

**CoRR**

# Consortium for Reliability and Reproducibility

**An Open Science Resource for  
Establishing Reliability and  
Reproducibility in Connectomics**

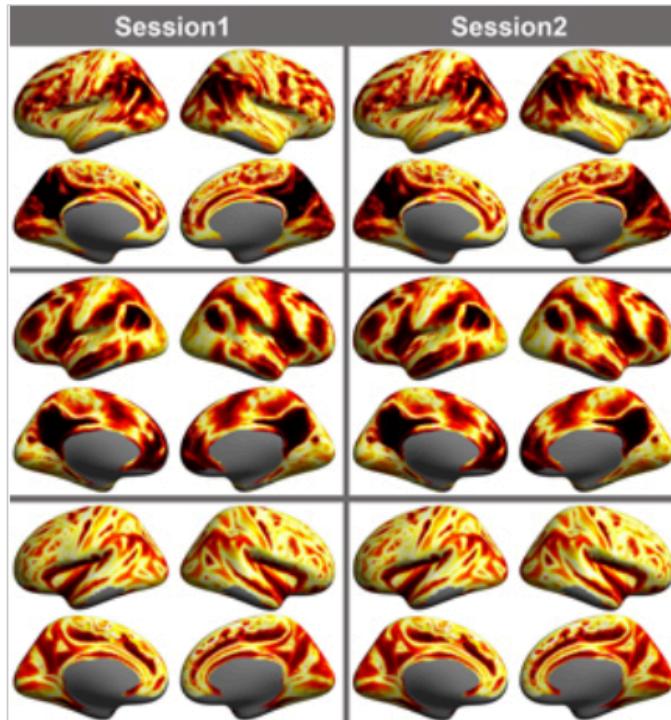


# SCIENTIFIC DATA

110110  
0111101  
11011110  
011101101

Home | Archive | About ▾ | For Authors ▾ | For Referees | Data Policies ▾ | Collections ▾

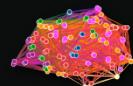
## Featured Data Descriptor



An open science resource for establishing reliability and reproducibility in functional connectomics

Zuo et al. | 9th December 2014

Resting state functional magnetic resonance imaging (rfMRI) is a powerful technique to map interactions between regions of the brain, but it remains unclear whether data from different sites or experimental designs can be reliably compared. This article describes rfMRI data from 1629 individuals, collected across 18 international sites. The data have been aggregated and openly shared by the Consortium for Reliability and Reproducibility (CoRR), providing a valuable resource for comparative brain mapping studies.



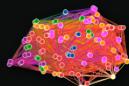
# Reproducibility

Connectomics

Reliability

Big Data

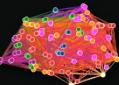
Pipeline



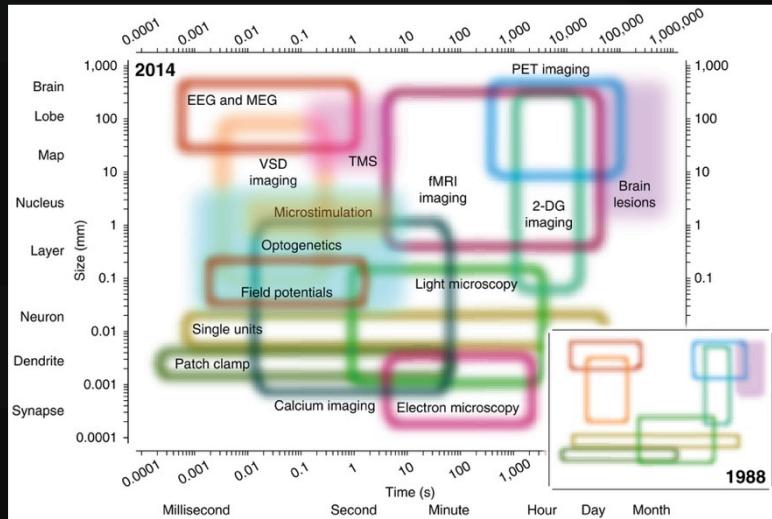
Connectome  
(Concept)

# 脑连接组学

The whole functional interactions?



# 脑成像与连接组学



the WHITE HOUSE

PRESIDENT OBAMA IS CALLING ON THE SCIENCE COMMUNITY  
TO JOIN HIM IN PURSUING A GRAND CHALLENGE

BRAIN INITIATIVE BRAIN RESEARCH THROUGH ADVANCING INNOVATIVE NEUROTECHNOLOGIES

A stylized brain icon is located at the bottom center.

NIH Blueprint: The Human Connectome Project

NIH Blueprint for Neuroscience Research

HUMAN Connectome PROJECT

Mapping structural and functional connections in the human brain

Home About the Project Data Software Documentation Contact Other Resources

Lifespan Data and Protocols Available

New datasets are available on a redesigned ConnectomeDB.

The WU-Minn Human Connectome Project Consortium (WU-Minn HCP) is pleased to release an initial set of imaging data for healthy subjects in multiple age groups. This includes shortened imaging protocols for research on very young, elderly and/or disease populations.

HCP Lifespan Home View Dataset on ConnectomeDB

A 3D brain model visualization showing colored connections.



# Brain Connectome

OPEN  ACCESS Freely available online

PLOS COMPUTATIONAL BIOLOGY

## Review

# The Human Connectome: A Structural Description of the Human Brain

Olaf Sporns\*, Giulio Tononi, Rolf Kötter

## ABSTRACT

The connection matrix of the human brain (the human “connectome”) represents an indispensable foundation for basic and applied neurobiological research. However, the network of anatomical connections linking the neuronal elements of the human brain is still largely unknown. While some databases or collations of large-scale anatomical connection patterns exist for other mammalian species, there is currently no connection matrix of the human brain, nor is there a coordinated research effort to collect, archive, and disseminate this important information. We propose a research strategy to achieve this goal, and discuss its potential impact.

Experimental approaches to human cognition have been significantly enhanced by the arrival of functional neuroimaging [5], a set of techniques that can be applied to study a broad range of cognitive functions, with ever-increasing spatial and temporal resolution. But the mechanistic interpretation of neuroimaging data is limited, in part due to a severe lack of information on the structure and dynamics of the networks that generate the observed activation patterns. A potential theoretical framework for conceptualizing cognition as a network phenomenon is based on two main organizational principles found in the cerebral cortex, functional segregation, and functional integration [6,7]. Emerging network theories of cognition emphasize the contextual [8], distributed [9], dynamic [10], and degenerate [11,12] nature of structure–function mappings in the brain.



# Brain Connectome

OPEN  ACCESS Freely available online

PLOS BIOLOGY

## Mapping the Structural Core of Human Cerebral Cortex

Patric Hagmann<sup>1,2</sup>, Leila Cammoun<sup>2</sup>, Xavier Gigandet<sup>2</sup>, Reto Meuli<sup>1</sup>, Christopher J. Honey<sup>3</sup>, Van J. Wedeen<sup>4</sup>,  
Olaf Sporns<sup>3\*</sup>

1 Department of Radiology, University Hospital Center and University of Lausanne (CHUV), Lausanne, Switzerland, 2 Signal Processing Laboratory (LTSS), Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland, 3 Department of Psychological and Brain Sciences, Indiana University, Bloomington, Indiana, United States of America, 4 Martinos Center for Biomedical Imaging, Department of Radiology, Massachusetts General Hospital and Harvard Medical School, Boston, Massachusetts, United States of America

**Structurally segregated and functionally specialized regions of the human cerebral cortex are interconnected by a dense network of cortico-cortical axonal pathways. By using diffusion spectrum imaging, we noninvasively mapped these pathways within and across cortical hemispheres in individual human participants. An analysis of the resulting large-scale structural brain networks reveals a structural core within posterior medial and parietal cerebral cortex, as well as several distinct temporal and frontal modules. Brain regions within the structural core share high degree, strength, and betweenness centrality, and they constitute connector hubs that link all major structural modules. The structural core contains brain regions that form the posterior components of the human default network. Looking both within and outside of core regions, we observed a substantial correspondence between structural connectivity and resting-state functional connectivity measured in the same participants. The spatial and topological centrality of the core within cortex suggests an important role in functional integration.**

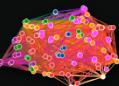


# Brain Connectome

## Toward discovery science of human brain function

Bharat B. Biswal<sup>a</sup>, Maarten Mennes<sup>b</sup>, Xi-Nian Zuo<sup>b</sup>, Suril Goel<sup>a</sup>, Clare Kelly<sup>b</sup>, Steve M. Smith<sup>c</sup>, Christian F. Beckmann<sup>c</sup>, Jonathan S. Adelstein<sup>b</sup>, Randy L. Buckner<sup>d</sup>, Stan Colcombe<sup>e</sup>, Anne-Marie Dogonowski<sup>f</sup>, Monique Ernst<sup>g</sup>, Damien Fair<sup>h</sup>, Michelle Hampson<sup>i</sup>, Matthew J. Hoptman<sup>j</sup>, James S. Hyde<sup>k</sup>, Vesa J. Kiviniemi<sup>l</sup>, Rolf Kötter<sup>m</sup>, Shi-Jiang Li<sup>n</sup>, Ching-Po Lin<sup>o</sup>, Mark J. Lowe<sup>p</sup>, Clare Mackay<sup>c</sup>, David J. Madden<sup>q</sup>, Kristoffer H. Madsen<sup>t</sup>, Daniel S. Margulies<sup>r</sup>, Helen S. Mayberg<sup>s</sup>, Katie McMahon<sup>t</sup>, Christopher S. Monk<sup>u</sup>, Stewart H. Mostofsky<sup>v</sup>, Bonnie J. Nagel<sup>w</sup>, James J. Pekar<sup>x</sup>, Scott J. Peltier<sup>y</sup>, Steven E. Petersen<sup>z</sup>, Valentin Riedl<sup>aa</sup>, Serge A. R. B. Rombouts<sup>bb</sup>, Bart Rypma<sup>cc</sup>, Bradley L. Schlaggar<sup>dd</sup>, Sein Schmidt<sup>ee</sup>, Rachael D. Seidler<sup>ff,u</sup>, Greg J. Siegle<sup>gg</sup>, Christian Sorg<sup>hh</sup>, Gao-Jun Teng<sup>ii</sup>, Juha Veijola<sup>jj</sup>, Arno Villringer<sup>ee,kk</sup>, Martin Walter<sup>ll</sup>, Lihong Wang<sup>q</sup>, Xu-Chu Weng<sup>mm</sup>, Susan Whitfield-Gabrieli<sup>nn</sup>, Peter Williamson<sup>oo</sup>, Christian Windischberger<sup>pp</sup>, Yu-Feng Zang<sup>qq</sup>, Hong-Ying Zhang<sup>ii</sup>, F. Xavier Castellanos<sup>b,j</sup>, and Michael P. Milham<sup>b,1</sup>

<sup>a</sup>Department of Radiology, New Jersey Medical School, Newark, NJ 07103; <sup>b</sup>Phyllis Green and Randolph Cöwen Institute for Pediatric Neuroscience, New York University Child Study Center, NYU Langone Medical Center, New York, NY 10016; <sup>c</sup>FMRIB Centre, Oxford University, Oxford OX3 9DU, UK; <sup>d</sup>Howard Hughes Medical Institute, Harvard University, Cambridge, MA 02138; <sup>e</sup>School of Psychology, University of Wales, Bangor, UK; <sup>f</sup>Danish Research Centre for Magnetic Resonance, Copenhagen University Hospital Hvidovre, Hvidovre, Denmark; <sup>g</sup>Mood and Anxiety Disorders Program, National Institute of Mental Health/National Institutes of Health, Department of Health and Human Services, Bethesda, MD 20892; <sup>h</sup>Behavioral Neuroscience Department, Oregon Health & Science University, Portland, OR 97239; <sup>i</sup>Department of Diagnostic Radiology, Yale University School of Medicine, New Haven, CT 06511; <sup>j</sup>Division of Clinical Research, Nathan S. Kline Institute for Psychiatric Research, Orangeburg, NY 10962; <sup>k</sup>Biophysics Research Institute, Medical College of Wisconsin, Milwaukee, WI 53226; <sup>l</sup>Department of Diagnostic Radiology, Oulu University Hospital, Oulu, Finland; <sup>m</sup>Donders Institute for Brain, Cognition, and Behavior, Center for Neuroscience, Radboud University Nijmegen Medical Center, 6500 HB Nijmegen, The Netherlands; <sup>n</sup>Biophysics Research Institute, Medical College of Wisconsin, Milwaukee, WI 53226; <sup>o</sup>Institute of Neuroscience, National Yang-Ming University, Taiwan; <sup>p</sup>Imaging Institute, The Cleveland Clinic, Cleveland, OH 44195; <sup>q</sup>Brain Imaging and Analysis Center, Duke University Medical Center, Durham, NC, 27710; <sup>r</sup>Department of Cognitive Neurology, Max Planck Institute for Human Cognitive and Brain Sciences, 04103 Leipzig, Germany; <sup>s</sup>Department of Psychiatry and Department of Neurology, Emory University School of Medicine, Atlanta, GA 30322; <sup>t</sup>Centre for Advanced Imaging, University of Queensland, Brisbane, Australia; <sup>u</sup>Department of Psychology, University of Michigan, Ann Arbor, MI 48109; <sup>v</sup>Laboratory for Neurocognitive and Imaging Research, Kennedy Krieger Institute, Baltimore, MD, 21205; <sup>w</sup>Department of Psychiatry, Oregon Health & Science University, Portland, OR 97239; <sup>x</sup>F.M. Kirby Research Center for Functional Brain Imaging, Kennedy Krieger Institute, Baltimore, MD 21205; <sup>y</sup>Functional MRI Laboratory, University of Michigan, Ann Arbor, MI 48109; <sup>z</sup>McDonnell Center for Higher Brain Functions, Washington University School of Medicine, St. Louis, MO 63110; <sup>aa</sup>Departments of Neurology and Neuroradiology, Klinikum Rechts der Isar, Technische Universität München, 81675 Munich, Germany; <sup>bb</sup>Institute of Psychology and Department of Radiology, Leiden University Medical Center, Leiden University, Leiden, The Netherlands; <sup>cc</sup>Center for Brain Health and School of Behavioral and Brain Sciences, University of Texas at Dallas, Richardson, TX 75080; <sup>dd</sup>Department of Neurology, Washington University School of Medicine, St. Louis, MO 63110; <sup>ee</sup>Department of Neurology, Charité Universitätsmedizin-Berlin, 10117 Berlin, Germany; <sup>ff</sup>School of Kinesiology, University of Michigan, Ann Arbor, MI 48109; <sup>gg</sup>Department of Psychiatry, University of Pittsburgh, Pittsburgh, PA 15213; <sup>hh</sup>Department of Psychiatry, Klinikum Rechts der Isar, Technische Universität München, D-81675 Munich, Germany; <sup>ii</sup>Jiangsu Key Laboratory of Molecular and Functional Imaging, Department of Radiology, Zhong-Da Hospital, Southeast University, Nanjing 210009, China; <sup>jj</sup>Department of Psychiatry, Institute of Clinical Medicine and Department of Public Health Science, Institute of Health Science, University of Oulu, Oulu 90014, Finland; <sup>kk</sup>Berlin NeuroImaging Center, 10099 Berlin, Germany; <sup>ll</sup>Department of Psychiatry, Otto-von-Guericke University of Magdeburg, Magdeburg 39106, Germany; <sup>mm</sup>Laboratory for Higher Brain Function, Institute of Psychology, Chinese Academy of Sciences, Beijing 100864, China; <sup>nn</sup>Department of Brain and Cognitive Sciences, Harvard-MIT Division of Health Sciences and Technology, Massachusetts Institute of Technology, Boston, MA 02139; <sup>oo</sup>Department of Psychiatry, University of Western Ontario, London, ON N6A3H8, Canada; <sup>pp</sup>Center for Medical Physics and Biomedical Engineering, Medical University of Vienna, Vienna, Austria; and <sup>qq</sup>State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing 100875, China



# Brain Connectome

REVIEW

FOCUS ON NEUROTECHNIQUES

nature  
neuroscience

## Opportunities and limitations of intrinsic functional connectivity MRI

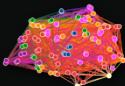
Randy L Buckner<sup>1–3</sup>, Fenna M Krienen<sup>1,3</sup> & B T Thomas Yeo<sup>4</sup>

Intrinsic functional connectivity magnetic resonance imaging (fcMRI) has emerged as a powerful tool for mapping large-scale networks in the human brain. Robust and reliable functionally coupled networks can be detected in individuals that echo many known features of anatomical organization. Features of brain organization have been discovered, including descriptions of distributed large-scale networks interwoven throughout association cortex, interactions (including anticorrelations) between brain networks and insights into the topography of subcortical structures. But interpreting fcMRI is complicated by several factors. Functional coupling changes dynamically, suggesting that it is constrained by, but not fully dictated by, anatomic connectivity. Critically to study of between-group differences, fcMRI is sensitive to head motion and to differences in the mental states of participants during the scans. We discuss the potential of fcMRI in the context of its limitations.



# 信度与可重复性

**Why we need reliable measures?**



# 国人心理毕业生发展常模



疾控中心

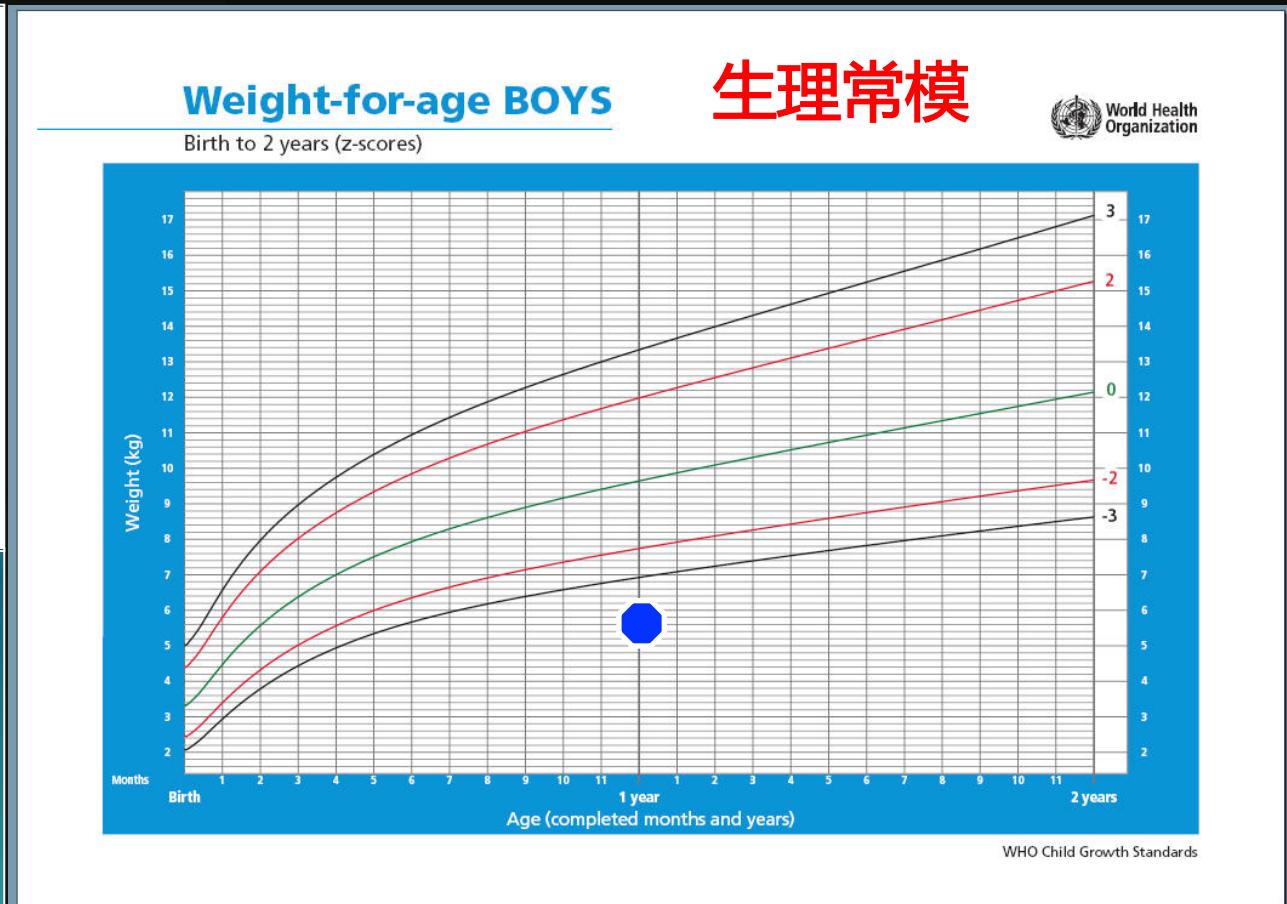
May 2002

Vital and Health Statistics

Series 11, Number 246

2000 CDC Growth Charts for  
the United States: Methods  
and Development

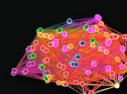
世卫组织



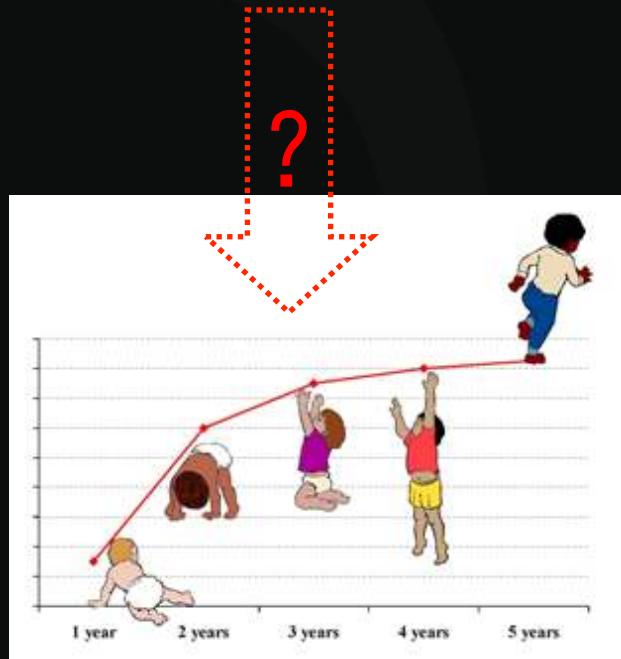
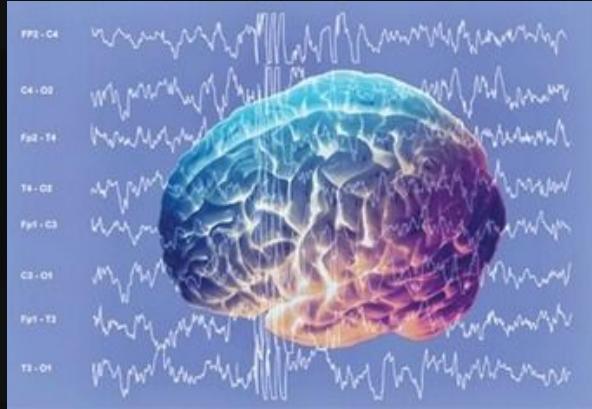
生理常模



生长曲线：非常重要的发育监测工具  
应用领域：儿科临床实践和公共卫生  
重要意义：发育异常早期识别与诊断



# 国人心理毕业生发展常模



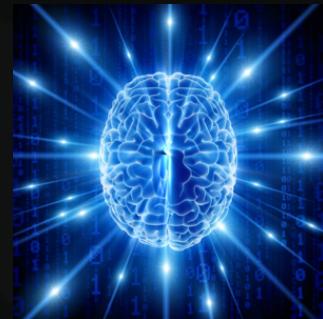
## 人脑常模

- 1、理解大脑结构功能
- 2、监测大脑发育进程
- 3、识别大脑发育异常
- 4、诊断大脑发育疾病
- 5、跟踪临床干预疗效
- 6、改善精神疾病诊断



# 基础研究与临床实践变革

1 症状学  
生物学  
常模轨线



大量的  
小样本  
统计比较

4 极端样本  
疾病谱系  
连续界定



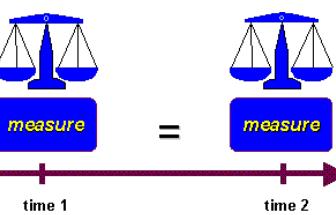
重测信度  
重复性  
严格再现



# 基础研究与临床实践变革



SAME MEASUREMENT



重测信度

$$ICC = \frac{MS_b - MS_w}{MS_b + MS_w}$$

$$A' = A + n(A)$$

$$B' = B + n(B)$$

$$r(A', B') = r(A, B) \sqrt{ICC(A)ICC(B)}$$

ICC

Slight

Fair

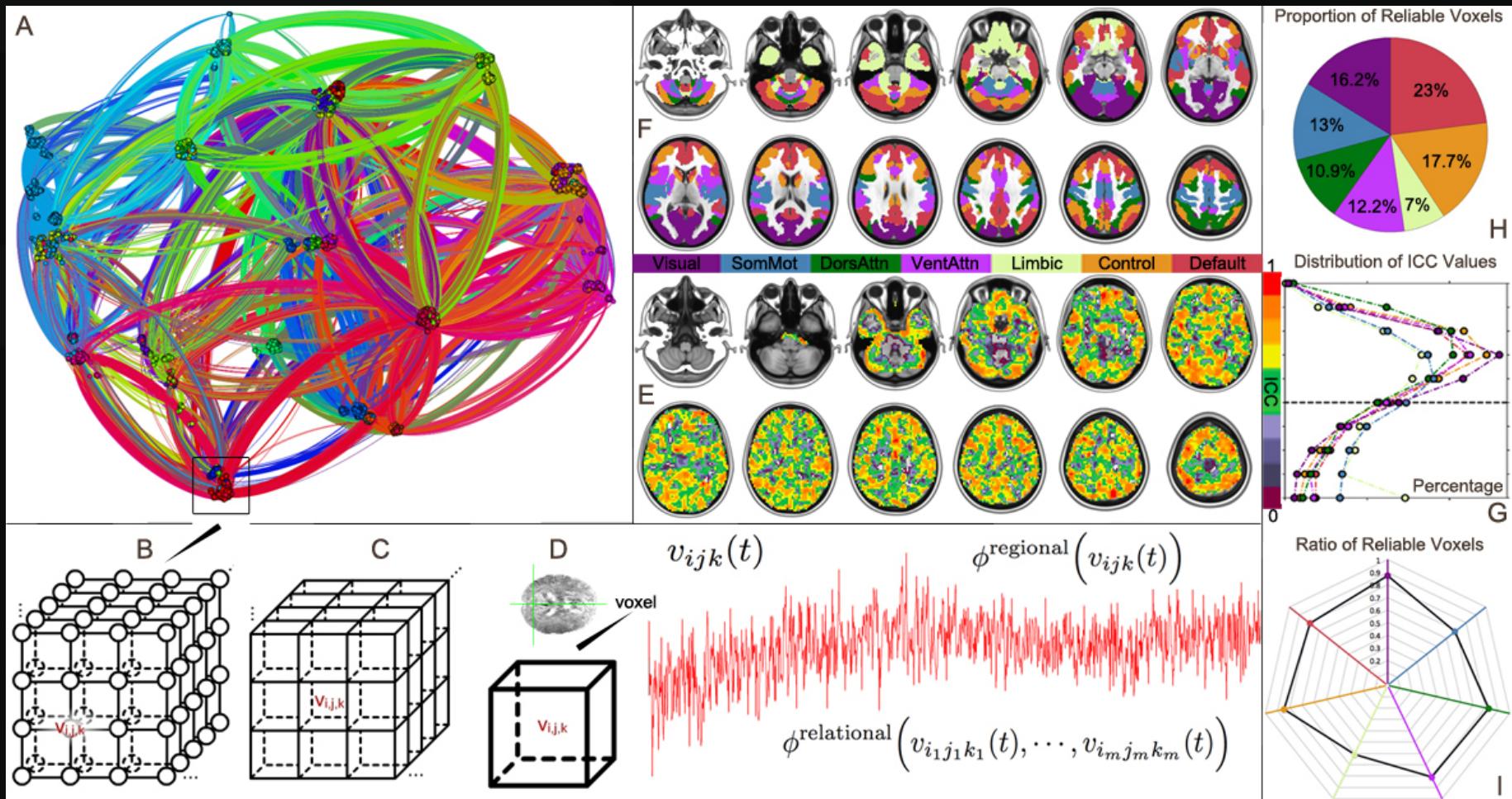
Moderate

Substantial

Almost Perfect



# 基础研究与临床实践变革



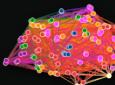
人脑功能连接组学规范

Zuo and Xing, 2014, *Neuroscience Biobehavioral Reviews*

**Big Data**  
(Easy Sharing)

# 神经影像大数据

## Integrated Neuroinformatics System?



# Consortium for Reliability and Repeatability

- Project Director: Xi-Nian Zuo; Founders: Xi-Nian Zuo, Michael P. Milham

## Table Of Contents

### Concept

- Goal of CoRR
- Data Aggregation

### Organizers

### Contributors

### Sample Characteristics

### Quality Control

### Downloads

## Quick search

Go

Enter search terms or a module,  
class or function name.

An open neuroscience  
resource brought to you by:



International Neuroimaging  
Data-Sharing Initiative

## CoRR Concept

### Goal of CoRR

**Total 18 sites, > 1600 participants, > 10,000 images**

The overarching goal of CoRR is to create an open science resource for the imaging community that will facilitate the assessment of test-retest reliability and reproducibility for functional and structural connectomics. In order to accomplish this, we will aggregate resting state fMRI (R-fMRI) and diffusion imaging data across laboratories around the world, and share the data via the International Neuroimaging Data-sharing Initiative (INDI) to enable the:

1. Establishment of test-retest reliability and reproducibility for commonly used MR-based connectome metrics
2. Determination of the range of variation in the reliability and reproducibility of these metrics across imaging sites and retest study designs
3. Creation of a standard/benchmark test-retest dataset for the evaluation of novel metrics

### Data Aggregation

**Contributors:** Any laboratory willing to openly share multimodal imaging datasets (including an R-fMRI scan and a corresponding anatomical image at a minimum) with at least one retest occasion. Institutional IRB/ethical committee approval or waiver (see below) is required prior to contribution of data. MRI data: Our primary focus is on R-fMRI data, with a secondary focus on diffusion imaging data. While we encourage sharing data with minimal movement, we are placing no exclusion criteria for motion. This decision was based on the realizations that: 1) there is no consensus on acceptable criteria for movement in functional MRI or diffusion imaging data, 2) high motion datasets are essential to the determination of the impact of motion on reliability, and 3) new approaches continue to be developed to account for movement artifacts. We also encourage submission of data from other modalities (e.g., ASL) or experimental paradigms (e.g. task data) when available for the same participants for whom R-fMRI data are being provided.



中國科学院  
CHINESE ACADEMY OF SCIENCES



HARVARD  
UNIVERSITY



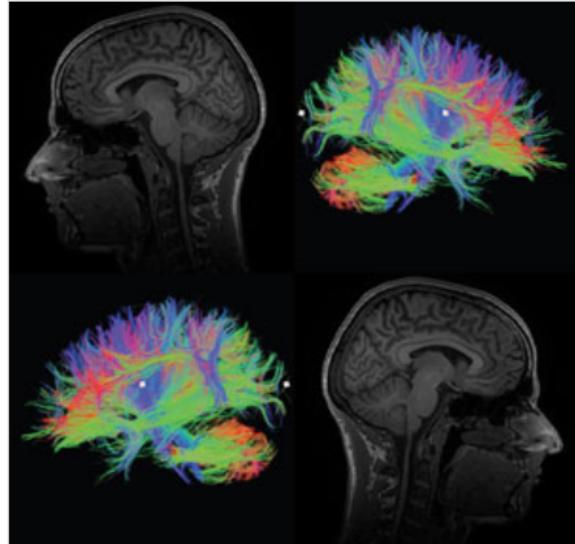
杭州师范大学  
认知与脑疾病研究中心  
Center for Cognition and Brain Disorders



CHILD MIND<sup>®</sup>  
INSTITUTE

# CoRR

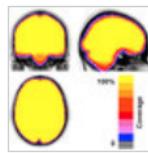
## Featured Collection



### Human Brain MRI Reproducibility

Collection | 20th January 2015

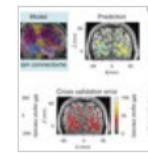
This collection presents a series of articles describing human brain scans – produced with a variety of magnetic resonance imaging (MRI) methods and modalities – which are designed to help researchers assess the reproducibility of brain imaging techniques and to develop new methods based on these data-types. Central to this collection are studies from the [Consortium on Reliability and Reproducibility \(CoRR\)](#), a major initiative that has organized the release of data from thousands of individual brain scans collected at 18 international sites.



Data Descriptor | 09 December 2014

An open science resource for establishing reliability and reproducibility in functional connectomics

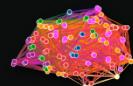
[Xi-Nian Zuo, Jeffrey S Anderson](#) [...] [Michael P Milham](#)

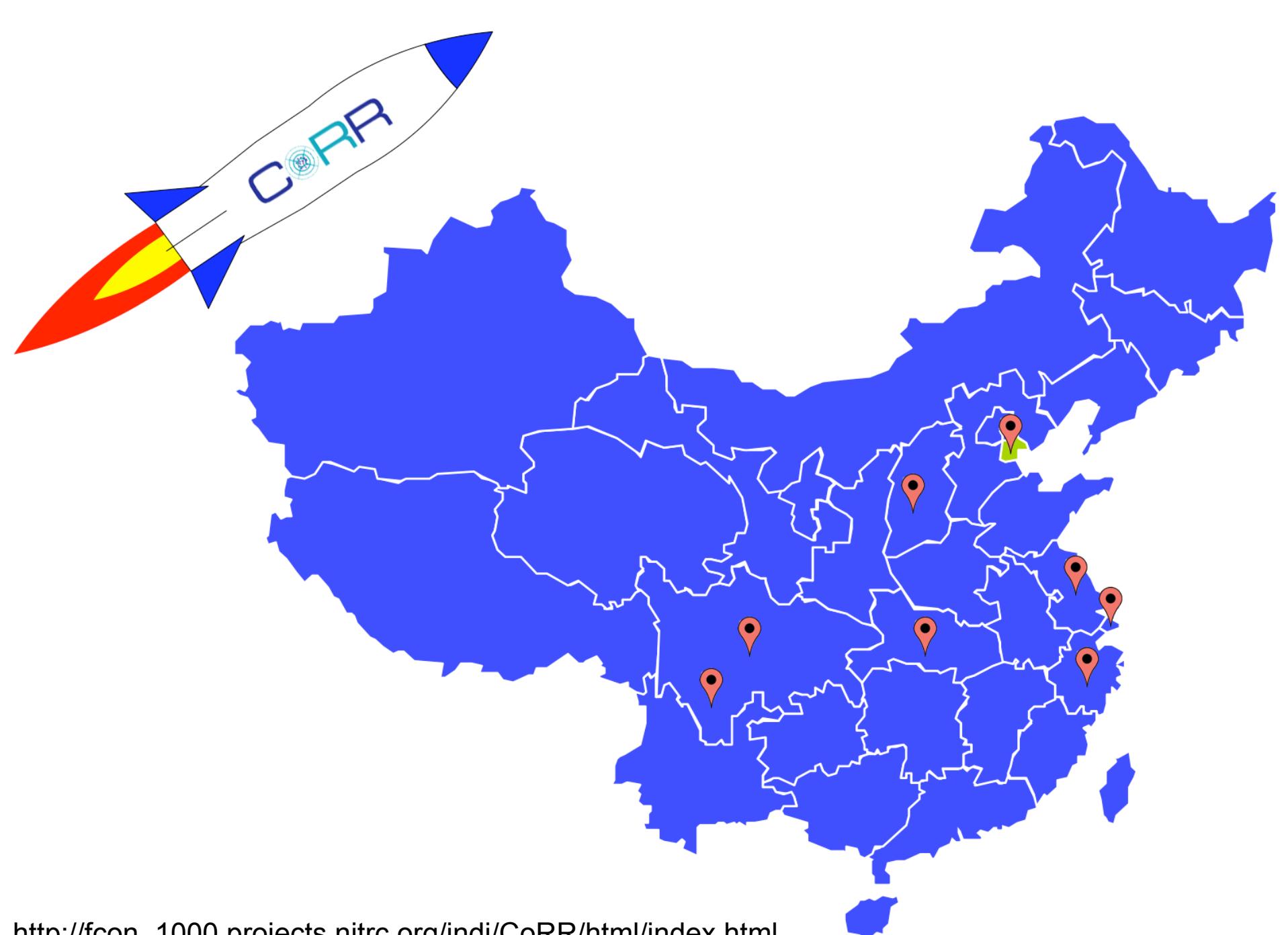


Comment | 20 January 2015

**Test-retest measurements and digital validation for *in vivo* neuroscience**

Franco Pestilli





[http://fcon\\_1000.projects.nitrc.org/indi/CoRR/html/index.html](http://fcon_1000.projects.nitrc.org/indi/CoRR/html/index.html)



One-Year Test-Retest

Total 243 Subjects

Test



Retest



(PI: Jiang Qiu)

7

14

30

90

180



Test



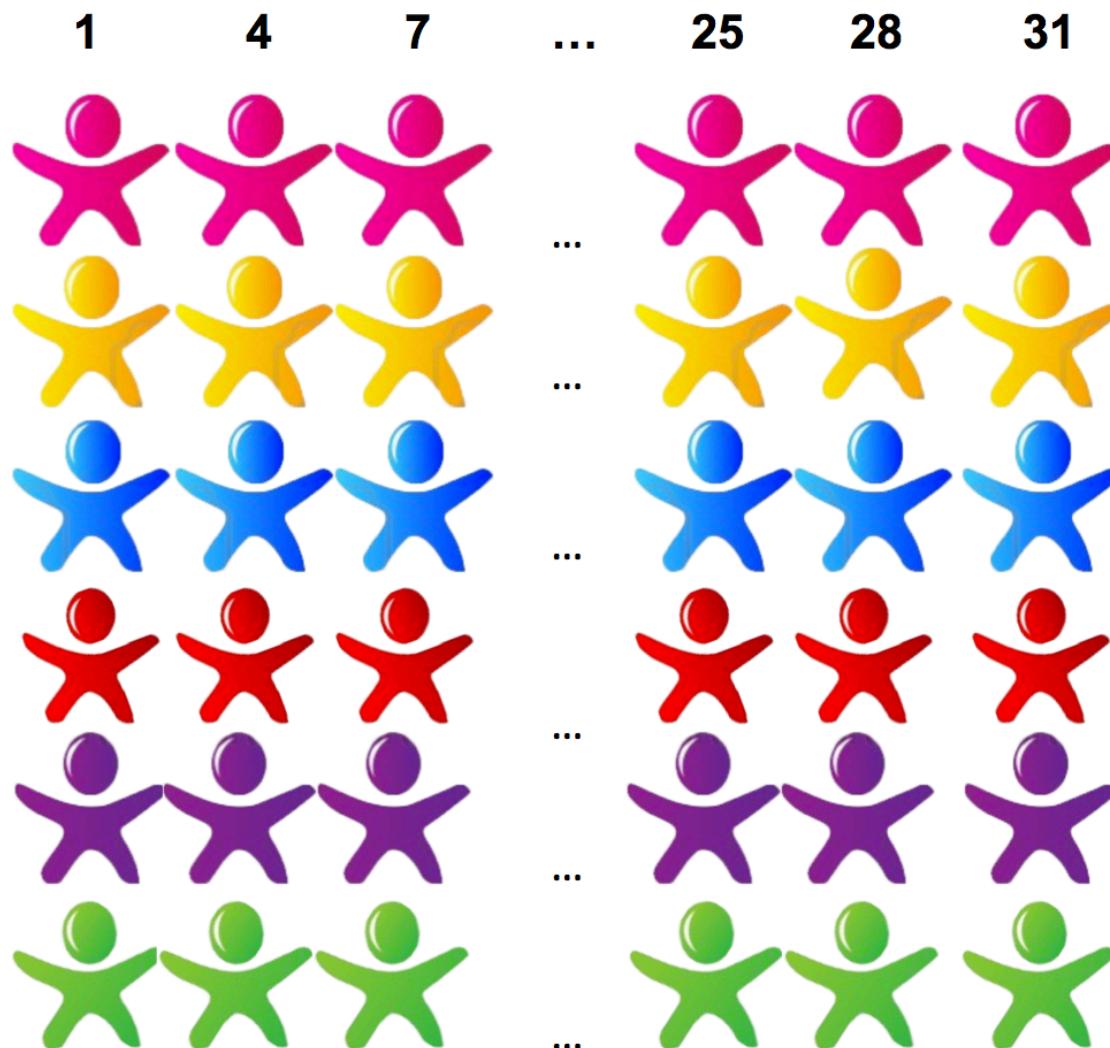
Retest

Total 23 Subjects (4 Retests/Subject)



Xuanwu Hospital  
Capital Medical University

(PI: Kuncheng Li)



Test

One-Month Test-Retest

Retest

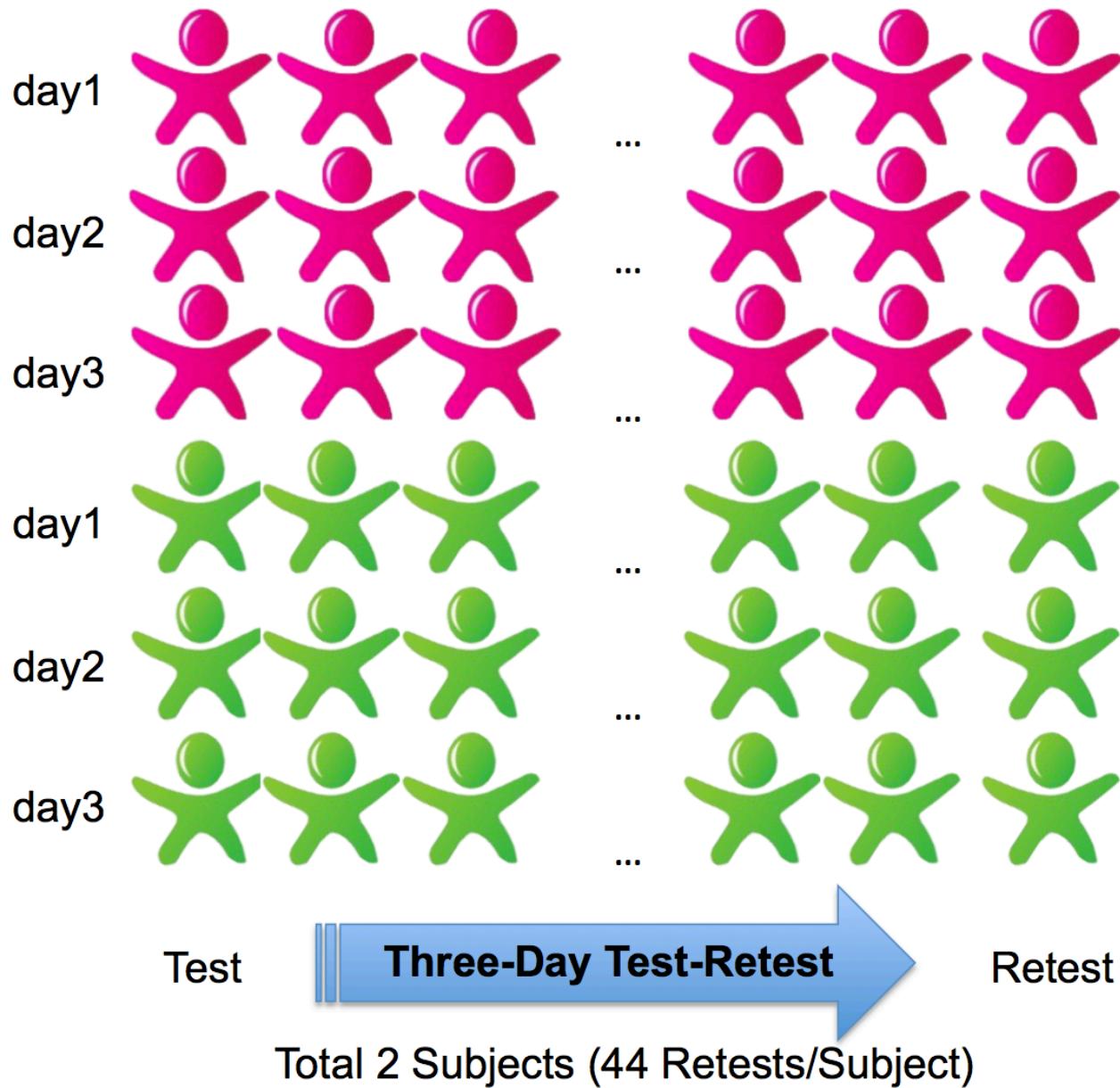
Total 30 Subjects (9 Retests/Subject)



杭州师范大学  
认知与脑疾病研究中心  
Center for Cognition and Brain Disorders

(PI: Xuchu Weng)

**8AM ~ 8PM: 3 scans per hour**

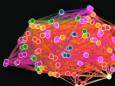


(PI: Xi-Nian Zuo)

Pipeline  
(Databasing)

# 计算流水线与数据库

**Integrated with Data-sharing Platform?**



# Data Base

# NITRC

Home Tools & Resources Community Support About NITRC

The source for neuroinformatics tools & resources  
Neuroimaging data repository  
Cloud computing environment

SEARCH Tools/Resources GO  
Member login | Register | Help | +Share | Select Language  
Powered by Translate

NITRC is an HHS Innovates Semi-Finalist!

**Browse by domain**

- CT (57)
- Clinical Neuroinformatics (50)
- Computational Neuroscience (84)
- Domain Independent (78)
- EEG/MEG/ECOG (101)
- Imaging Genomics (43)
- MR (549)
- Optical Imaging (28)
- PET/SPECT (61)

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- Database Application (21)
- Experimental Control (8)
- Format Conversion (17)
- Genomic Analysis (14)
- Image Reconstruction (14) »
- Information Theory (3)
- Modeling (69) »

**Find neuroimaging tools here:**

Examples: • modeling OR simulation  
• morphology AND animation  
• segmentation NOT Linux  
• "region of interest"

SEARCH Search Builder

**Featured tool/resource:**  
 ERPwavelab  
The open source toolbox 'ERPWAVELAB' is developed for multi-channel time- frequency analysis of event related activity of EEG and MEG data. The toolbox provides tools for data analysis and visualization of the most commonly used measures of time- ...

**Latest News**

[AURA tools : AUtomatic Retinal Analysis tools • Jan 21 • no comments]  
**AURA Tools : Release 1.2**  
AURA (AUtomatic Retinal Analysis) Tools 1.2 is released. These version of the AURA Tools was presented by Lang et al. in the paper ``Retinal layer segmentation of macular OCT images using boundary classification'' appearing in "Biomed Opt Express"....

[INCF • Jan 12 • no comments]  
**PyNN 0.8 beta 2 released**  
PyNN (pronounced 'pine') is a simulator-independent language for building neuronal network models. For a list of the main changes between PyNN 0.7 and 0.8, see the release notes for the 0.8 alpha 1 release.

[LORIS • Dec 19, 2014 • no comments]  
**LORIS release 14.10**

**Community**

- + Conferences and workshops
- + General community forum
- + Funding opportunities
- + Publications
- + Career opportunities
- + Submit community news
- + Submit tool/resource

[11,690 registered users]

**Recently active forums**

**Graph Theory GLM (GTG) MATLAB Toolbox:** help  
RE: Possible to just preprocess?  
[5 posts, last post 10 minutes ago]

**CONN : functional connectivity toolbox:** help  
RE: conditions setup in batch  
[1657 posts, last post 2 hours ago]

**Signed Differential Mapping: sdm-help-list**  
RE: SDM warning "too many tokens"  
[75 posts, last post 8 hours ago]

**Recently updated files**

**Corpus Callosum Thickness Profile Analysis Pipeline**  
ccsegthickness: 20150123  
Latest file: 12 hours ago



# HCP

**CONNECTOME db**

All Datasets | HCP Subject Keys | Search by ID | Search

Current Project: WU-Minn HCP Data – 500 Subjects + MEG2 | Logged in as: zuoxinian | Auto-logout in: 0:29:10 - [renew](#) | [Logout](#)

## Public Connectome Data

Updated Nov 25, 2014: Unprocessed, source and channel-level processed MEG data from WU-Minn HCP available on over 60 subjects.

[Update Log](#)

### WU-Minn HCP Data – 500 Subjects + MEG2

Resources | Explore Subjects | Download Image Data

HCP public data releases include high-resolution MR scans from healthy adults and four imaging modalities: structural images (T1w and T2w), resting-state fMRI (rfMRI), task-fMRI (tfMRI), and high angular resolution diffusion imaging (dMRI). Behavioral data is also largely available, with some restrictions. Furthermore, MEG data is available for some subjects. The Open Access Dataset includes imaging data and most behavioral data. To protect subject privacy, some of the data (e.g., which subjects are twins) are part of a Restricted Access dataset.

Last Updated:

ACCESS: ✓ [Restricted Access Terms Accepted](#)

KEYWORDS: HCP, MRI, CONNECTOME, MEG, RESTING STATE, DIFFUSION, RFMRI, DMRI, FMRI

526 SUBJECTS WITH MRI DATA

67 SUBJECTS WITH MEG DATA

542 SUBJECTS WITH BEHAVIORAL DATA

### WU-Minn HCP Lifespan Pilot Data

Resources | Explore Subjects | Download Image Data

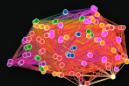
The WU-Minn HCP consortium is acquiring and sharing pilot multimodal imaging data acquired across the lifespan, in 6 age groups (4-6, 8-9, 14-15, 25-35, 45-55, 65-75) and using scanners that differ in field strength (3T, 7T) and maximum gradient strength (70-100 mT/m). The scanning protocols are similar to those for the WU-Minn Young Adult HCP except shorter in duration. The objectives are (I) to enable estimates of effect sizes for identifying group differences across the lifespan and (II) to enable comparisons across scanner platforms, including data from the MGH Lifespan Pilot. The initial data releases in August, 2014 includes unprocessed Phase1a image data and will be regularly updated with Phase1B data; minimally preprocessed data will be released in the fall of 2014.

Last Updated:

ACCESS: ✓ [Open Access Terms Accepted](#)

KEYWORDS: LIFESPAN, HCP, FMRI

27 SUBJECTS WITH MRI DATA



# COINs

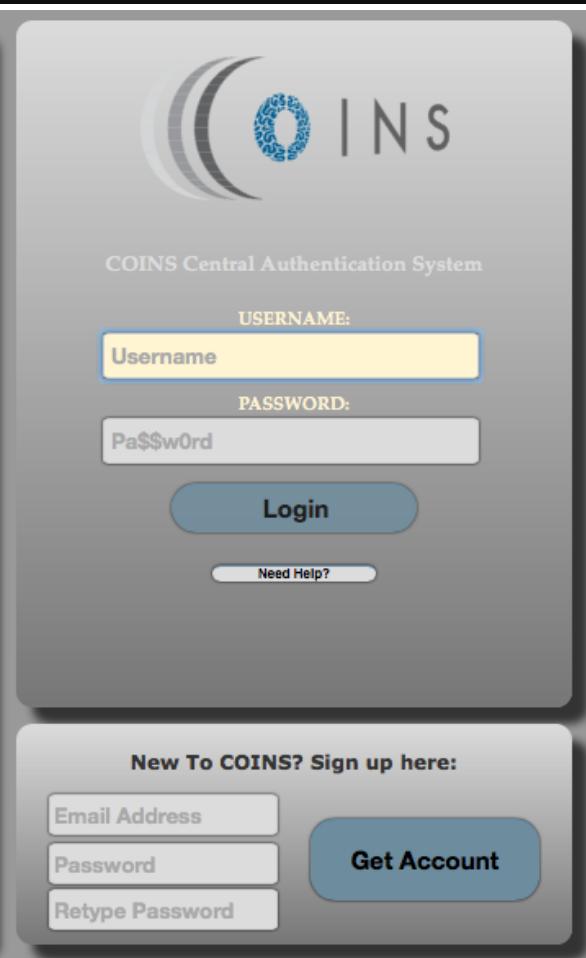
## Welcome to COINS

### COLlaborative Informatics and Neuroimaging Suite

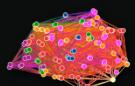
Developed at the Mind Research Network, COINS offers tools to securely collect and store data, share data to and from other researchers and manage studies. COINS currently manages **556 studies** with **402,543 clinical assessments** and **37,965 MRI and MEG scan sessions** collected from **30,741 participants** at the Mind Research Network, Nathan Kline Institute, University of Colorado – Boulder, Olin Neuropsychiatry Research Center, and other sites. COINS consists of the following collaboration-centric tools:

- **Data Exchange:** An application that enables data to be shared safely between researchers, studies and even entire sites.
- **Subject and Study Management:** MICIS (Medical Imaging Computer Information System) is a centralized PostgreSQL-based web application that implements best practices for participant enrollment and management.
- **Scan Data Collection:** An automated DICOM receiver collects, archives, and imports

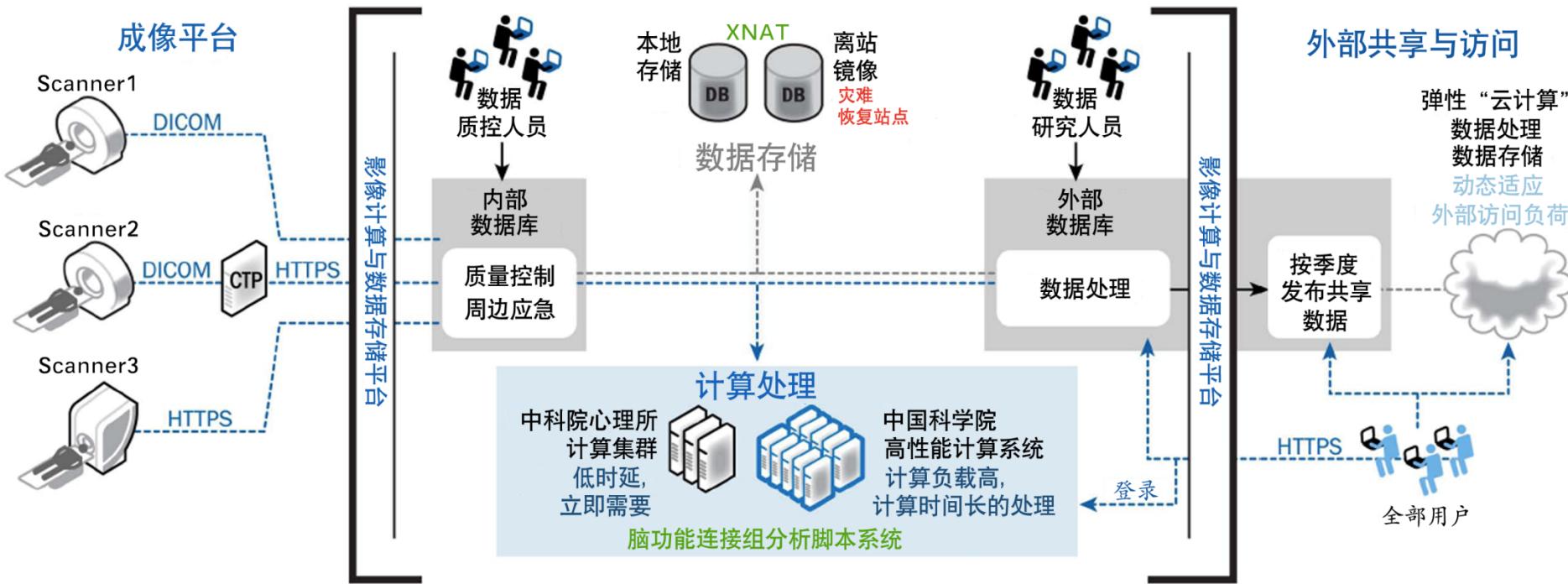
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The image shows the COINS Central Authentication System login page. At the top is the COINS logo, which consists of three stylized blue 'C' shapes followed by the letters 'O I N S'. Below the logo is the text "COINS Central Authentication System". The main area contains fields for "USERNAME" (with placeholder "Username") and "PASSWORD" (with placeholder "Pa\$\$w0rd"). A blue "Login" button is positioned below these fields. To the right of the password field is a link "Need Help?". At the bottom of the page is a section titled "New To COINS? Sign up here:" with three input fields: "Email Address", "Password", and "Retype Password". To the right of these fields is a blue "Get Account" button.

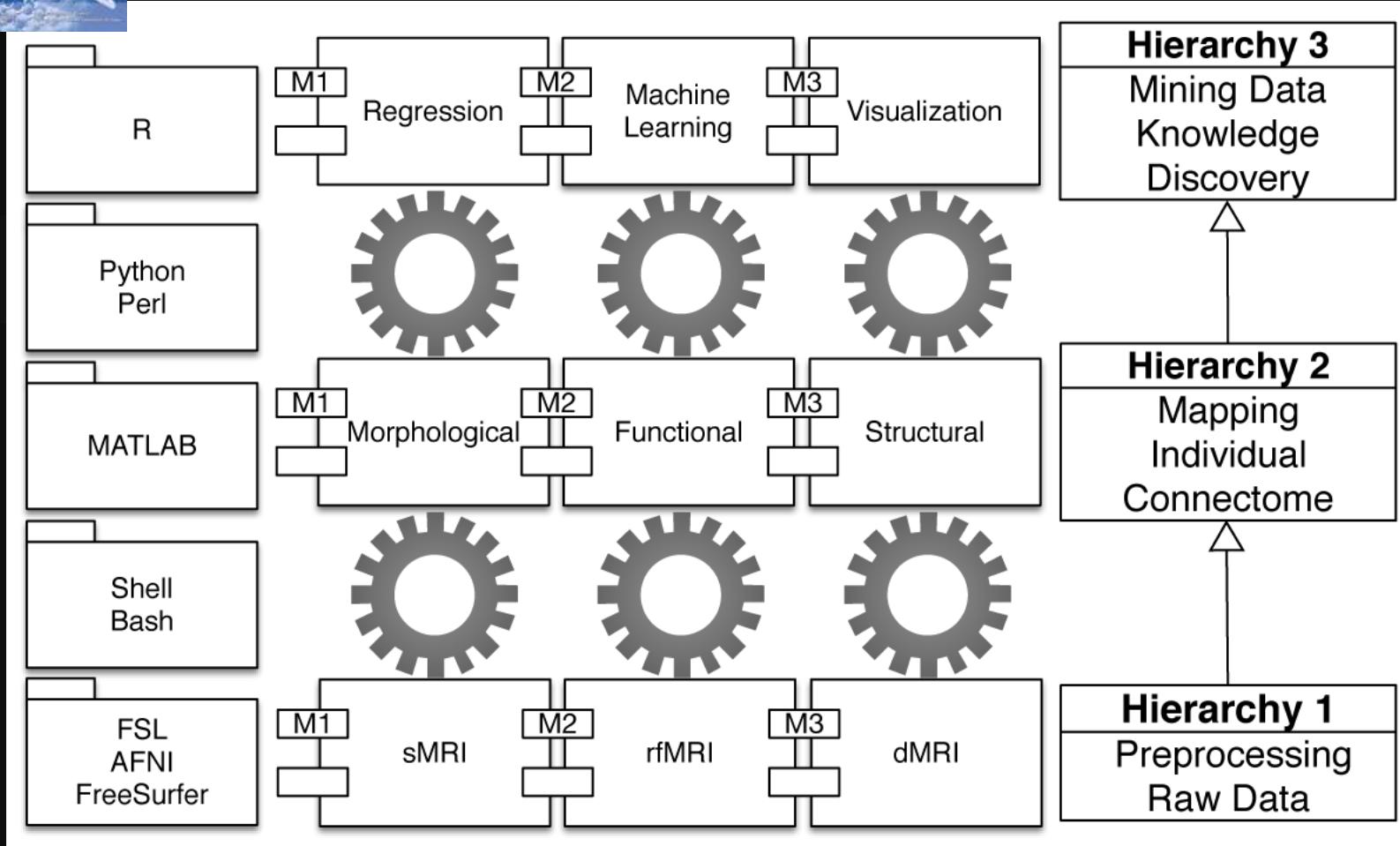


# 中国人脑科学大数据平台



脑科学大数据平台建设不仅包括多维度脑功能数据的采集，更体现在开发整合从基因-脑-行为海量数据到应对如此前所未有的系统复杂性的计算平台挑战上。一旦上述挑战克服，计算环境与大数据的实现无缝整合，长期实际数据积累，将会辅助实现从个体到社会的心理精神健康评估和疾病预测。







敬请批评指正！  
谢谢！

