# Core Analysis and Data Use Policy

- **Lists of Scientific Targets**
- **Classification of research groups by priority**
- **Core handling, measurement and sampling procedures**
- **Use of crude data**
- **Call for proposals (deadline for advertisement and proposal)**

# Core Committee Members

- **Taiwan:**
  - **Chien-Ying Wang (NCU)**
  - **Jih-hao Hung (NCU)**
  - **Song-rong Song (NTU)**
- **Japan:**
  - **H. Ito (GSJ)**
  - **Gaku Kimura (U. Tokyo)**
- **USA:**
  - **David Lockner (USGS)**

# Lists of Scientific Targets (I)

## Energy budget and Fault-propagation Processes

### a) Identify and characterize the fault zone

| Parameters | Scientific Questions |
|---|---|
| Deformation Fabrics | Factors control the localization of slip and strain; Microstructures and deformation mechanisms within fault zone and protolith |
| Mineralogy and petrology of fault and wall rocks (XRD, XRF, AFM, etc.) | Mineralogy and petrology of fault and wall rocks (XRD, XRF, AFM, etc.) |
| Experimental studies and modeling | Experimental studies and modeling |
| Seismic velocities (Vp and Vs) | Seismic velocities (Vp and Vs) |
| Temperature (ESR, OM, T-logging, etc.) | Temperature (ESR, OM, T-logging, etc.) |
| Thermochronology | |

# Lists of Scientific Targets (II)

**b) Physical and Chemical properties of the fault (weak or strong fault)**

| parameters | Scientific Questions |
|---|---|
| Fluid pressure | 1. Vertical and lateral distribution of fluid pressure regimes<br>2. Time-dependence of fluid pressure within the fault zone<br>3. The extent of vertical and lateral fluid migration after a large earthquake |
| Permeability, Porosity | Permeability and porosity structure within fault zone (thermal pressurization) |
| Fluid chemistry | The origin and composition of fault zone fluids |

# Lists of Scientific Targets (III)

## c) Mechanical Properties

| parameters | Scientific Questions |
|---|---|
| Poroelastic properties, Storage capacity, Biot coefficient, Skempton coefficient | Physical and mechanical properties of fault-zone material and country rock |
| Fault Roughness (Coefficient of friction) | Fault roughness can reach the value in the range of $10^{-3}$ -$10^{-4}$. |

# Lists of Scientific Targets (IV)

## d) Strain and stress State

| parameters | Scientific Questions |
|---|---|
| Stress state | Stress tensor vary in the vicinity of the fault zone |
| Borehole strain measurements | Strain accumulation occur within the fault zone over different time scale |

## e) Microbiology in the deep biosphere

| parameters | Scientific Questions |
|---|---|
| Microbiology data | Collect new microbiology data across a range of lithologic conditions |