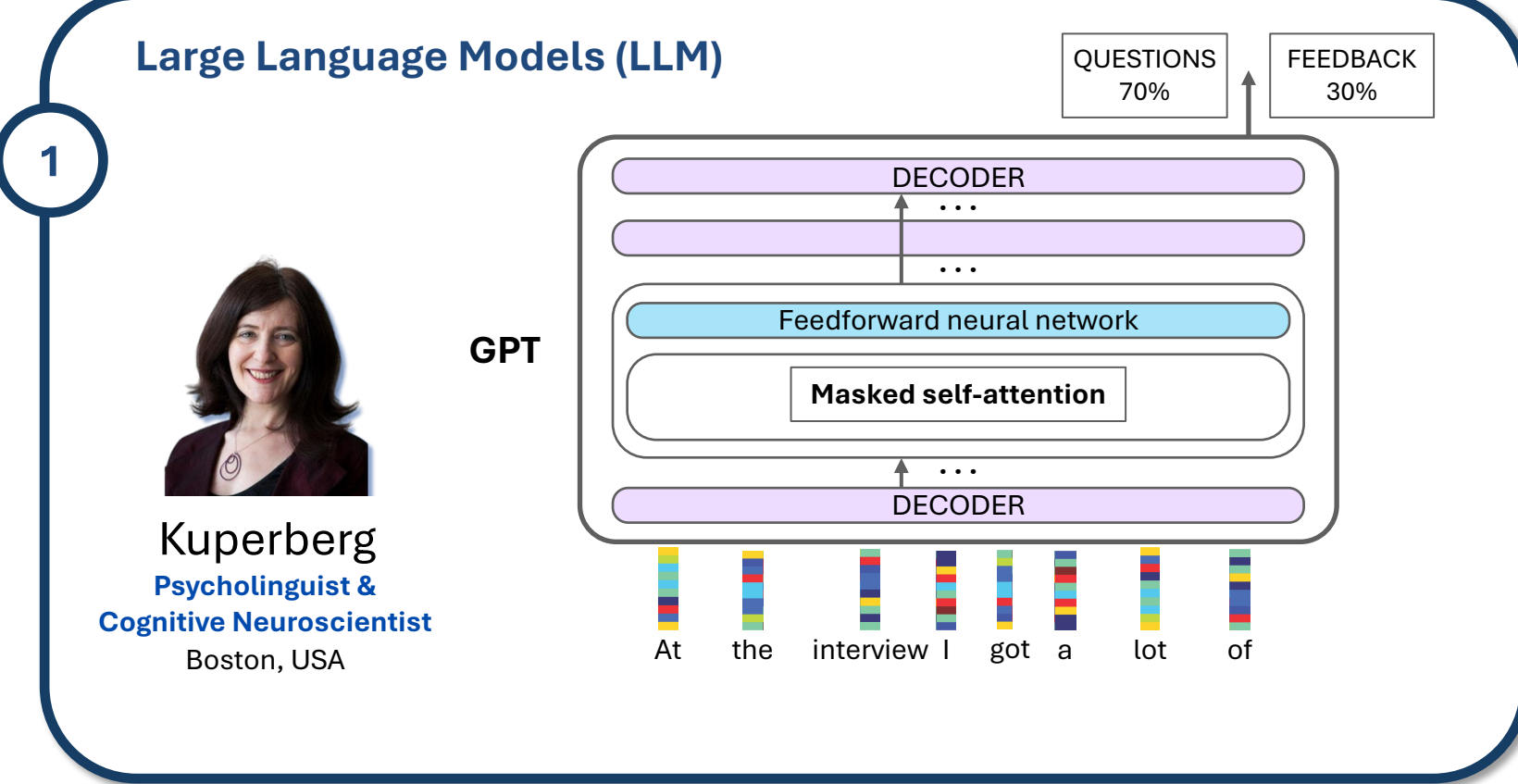
Singh
Electrophysiologist
Cardiff, UK



UKRI-funded recruitment

Samples	Existing	New	Follow-up
WP1 (LLM)	1,096	2,350	1,515
WP2 (PET)	50	15	-
WP3 (fMRI)	748	2,350	1,425
WP4 (MEG)	-	750	-
WP5 (Trans.)	-	60	-

WHAT HAVE WE DONE SO FAR



Probability (Word | Context)

LLM metrics of contextual uncertainty and lexical surprisal from naturalistic speech

He et al., *Psych Res.* 2024; Sharpe et al., (under review); Tang et al., *Schizophrenia* 2022; Alonso-Sanchez et al., *JPN* 2024

KICKSTARTING SYMPTOM-FOCUSED TRIALS



WP5
Translating for Patient Benefit

Catalogue promising therapies



Rossell
Neuropsychologist
Melbourne, AUS

What are the most promising approaches, preferences and barriers in practice?

A SCOPING EXERCISE

Develop novel approaches

PRAGMACOM

Co-design training
Improve accessibility

PRAGMACOM+



Bambini
Linguist
Pavia, IT



Conversation with trainers



Augmented context

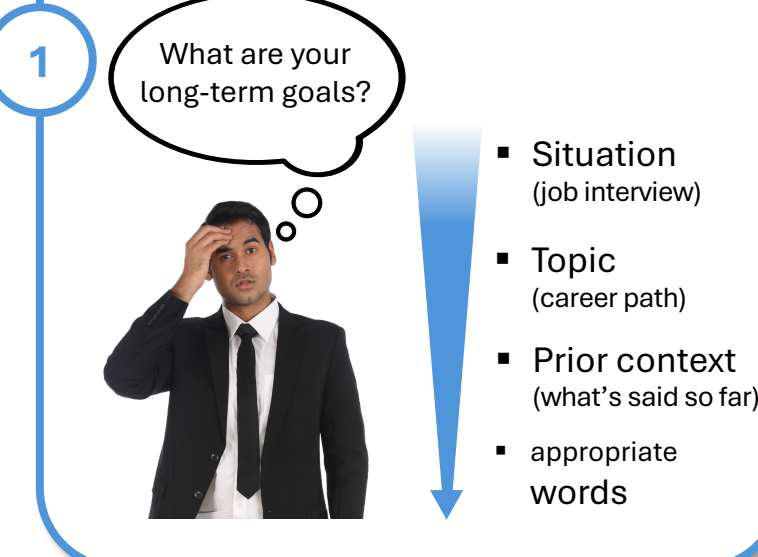


Role-playing

Bambini et al., *J. Commun. Disord.* 2022

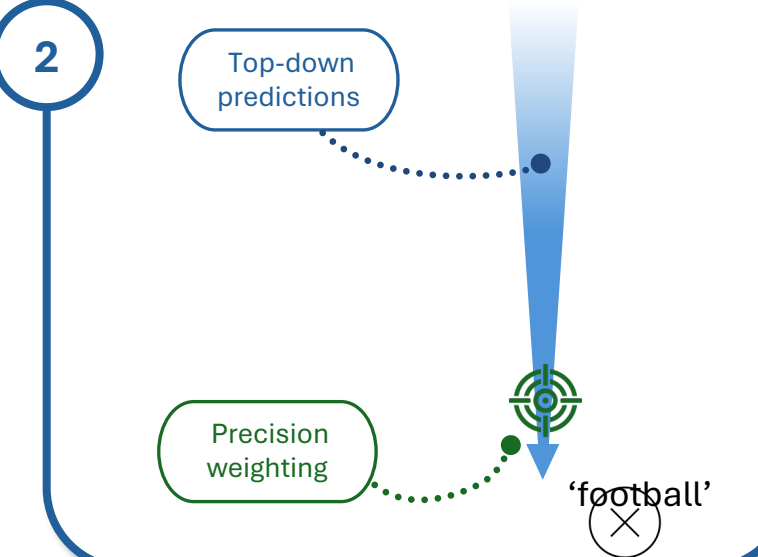
THEORETICAL MODEL OF DISORGANIZATION

Hierarchical generative model

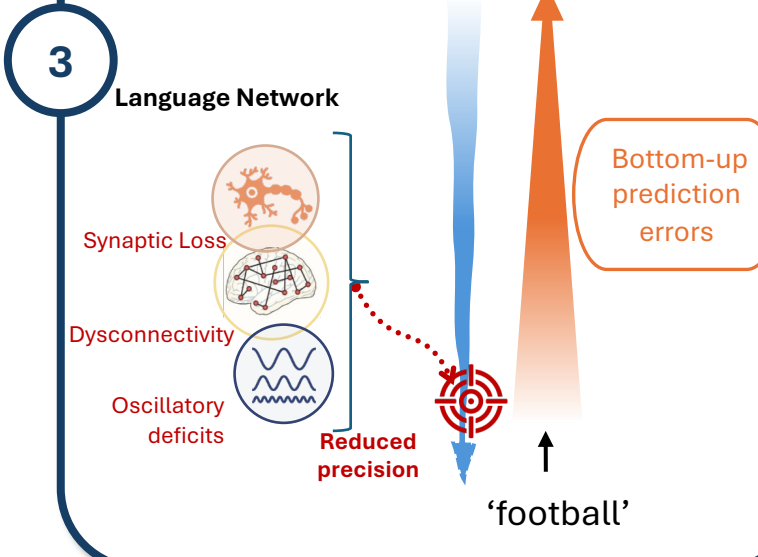


Brown & Kuperberg *Front. Hum. Neurosci.* 2015

Precision-weighted predictive processing

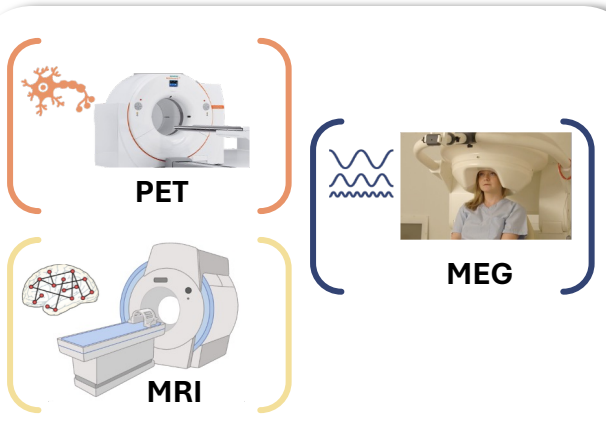


Imprecise top-down predictions in disorganisation



Palaniyappan & Venkatasubramanian *JPN*, 2022

4



WORKING TOGETHER



Ganesh
Patient Expert
Chennai, IND
WP 2, 3 and 4
Exec. committee

1

DESIGN
Shape research questions
Selection of measures
Recruitment and staff training
Retention plan



Delgaram-Nejad
Patient Expert
Devon, UK
WP 1 and 5
Patient Benefit Council
Exec. committee

2

DELIVERY
Focus groups
Survey and training design
Data access plan

3

DIFFUSION
Co-author papers
Presentations
Workshops

Other PPI experts who shaped this proposal
Hodgins (caregiver) - methodology
Cuffaro (youth PPI expert) - engagement strategies
Jo Berry-Firth - DIALOG's Artist-in-residence

DIALOG
Understanding Disorganisation:
A Language-focused Global Initiative

- Initiating near-term translation
- Investing in future leaders
- Building a sustainable data resource



Palaniyappan
Psychiatrist
Montreal, CAN

We are recruiting all talents – speak to any of us named in this poster if you want to know more!

Collaborators: Maria F. Alonso, Sylvain Baillet, Joanne Berry-Frith, Marta Bosia, Erik de Vries, Oli Delgaram-Nejad, Federico Frau, Hashwin Ganesh, Michael Mackinley, Milica Miocevic, Frederike Stein, Philip Sumner, Sunny X. Tang, Philip Tibbo, Alban Voppel, Hsi (Tiana) Wei