UCL Neuroscience Domain

UCL Neuroscience Symposium 2024

Thursday 20th June

Abstract booklet

From Molecules to Mind

Cognition and Behaviour | Elvin Hall

1. Yaniv Abir - Max Planck UCL Centre for Computational Psychiatry and Ageing Research

POSTER TITLE

5HLQIRUFHPHQW OHDUQLQJ PHFKDQLVPV RI DQWLGHSUHVVDQW WUHDW

AUTHORS

$ELU < 4LX = 'HUFRQ 4 0NUWFKLDQ $ 'RODQ 5 .HVVOHU ' /H
1L[RQ 1 :DWVRQ 6 :LOHV 1 3HGGDGD $ %URZQLQJ 0 +X\V 4

ABSTRACT

7ZR H[WHQVLYH OLWHUDWXUHV FRQFHUQ WKH QHXURPRGXODW
QRUDGUHQDOLQH)LUVEWOLQH GPHUDRXGVRERXHGOHOLQLFDO WULDOV
PHGLFDWLRQV WDUJHWLQJ WKHVH QHXURPRGXODWRU V\VWHPV GHS
ODUJH DQG FRQYLQFLQJ ERG\ RI ZRUN KDV HVWDEOLVKHG FDX
UHLQIRUFHPHQW OHDUQLQJ 5/ 7KH LQWHUGLVFLSOLQDU\ ILH
EULGJH WKHVH WZR DUHDV 1HYHUWKHOHVV WKHUH KDV EHHQ
GHSUHVVLRQ WUHDWPHQW UHPDLQV XQFHUWDLQ
:H LQWURGXFH 5(/0(' D SURMHFW DLPHG DW HVWDEOLVKLQJ ZK
YDULRXV QHXURPRGXODWRUV HQJDJH GLVWLQFW FRPSRQHQWV
FRQVHFXWLYH EHKDYLRXUDO DQG FRJQLWLYH FRQGXFWH
LQYROYHV GHSUHVVHG SDWLHQWV UDQGRPL]HG WR UHFHLY
SODFHER 7KH LQLWLDO WULDO ZLOO H[SORUH EURDG 5/ GRPD
VSHFLILF 5/ PHFKDQLVPV
'XULQJ WKH ILUVW WULDO SDUWLFLSDQWV ZLOO HQJDJH LQ D
VWDQGDUG DSSURDFKHV 5(/0(' PHDVXUHV PXOWLSOH 5/ PHFKD
WDVN IUDPHZRUN LQFOXGLQJ DSSHWLWLY3HDYDQRGYDLYHQUVLYH LQ
,QVWUXPHQWDO WUDQVIHU FRQWURODELOLW\ ZRUNLQJ PHP
WKH WDVN VHTXHQFHV WHVWLQJ DELOLW\ DQG UHVXOWV RI DFFHS

2. Benjy Barnett - Wellcome Centre for Human Neuroimaging

POSTER TITLE

&UHDWLQJ VRPHWKLQJ RXW RI QRWKLQJ 6WHSEURHOLHFDWQGQRQV
]HUR LQ WKH KXPDQ EUDLQ

AUTHORS

%DUQHWW %)OHPLQJ 6

ABSTRACT

5HSUHVHQWLQJ WKH TXDQWLW\ ]HUR LV FRQVLGHUHG D XQLTX
WKRXJKW 'HVSLWH FRQVLGHUDEOH SURJUHVV LQ XQGHUVWDQ

EROWKVQRQEROLF HPSW\ VHWV WKH DEVHQFH RI GRWV RQ D VFU
RFFXS\ RUGLQDO SRVLWLRQV DORQJ JUDGHG QHXUDO QXPEHU
FRUWH[1HXUDO UHSUHVHQWDWLRQV RI]HUR DUH HVVHQWLDO LQ
GLVWDQFH HIIHFWV ZLWK FRXQWDEOH QXPHURVLWLHV LQ WKH
QRWDWLRQ 2XU UHVXOWV VKRZ WKDW UHDO QXPEHU FRGHV
MXGJHPHQWV RI QXPHULFDO]HUR DQG RIIHUV FXSSRUW WR WK
UHSUHVHQWDWLRQV RI V\PEROLF]HUR DUH JURXQGHG LQ PRU
DEVHQFHV

3. Lioba Berndt - Applied Computational Psychiatry Lab

POSTER TITLE

QHXURQV 7KLV VXJJHVWV WKDW &$ QHXURQV LQWHJUDWH LQ
WKH DQLPDO¶V EHKDYLRXUDO FKRLFHV DQG HQDEOH VXFFHVVI
&$ S\UDPLGDO FHOO VWLPXOXV UHVSRQVHV DQG FUHDV
OHDUQ WKH WDVN &RQWH[W

ABSTRACT

9LVXDO LPDJHU\ DQG YHULGLFDO SHUFHSWLRQ VKDUH QHXUDO
WKH TXHVWLRQ RI KRZ ZH GLVWLQJXLVK LPDJLQDWLRQ IURP U
WKH YLVXDO FRUWH[LV ORZHU GXULQJ LLVP DVLHQ GRVVWDHEGWKR
GLIIHUHQFH PD\ KHOS LQ GLVVRFLDWLQJ ³KD]\´ LPDJLQDWLRQ
W\SLFDOO\ IDLOLQJ WR PHHW D UHDOLW\ WKUHVKROG IRU SH
7KLV VWXG\ LQYHVWLJDWHV WKH FDXVDO UROH RI VLJQDO VWU
UHDOLW\ XLQLQJQRQ EUDLQ VWLPXODWLRQ 6XEWKUHVKROG 7U
706 KDV EHHQ IRXQG WR LQFUHDVH VLJEHDSHWWRQ

LQGLYLGXDOV ZLWK VSDWLDO GHILFLWV :H ZLOO LQYHVWLJDW
FRJQLWLYH DIIHFWLYH DQG VSDWLDO SHUVSHFWLYH WDNLQJ
HPRWLRQDO HJRFHQWULFLW\ ELDV DQG WKHLU UHODWLRQVKLSV WR
,QGLYLGXDOV ZLWK VSDWLDO GLVRUGHUV L H XQLODWHUDO
ZLOO EH UHFUXLWHG DW +{SLWDO)RQGDWLRQ 5RWKVFKLOG D
SDWWHUQV RI FRJQLWLYH DQG HPRWLRQDO SHUVSHFWLYH WDNLQJ

AUTHORS
2UPH ' 1LHUZHWEHUJ 6 0DF$VNLLO $

ABSTRACT
7R EHKDYH RSWLPDOO\ DQLPDOV EXLOG PRGHOV RI WKH ZRUO
DOORZ SUHGLFWLRQ RI WKH YDOXH RI DFWLRQV 7KH FRPSXWD
OLPLWV WKHLU XVHIXOQHVV VHQVLWLYHQHVV WRZDUGV ZDWKVXJHRVWLQJFV
D ZD\ DURXQG WKLV LV WR VHSDUDWH WKH UHSUHVHQWDWLRQ

PRGHO EDVHG SODQQLQJ XVLQJ UROORXWV ERWK LPPHGLDWHO\ D
3HRSOH WKDW PDGH GHXVHG RUURRGHOWV VKRZHG 0(* VLJQDWXUHV
G\QDPLFV WKURXJK WKH WUDQVLWLRQ PRGHO IRFXVHG RQ WK
FRQVROLGDWLRQ WKHRU\ DOVR ZH VKRZ WKDW RQ GD\ IROO
G\QDPLFV DUH LQFUHDVLQJO\ IRXQG LQ WKH SUHIURQWDO FRU

28. Emma Ward - Experimental Psychology

POSTER TITLE

6XUSULVH LPSDLUV SHUFHSWLRQ RI VXUSULVLQJ DQG LQFLGHQ

AUTHORS

:DUG (. 3UHVV &

ABSTRACT

:KHQ HQYLURQPHQWDO UHJXODULWLHV FKDQJH QHZ REVHUYDW
WKDQ ROG REVHUYDWLRQV WR DOORZ PRGHO XSGDWLQJ LQ D
HQYLURQPHQWDO UHJXODULWLHV LQIOXHQFH OHDUQLQJ UDWH
LQIOXHQFH SHUFHSWLRQ RI WKH VWLPXOL WKHPVHOYHV $ UHF
REVHUYDWLRQV WULJJHU D UHDFWLYH QRUDGUHQDOLQH UHOH
PHDQ WKDW HQYLURQPHQWDO FKDQJHV HOLFLW SRZHUIXO SW[DFFRXQW ZH DVNHG ZKHWKHU GHWHFWLRQ RI VXUSULVLQJ HY
LPSURYHV DIWHU D VXUSULVLQJ REVHUYDWLRQ 3DUWLFLSDQW
VWLPXOL SUHVHQWHG SHULSKHUDOO\ DQG GLIIHUHQWLDWHG RQ
WKRVH HYHQWV 3HULSKHUDO VWLPXOXV ORFDWLRQ ZDV GUDZ
WKH PHDQ RI ZKLFK FKDQJHG RQFH ZLWKRXW ZDUQLQJ GXULQ
DVN ZKHWKHU WKH VXUSULVLQJ GRVHV LQFUHDVHG WKHLU QRYHOW\ 7KH PR
LQVWHDG FRQVLVWHQWO\ ORZHU KLWUDWHV RQ WULDOV ZLWK
IRU WKH SHULSKHUDO VWLPXOL ZKLFK ZHUH WKHPVHOYHV VXU
HQYLURQPHQWDO LQGLQJ VXJJHVWV WKDW VXUSULVLQJ REVHUYDW
VHQVRU\ JDLQ DQG VXJJHVWV LQVWHDG WKDW DWWHQWLRQDO
LQIRUPDWLYH IHDWXUHV

PRXVH EUDLQ WR XQGHUVWDQG '0'

Disorders of the Nervous System | Elvin Hall

38. Alaa Alhamdi - Department of Pharmacology

POSTER TITLE

7DUJHWLQJ SHUR[LVRPH SURWHLQ DFWLYLW\ RU H[SUHVVLRQ DIIHFWV SURJQRVLV DQG UHVSRQVH WR WKHUDSHXWLF WDUJHW WR HQKDQFH XQGHUVWDQGLQJ RI GHYHORSPHQW RI

AUTHORS

$OKDPGL $ 3KLOOLSV - 5D\QHU 0

ABSTRACT

&OLQLFDO RXWFRPHV DIWHU SHULSKHUDO QHUYH LQMXULHV 3 WKH SRWHQWLDO UHJHQHUDWLRQ FDSDFLW\ RI WKH SHULSKHU JRO/GVDQGDUG VXUJLFDO WUHDWPHQW PHWKRGV KDYH &RQVLGHUDEOH OLPLWDWLRQV 7KHUHIRUH WKH FOLQLF WR SURPRWH QHUYH UHJHQHUDWLRQ IROORZLQJ 3 SRWHQWLDO WR DFFHOHUDWH QHUYH UHJHQHUDWLRQ 5HVHDU VXJJHVWV WKDW SHUR[LVRPH SUROLIHUDWRU [$ EH D WKHUDSHXWLF WDUJHW WR HQKDQFH QHUYH

LPPXQRVWDLQLQJ 7KLV LQGLFDWHG WKH UHJXODWLRQ RI G\V
GLIIHUHQWLDWLRQ DORQJ GLIIHUHQW FHOO W\SHV ,PSRUWDQ
GLIIHUHQWLDWLRQ LQ ERWK '0' OLQHV FRPSDUHG WR KHDOWK\
H[SUHVVLRQV RI QHXURQDO 7XEXOLQ V WXEXOLQ DQG V\
DGGLWLRQ '0' DVWURF\WHV VKRZHG DEQRUPDO DFWLYDWHG S
VLJQLILFDQW GLIIHUHQFHV LQ JHQH H[SUHVVLRQ E\ 57 3&5 ZHVWHUQ EORWWLQJ DQG LPPXQRVWDLQLQJ 'LIIHUH
LQFOXGHG ($$7 JOXWDPLQH V\QWKHWDVH JOXWDPLQH RI PH
SDWKZD\V LQ '0' DVWURF\WHV ZDV FRQVLVWHQWO\ REVHUYHG
VWLPXOL)LQDOO\ ERWK WUDQVFULSWRPLF GDWD DQG &D LP
GHPRQVWUDWHG G\VUHJXODWLRQ RI &D VLJQDOLQJ SDWKZD
DVWURF\WHV VXJJHVWLQJ WKDW UHJXODWLRQ RI WKLV SDWKZ
LVRIRUPV 7RJHWKHU WKLV VWXG\ LQGLFDWHV WKDW G\VUHJ
GLIIHUHQWLDWLRQ DQG VXJJHVWV D UROH IRU G\VUHJXODWLRQ LQ
IXQFWLRQ

40. Ellen Appleby -

51. Alessandro Marinelli - Department of Neuroinflammation, UCL

POSTER TITLE

DJH $GGLWLRQDOO\ ZH LQYHVWLJDWHG KRZ WKH SUHVHQFH R
NQRFNRXW EDFNJURXQG DOWHUHG EHKDYLRXU DW WZHOYH PR
:H K\SRWKHVLVHG* WKDW$ZRXOG LPSDLU FRJQLWLRQ DQG ORFL
ZLWK DJH DQG WKDW WKH SUHVHQFH RI K7DX ZRXOG H[DFHUE
7KH DQLPDOV XQGHUZHQW D EDWWHU\ RI EHKDYLRXUDO WHVW
PD]H P<D]H 1RYHOP DUHP RQG /LJKW 'DUN ER['DWD DQDO\VLV LV
DYDLODEOH UHVXOWV LQGLFDWH QR GLIIHUHQFHV LQ ORFRPRV
)XUWKHUPRUH LW DS*S)HDKU7DXWKDQG $SDSS1W

$ PDUNHG UHGXFWLRQ LQ V\QDSWLF SXQFWD FORVHU WR WKH
LQ & 4 OHYHOV DQG & V\QDSVHV 7KH YROXPH RI PLFURJOLD D
ZDV DOVR KLJKHU FORVHU WR SODTXHV ,QWHUHVWLQJO\ ZH V
DFFXPXODWLQJ LQVLGH PLFURJOLD LQ 1/)7UHP 5 + FRPSDUHG

56. Silvia Purro - UCL Institute of Prion Diseases

POSTER TITLE

$' NQRFNRXW PRGHOV DUH D UREXVW WRRO WR VWXG\ $WKRO

AUTHORS

3XUUR 6$ 5DYH\ -)DUPHU 0 4XDUWHUPDQ (7XUQEXOO & 1R
%UDQGQHU 6)DUURZ 0 :DOVK '0 &ROOLQJH -&

ABSTRACT

$O]KHLPHU¶V GLVHDVH $' LV GHILQHG E\ WKH DFFXPXODWLRQ
SODTXHV 7KH ODFN RI DQLPDO PRGHOV KDV KLQGHUHG RXU XQGHUVWDQGLQJ
RYHUH[SUHVVLQJ SURWHLQV KDV KLJKOLJKWHG WKH UROH RI PLFURJOLD
LQRFXODWHG 1/SS1/ NQRFNLQ PLFH ZKLFK H[SUHVV KXPDQ $SS
ZLWK H[WUDFWV IURP $' EUDLQV RU WR DQ $' SDWKRJHQHVLV :H SUHVHQW D ORQJLWXGLQDO PRUSKRORJLFDO DQDO\VLV W
WRSRORJLFDO HPEHGGLQJ RI PLFURJOLD XSRQ LQMHFWLRQ RI $
2QO\ PLFH LQRFXODWHG ZLWK $' EUDLQ H[WUDFWV HYLQFHG H
3DUHQFK\PDO GHSRVLWV H[WHQGHG WR WKH FHUHEHOOXP D S
H[WHQW RI YDVFXODU DP\ORLG H[FHHGHG WKRVH
,QWHQVH WDX SKRSKRU\ODWLRQ FRQWDLQHG HLQ
FRUUHODWLRQ EHWZHHQ ODWH WDX SDWKRORJ\ DQG UHJLRQV
GHSRVLWLRQ EXW $WHG DQLPDOV
2XU ZRUN HVWDEOLVKHV 1/) PLFH DV D SK\VLRORJLFDO\ UHO
WHPSRUDO DQG PHFKDQLVWLF DQG DWD[RSDWK RE\WZHHQ $DU
GHSRVLWLRQ VHHGHG E\ LRDFWLYW\ IURP KXPDQ VDPSOHV

57. Dervis Salih - UK Dementia Research Institute at UCL

POSTER TITLE

*HQHWLF YDULDWLRQ DVVRFLDWHG ZLWK KXPDQ ORQJHYLW\ DQ

DVVRFLDWHG JHQHWLF YDULDWLRQ LQ KRPHRVWDWLF PLFURJOLD ZKLFK PD\ GULYH ³LQIODPPDJHLQJ FRQWULEXWLQJ WR DJHLQJ DQG $'

3&$ VWURNH FDQHLYHSDLQGRZWHUPHGLDWH YLVXDO SURFHVV
SHUFHSWLRQ DVZHOOSDUWKLVQJ IDFH ZRUG DQG REMHFW
WKH OLQN EHWZHHQ VWUXFWXUDO GDPDJHGRLFRZLQDW3&$ V
YHQWUDO VWUHDP UHPDLQV XQFOHDU

$LPV DQG +\SRWKHVHV 7KLV VWXG\ DLPV WR FODULI\ KRZ VWU
LQIOXHQFHV IXQFWLRQDO GHILFLWV LQ YLVXDO SURFHVVLQJ
PHWULFV DUH FRUUHODWHG WR YHQWUDO VWUJHUDPXFWXUHV
RI ZKLWH PDWWHU WUDFWV DUH DVVRFLDWHG ZLWK WKH SHUI

0HWKRGV)URP WKH PDFURVWUXFWXUDO SHUVSHFWLYH VWUX
XVLQJ WKH 9LUWXDO %UDLQ *UDIWLQJ PHWKRGEDQGHGFRQVWUDL
DQDWRPLFDOO\ WUDFWRJUDSK\ LQ 3&$ VWUHUHVHDUFK
52, DQDO\VHV HYDOXDWHG GLIIXVLRQ WHQVRU PHWULFV ZLW
SDWLHQWV DQG KHDOWK\ FRQWUROV 1 WR SURYLGH LQVL

5HVXOWV DQG 'LVFXVVLRQ 7KH GDWD DQDO\VLV SDUW VKRXG

Homeostatic and Neuroendocrine Systems | Elvin Hall

60. Nikhil Mummaneni - National Institute of Neurological Disorders and Stroke

POSTER TITLE

&XVKLQJ¶V GLVHDVH SDWLHQWV GHPRQVWUDWH GHFUHDVHG VWUHVV UHVSRQVH DQG LPSURYHG [\ORRURGHR[\JOXFRVH XSWDNH

AUTHORS

0XPPDQHQL 1 $VX]X ' &KLWWLERLQD 3

ABSTRACT

,QWURGXFWLRQ &XVKLQJ¶V GLVHDVH LV DQ HQGRFULQH FRQG
VHFUHWLQJ SLWXLWDU\ DGHQRPDV ,W LV XQNQRZQ LI WKHUH
LQ PDOH YHUVXV IHPDOH SDWLHQWV ZLWK &XVKLQJ¶V GLVHDV
0HWKRGV :H UHWURVSHFWLYHO\ UHYLHZHG WKH [\JOXFRVH)'* 3(7
RI HLJKWHHQ &XVKLQJ¶V GLVHDVH SDWLHQWV IHPDOHV DQG
FRUWLFRWURSLQ UHOHDVLQJ KRUPRQH &5+ DGPLQLVWUDWLRQ WR GHW
VLJQLILFDQW PHWDEROLF FKDQJHV LQ WKH EUDLQ
5HVXOWV $QDO\VLV RI WKH DGXOW PDOH FRKRUW UHYHDOHG
LQFUHDVHG LQ)'* XSWDNH IROORZLQJ &5+ DGPLQLVWUDWLRQ
WHPSRUDO DQG SDULHWDO OREHV S UWV$GGLWLRQDOO\ GLVWLQ

Neural Excitability, Synapses, and Glia: Cellular Mechanisms | Elvin Hall

61. Isabel Bravo-Ferrer - Cell and Developmental Biology

POSTER TITLE
&KDUDFWHUL]DWLRQ RI DVWURF\WH VHFUHWHG IDFWRUV WKDW

AUTHORS
%UDYR

PHFKDQLVPV LQ UHVSRQVH WR 1DY ORVV 1DY PD\ DFW DV
JLYHQ WKDW RYHU RI 1DY SRVLWLYH FHOOV DOVR H[SUHV
SLYRWDO UROH LQ HSLOHSV\ LV H[SUHVVHG ZLWKLQ GRUVDO
VRGLXP FKDQQHOV ,Q DGGLWLRQ 1DY KDV EHHQ IRXQG WR
HSLWKHOLDO 1DY PLFH :H HPSOR\HG LPPXQRKLVWRFKHPLVW
VSHFWURPHWU\ WR DVVHVV FKDQJHV LQ 1DY
NQRFNRXW

63. Emma Clark - Cell and Developmental Biology

POSTER TITLE

9LVXDOLVLQJ WKH VSDWLDO UDQJH RI QHXURSHSWLGH DFWLRQ

AUTHORS

&ODUN (6WRQH (-LPHQR 0DUWtQ È :DWWH\QH $ %HHWV ,

ABSTRACT

7R VXUYLYH DQLPDOV PXVW DGDSW WKHLU EHKDYLRXU WR ZL
6XFK EHKDYLRXUDO IOH[LELOLW\ DULVHV IURP DOWHUDWLRQV
PROHFXOHV NQRZQ DV QHXURPRGXODWRUV $ PRUH
ZKLFK FDQ GLIIXVH H[WUDV\QDSWLFDOO\ WR DOWHU FLUFXLW
KDYH WKH SRWHQWLDO WR
VSHFLILF PDQQHU E\ DFWLQJ RQ
FRQIHU WKLV FLUFXLW VSHFLILFLW\ WR QHXURSHSWLGH WUDQ

7R DQVZHU WKLV TXHVWLRQ ZH DUH DGDSWLQJ D V\VWHP WR
DFWLYDWLRQ LQ & HOHJDQV :H DUH LPSOHPHQWLQJ WKH 7$1*
OLJDQGHG HSWRU LQWHUDFWLRQV LQWR VWDEOH H[SUHVVLRQ RI

66. Megan Tomlin - Cell and Developmental Biology

POSTER TITLE

&RQFRPLWDQW FKDQJHV LQ JOLDO F$HO]KHLPHU¶V GLVHDVH PRXVH PRGHO

AUTHORS

7RPOLQ 0)OHRUHVQ1 6DOLQDV 3&

ABSTRACT

6\QDSVH ORVV LV DQ HDUO\ KDOOPDUN RI $O]KHLPHU¶V GLVHD

Novel Methods, Resources and Technology Development | Drama Studio

67. Padraig

ABSTRACT

PHDQV RI DFFXUDWH ,&3 PHDVXUHPHQW SUHVHUYHG GXULQJ WLRQHFWL
WDUJHWHG WKHUDS\ IRU WKHVH FRQGLWLRQV ,Q WKLV VWXG\
WHFKQLTXHV DQG QRYHO\ FDSWXUH PRGXODWLRQ RI ,&3 DQG SDV

,&3 ZDV PHDVXUHG XVLQJ D SUHVVXUH VHQVRU 'LJLWLPHU LQ
+\GURFHSKDOXV ZDV LQGXFHG E\ ELODWHUDO LQWUDFHUHEUR
UHFHQWO\ GHYHORSHG D QRYHO 05, IXQFWLRQDOLWHVWRLDVHGDW %
%UXNHU XVLQJ DEHOLDQ 05, 7R DOWHU ,&3 DQG K\GURFHSK
DPLQRSK\OOLQH ZDV LQWUDSHULWRQHDOO\ LQMHFWHG IROORZ

$PLQRSK\OOLQH DGPLQLVWUDWLRQ GHFUHDVHG WKH DPSOLWXGH RI &3 ZLW
FRQFRPLWDQW GHFUHDVH LQ WKH K\GURFHSKDO
GHILQHG E\ LQFUHDVHG YHQWULFXODU YROXPH DQG GLODWLRQ
SUHVHQWHG E\ DPLQRSK\OOLQH LQWUDYHQWULFXODU FRQWUROQRQF KQLTXH W
KDV WKH SRWHQWLDO WR LQIRUP WKH GHYHORSPHQW RI QRYHO WUHDWPHQ

74. Sahil Patel - Department of Clinical and Experimental Epilepsy

POSTER TITLE

*5$13$ 3URWHLQ FRXSOHG 5HFHSWRU 3URWHLQ 6LJQDOLQJ LQ WKH 3DWKR

AUTHORS

DQDWRPLFDOO\ PDS WKH SRVWQDWDO6 FRUWLFDO WKLFQHVV RI WKH KLQG OLPE 6 KO LQWR WKH OXPED

6 KO6 SURMHFWLRQV ZHUH ODEHOOHG E\ LQMHFWLQJ PLFH DV
ZLWK HLWKHU D UHWURJOREDO OHVLRQ RI WKH GRUVDO OXPEDU FRUG
IOXRUHVFHQW GH[WUDQ \DQWHURJUDGH $$9 YLUDO 7SHFWRUDO ZDOO WKH 6 K
IRXQG WR H[WHQG WR OXPEDU VSLQDO VHJPHQWV DW 3 DQG U
3 6 K6 D[RQDO EUDQFKLQJ ZLWKLQ WKH GRUVDO KRUQ DW
ZLGHO\ WKURXJKRXW WKH GRUVDO JUH\ PDWWHU RI SDUWLFXODU
ZKLFK ZHUH QRW DWWDLQHG XQWLO 3
2XU UHVXOWV GHWDLO6 WKH DQDWRPLFDO GHYHORSPHQW LQ PRXV
WKH GHOD\HG PDWXUDWLRQ RI WKHVH SURMHFWLRQV FRXOG X

86. Julie Fabre - UCL Queen Square Institute of Neurology

POSTER TITLE

9LVXDO DQG YLVXRPRWRU VLJQDOV DFURVV WKH EDVDO JDQJO

AUTHORS

)DEUH -0- 3HWDHUDVQ-LQL 0 +DUULV .+

ABSTRACT

7KH EDVDO JDQJOLD OLQN VHQVRU\ LQSXW ZLWK PRWRU DFWLL
ZKDW H[WHQW WKHLU DFWLYLW\ LV UHODWHG WR VHQVRU\ YHP

KROGLQJ SRWHQWLDO YDULDQWV XQERXQG KDODPLF QXFOHXV 671 VWLPXO
DXGLWRU\ IURHOTXHQF\ UHVSRQVH WDVN))5 D SRSXODU WRRO
EUDLQVWHP DV WKH QHXUDO UHVSRQVH LQ WKUHH FLRVUHWLFDO DQ
UHIOHFWV WKH RQJRLQJ G\QDPLFHVFRIVDXVHGHFK URHFQRQHG ((*
'%6 HOHFWURGHV IURP SDWLHQWV LQ IURP WKH 671 DQG F
QXPEHU RI FRUWLFDO DQG VXEFRUWLFDO DUURQWDOWLRQVL
GXULQJ DQ))5 DW D IUHTXHQF\ KLJKHUWKDQWKH XSSHERUWLP
+] 2XU UHVXOWV UHYHDOHG D QHXUDO UHSRQVH ORFDO
7KLV ILQGLQJ LV QRYHO $XGLWRQU\SLDUFHSWDWLRQHULQXQKHDOWK
671 JHQHUDWRU RI WKH))5 KDV OLNHO\ JRQH XQVHHQ GXH WR
UHVHDUFK IRFXV 7KH SRWHQWLDOHDFKQDQFDXVPXSUHFUHWLRQV
LQYHVWLJDWH ZKHWKHFURRDXGQWHROHFWVWULFXOLVDWLPXODWLRQ IU
ZDYHIRUPV RI HOHFWULFDO '%6 VWLPXODWLRQ FDQ LQGXFH FO

88. Karolina Farrell - Francis Crick Institute

POSTER TITLE
([FLWDLWRKULELWRU\ G\QDPLFV LQ DXGLWRU\ NFHRSWUHFHSWXULQJ KD

AUTHORS
)DUUHOO . 6FKPDFN .

ABSTRACT
+DOOXFLQDWLRQV DUH D FDUGLQDO IHDWXUH RI SV\FKRVLV G
ZLWK WKH VDPH FRQILGHQFH DV YHULGLFDO SHUFHSWXRQ 'HV
JOREDO SRSXODWLRQ WKH QHXUDO PHFKDQLVPV RYHUOHDSSLQJ
SURKLELWLYHO\ GLIILFXOW WR VWXG\ JLYHQ WKH ODFN RI WUD
KDOOXFLQDWLRQV LQ PLFH XVLQJ DQ DXGLWRU\ GHWHFWLRQ W
SHUFHSWLRQ DV IDOVH DODUPV ZLWK KLJK FRQILGHQFH

,Q VFKL]RSKUHQLD DXGLWRU\ KDOOXFLQDWLRQV DUH PRUH FR
DQG KDYH EHHQ OLQNHG WR HOHYDWHG DXGLWRU\ FRUWH[DFW
PHFKDQLVPV RI WKLV K\SHUDFWLYLW\ ZH DVN KRZ GHWHUPLQH
FRUWH[UHVSRQG GXULQJ YHOLGLKDEHDXGDWRU\ SHUFHSWLRQ L
GHVFULEH KRZ WKH DFWLYLW\ RI WKHVH WZR JHQHWLFDOO\ GL
VLPXOWDQHRXVO\ LPRDYLHQG LPQFHUHXHFRQJRDUGXDQLRXFRSHDVN :H
DVN KRZ 10'$5 EORFNDGH YLD V\VWHPLF DGPLQLVWUDWLRQ RI
ZLWK WKH VSHFLILF K\SRWKHVLV WKDW NHWSRLQHVLVPHIIHFW
LQKLELWRU\ LQWHUQHXURQV WRWGHVLHEKLEQFWUSDUDGRJGWKHQHX
FRQILGHQFH IDOVH DODUPV)LQDOO\ ZH H[SORUH ZKHWKHU F
LQWHUQHXURQV FDQ UHSOLFDWH WKH HIIHFW RI NHWDPLQH¶V

89. Elizabeth Freeman - UCL Ear Institute

POSTER TITLE
(DUV WXQHG IRU ORYH H[SORULQJ WKH PROHFXODU FRQWURO

neurons preferring small stimuli did not change their tuning. However, it reduced responses to large stimuli in neurons that preferred those stimuli.
In conclusion, the apical dendrite appears to deliver visual drive from distant parts of visual space to the neurons that prefer large stimuli. Additionally, it amplifies responses to stimuli within the receptive field. Finally, the apical dendrite does not seem to carry behavioural signals, which may instead arise from inputs to the basal dendrites.

93. Kaho Magami - UCL Ear Institute

POSTER TITLE
7KH VXVFHSWLEOH EUDLQ +RZ VKRUW LQWHUUXSWLRQV DIIHFW
UHSUHVHQWDWLRQDO GLVWULEXWLRQV IURP ((*

AUTHORS
0DJDPL . 3HDUFH 0 &KDLW 0

ABSTRACT
7KH EUDLQ SUHGLFWV IXWXUH HYHQWV E\ WUDFNLQJ VWLPXOX
GHPRQVWUDWHG D QHXUDO VLJQDWXUH IRU WKLV SURFHVV LQ
VKRZQ WKDW OLVWHQHUV¶ EUDLQV UHSUHVHQW GHYLDQW VWLPXOL
LQIHUUHG PRGHO WR SURFHVV LQFRPLQJ LQIRUPDWLRQ +HUH
UHSUHVHQWDWLRQV DUH DIIHFWHG E\ EULHI LQWHUUXSWLRQV
ZHUH FRQVLGHUHG D LQWHUUXSWHU VWLPXOXV GDQGZWKOHU URSJRHQHUDWH
EUDLQ E LQWHUUXSWLRQV DUH LQWHJUDWHG LQWR WKH UHS
WKHVH SURFHVVHV LV FUXFLDO IRU XQGHUOLQJ WKH KHXUL
WUDFNLQJ DQG PD\ DOORZ RSGHRYLGRUVLRQ FRPSOH[SKHQRPHQ
:H XVHG ((* PHDVXUHPHQWV LQ QDwYH SDUWLFLSDQWV SDVV
SLS VHTXHQFHV 6RPH VFHQHV LQFOXGHG RQH RU WZR SDW
REVHUYHG WKDW VXFK LQWHUUXSWLRQV DIIHFWHG QHXUDO VI
EUDLQ VWDWHV QHYLHUWUHUUXSWHG RQ WRSDUWHV $Q LGHDO REVH
WKLV UHIOHFWV LQFUHDVHG H[SHFWDWLRQ RI XQSUHGLFWDEL
ILQGLQJV SURYLGH QHZ LQVLJKWV LQWR KRZ SUHGLFWLRQV
KRZ WUDQVLHQW VXUSULVHV UHVHW FHUWDLQ FRJQLWLYH
376'

94. Jay Mavi - Department of Natural Sciences

POSTER TITLE
6RXUFH ORFDOLVDWLRQ DQG SLWFK LQ WKH GHYHORSLQJ QHR

AUTHORS
0DYL -

ABSTRACT
,Q HDUO\ OLIH PDQ\ QHXURQDO XQGHUJR PHGLDWHG SOJ
QR[LRXV VWLPXOL *LYHQ WKDW KLJKHU VWHUHRW\SHG DVVRFLDWHG Z
QR[LRXV VWLPXOL LQ LQIDQF\ HOXFLGDWHG DQG SURKHKHWLQJHQF
FRUWLFDO OHYHO LV RI VLJQLILFDQW LPSRUWDQFH (OHFWURH
WHFKQLTXH ZLWKLQ WKH ILHOG SDUWO\ GXH WR LWV KLJK WH

96. Eleni Petridou - UCL Research Department of Neuroscience, Physiology and Pharmacology

POSTER TITLE

$FWLRQ VFKHPDWLF TXHQFHV KRZ GRHV WKH EUDLQ XVH VHQVRU\ IH
DFURVV WLPH DQG FRPSOH[LW\ VFDOHV"

AUTHORS

3HWULGRX (%LDQFR ,

ABSTRACT

6HQVRU\ IHHGEDFN WKH FKDQJH LQ VHQVRU\ LQSXW WKDW DU
EH XVHG WR HYDOXDWH GHFLVLRQV DQG LQIRUP VXEVHTXHQW
DGDSWDWLRQV FDQ RFFXU RYHU GLIIHUHQW WLPH DQG FRPSOH
DQG VXVWPHQWV RI PRWRUOHDUQLQJ WLPHVFDOHV WHRVOLQQEHKDYLRUDO VV
WKH FLUFXLW PHFKDQLVPV E\ ZKLFK WKH EUDLQ XVHV VHQVRU
DGDSWDWLRQV LV VWLOO XQNQRZQ $Q H[SHULPHQWDO DSSURDFH
WKH ODUYDO]HEUDILVK ZLWK FKURQLF XOWUDYLROHW EODVWLQJ\ WR EH PRQLW
%\ SODFLQJ]HEUDILVK LQ D YLUWXDO UHDOLW\ HQYLURQPHQW
YLVXDO IHHGEDFN PRGXODWH WKH PRWLQHUJHQLF EHKDYLRXUDO GVGULXYHQ
GXULQJ ZKLFK WKH DQLPDO SXUVXHV LWV SUH\ XVLQJ ILQHO\ R
RXU DQDO\VLV IRFXVHV RQ WKH DVVHVVPHQW RI PRWRU DQG V
SUHGDWRU\ DFWLRQV XEWKHTXHQW OLFWLRQ WR ZLWKLQ D KXQWLQ
SRWHQWLDOO\ UHIHFWLQJ BXRYHDGOSWDXULRQ RI VHTXH
LQLWDEWURQSUREDELOLWLHV WKH DQLPDO WHUJKWGLSWSLRQDO VD
DQG SUHYLRXV H[SHULHQFHV ZKHUHLQ ZLOGLQGLVWLQFHOZKLOPHLPDJLQJ WR
FKDQJHV LQ QHXUDO DFWLYLW\ DVVRFLDWHG ZLWK WKHVH PXC

97. Irene Salgarella - Laboratory for Molecular Cell Biology

POSTER TITLE

1HXUDO 0HFKDQLVPV 8QGHUO\LQJ 7KH 2QVHW RI 3DUHQWLQJ %

AUTHORS

6DOJDUHOOD , $PPDUL 5 .RKO -

ABSTRACT

3DUHQWLQJ LV D VRFLDO EHKDYLRXU WKDW LV PRGXODWHG E\
DO :KLOH SUHJQDQF\ KRUPRQHV OHDG WR DQ RQVHW RI
PLFHHQ FRXQWHU SXSV E\

DWW`€ppH XS +U

,Q VHQVLWL]HG IHPDOHV 032$*DO QHXURQV VKRZ DQ LQFUHDV
DQG LQKLELWRU\ SRVWV\QDSWLF FXUUHQWV EXW RQO\ WKH D
FKDQJHV LQ VSLQH GHQVLW\ DUH REVHUYHG
WR VHQVLWL]DWLRQ DUH SUHGRPLQDQWO\ SUHV\QDSWLF ZLWK
0\ SURMHFW ZLOO WKXV PDNH FUXFLDO FRQWULEXWLRQV WRZ
LQVWLQFWLYH EHKDYLRXU FLUFXLWV

98. Sina Tootoonian - Sensory Circuits and Neurotechnology Laboratory

POSTER TITLE

8QGHUVWDQGLQJ WKH ROHV RI WKH ROIDFWRU\ E

AUTHORS

7RRWRRQLDQ 6 $FNHOV 7 6FKDHIHU $7

ABSTRACT

8QGHUVWDQGLQJ D EUDLQ DUHD UHTXLUHV VSHFLI\LQJ ERWK Z
QHXURQV DQG V\QDSVHV LPSOHPHQW
KLJKHU VROXWLRQ FRQQHFWRPLFV SURYLGH HYHU
UHTXLUH PHWKRGRORJLHV WKDW HIILFLHQWO\ FRPELQH WKHP
DFFHVVLELOLW\ ULFK VWUXFWXUH DQG G\QDPLFV DQG EHKDY
EXOE 2% PDNH LW DQ HQWLFLQJ WHVW

their mentors, before completing their application. Students are registered in the UCL Doctoral School and receive a PhD from UCL in 4 years or less. Scholarships include V W X G H Q W V ¶ I H H V V W L S H Q G K H D O W K E H Q H I L W V s Dn Q G D W U D Y H Neuroscience can participate in the program as Advanced Scholars visiting the NIH for 1 to 2

IURP RQOLQH VRXUFHV $ WRWDO RI FRQVXOWDQW QHXURO
8. 7KHUH ZDV SUHGRPLQDQFH RI PHQ DW FRQVXOWDQW OHYHO
D IXOO SURIHVVRU SRVLWLRQ $OO NHQDFRHORXO /SHUVRIEVDFW
EURZQ QHXURORJLVWV KDG REWDLQHG D 3K' DQG ZHUH FRQVX
DIILOLDWHG ZLWK D XQLYHUVLW\ DQG KDG REWDLQHG WKHLU F
DQG ZKLWH QHXURORJLVWV KDG XRORHUVLWZRKDVWKRU
PRUH FLWDWLRQV 7KH VXUQDPH V FRPSOH[LW\ZDV[QDQGDWLYH
FLWDWLRQV 7KH QDPHV RI WRS XQLYHUVLW\ JUDGXDWHV IRU
1HXURORJLVWV ZLWK DSRXKHUEHQRPHWULFV 0DOH QHX
PDVFXOLQH QDPHV ZHUH PRUH OLNHO\ WR EH WRS XQLYHUVLW
KDG KLJKHU ELEOLRPHWULFV ,Q FRQFOXVLRQ WKLV VWXG\ UH
HGXFDWLRQLQLFSDGXFWLYLW\ DQG FDUHHU SURJUHVVLRQ LQH
QHXURORJLVWV