

Future Direction of Biological and Paleontological Radiolarian Studies between Japan and France

(日仏間における放散虫の生物学的・古生物学的研究の未
来指向)

Date (日時) : 4th December 2011 9:30AM-5:00PM (開催日 : 2011 年 12 月 4 日 9 時 30 分~17 時)

Meeting place (会場) : Reception room in the Motobu-Resort Hotel (場所 : モトブリゾート)

(住所 : 沖縄県国頭郡本部町字渡久地 8 6 1 - 1)

(Co-hosts : 主催):

Prof. Atsushi Matsuoka (as a Project Leader of the Institute of Science on Form, Niigata University) (新潟大学・形の科学研究センター・事業代表者 : 松岡 篤)

Dr. Noritoshi Suzuki (as a Japanese Research Leader of "Morpho-molecular diversity assessment of ecologically, evolutionary, and geologically relevant marine plankton (Radiolaria), sponsored by the Strategic International Program, Japan Science and Technology Agency) (科学技術振興機構・戦略的国際科学技術協力推進事業「日本—フランス研究交流」課題「環境・進化・地質学的に重要な海洋プランクトン(放散虫)の形態—分子の多様性モニタリング」. 日本側研究代表者 : 鈴木紀毅)

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Purpose of This Mini-symposium

A new Japanese-French research cooperation sponsored by the Japan Science and Technology Agency (JST), “*Morpho-molecular diversity assessment of ecologically, evolutionary, and geologically relevant marine plankton (Radiolaria)*” under the research field “*Biodiversity Monitoring in Marine Ecosystems*” of the program “*Structure and Function of Biomolecules*” as the Strategic Japanese-French Cooperative Program has started from September, JFY2011, with a co-leaders, Drs. SUZUKI, Noritoshi (Tohoku University, Japan) and NOT, Fabrice (CNRS). In this program, two scientific goals (1) to establish unambiguous connections between morphological and molecular diversity of Radiolaria and their symbionts and (2) to explore the function of these organisms in marine ecosystems in ecological and paleoecological context are objected with high quality, taxonomically validated reference data to assess organismal (genetic barcode markers) and functional (transcript) diversity. On the other hand, an independent program to examine radiolarians and planktons off Sesoko-Jima, Okinawa, Japan is annually conducted as “the Observation Tour of Living Radiolarians and Planktons at Sesoko Island” presided over by Prof. MATSUOKA, Atsushi, as a project leader of the Institute of Science on Form, Niigata University.”

The French and Japanese members in the JST program are participating to the Sesoko Tour to efficiently collect plankton samples, and this is a good opportunity to discuss and exchange a tremendous knowledge of molecular biology, morphology, evolution and geology between Japan and French between two independent programs. In this mini-symposium, speakers will present the state-of-art researches, discuss how to exchange these advanced techniques and knowledge so as to lead the future direction of biological and paleontological radiolarian studies between Japan and France.

平成 23 年度から、鈴木紀毅（東北大）と Fabrice Not（CNRS 生態環境研究所）が研究者代表となって、(独) 科学技術振興機構（JST）・戦略的国際科学技術協力推進事業の「日本ーフランス（CNRS）研究交流」が始まりました。本研究は、環境DNA研究と形態分類学が相互に研究交流を行い、環境応答のための生体分子の構造と機能の1つとして、分子データに乏しい放散虫という海洋プランクトンについて、形態分類と分子分類を統合した参照基盤を作り、過去の環境応答まで応用できる分類学的（遺伝子バーコーディング）および機能的（ゲノムと転写産物）多様性を明らかにすることを目指すものです。

このプロジェクトの一環で、CNRS のカンターパートの研究者が日本に来られます。彼らは新潟大学「形の科学研究センター」が主催する”瀬底プランクトンツアー”に参加して、日本の形態分類技術を提供いたしますが、良い機会なので日本とフランスの研究者で交流するシンポジウムを共同で開催しようという事になりました。

このシンポジウムでは、お互いの研究を紹介しあい、フランス側チームの技術と日本側の技術の効能について意見を交わし、生物学的研究と古生物学的研究の強い協力でどのような明るい未来が放散虫研究に描けるかを模索します。

Registered attendants

[Japanese Members to the JST program]

SUZUKI, Noritoshi (Tohoku Univ., Japan)

鈴木紀毅 (東北大)

TUJI, Akihiro (National Museum of Nature and Science, Japan)

辻 彰洋 (国立科博)

NAKAMURA, Yasuhide (Hokkaido Univ., Japan)

仲村 康秀 (北海道大)

[French Members to the JST program]

NOT, Fabrice (Station Biologique de Roscoff, CNRS)

CORRE, Erwan (Station Biologique de Roscoff, CNRS)

PROBERT, Ian (Station Biologique de Roscoff, CNRS)

[Members of “Form” research]

MATSUOKA, Atsushi (Niigata University, Japan)

松岡 篤 (新潟大)

ISHIDA, Naoto (Niigata University, Japan)

石田直人 (新潟大)

KISHIMOTO, Naoko (Associate members: Setsunan University)

岸本直子 (摂南大)

YOSHINO, Takashi (Associate members: Toyo University, Japan)

吉野 隆 (東洋大)

[Other Attendants]

LI, Gang (Niigata University, Japan)

ITO, Tsuyoshi (Niigata University, Japan)

伊藤 剛 (新潟大)

MATSUZAKI, M. R. Kenji (Tohoku University, Japan)

ケンジ・マツザキ (東北大)

KANNO, Mizuho (Tohoku University, Japan)

菅野瑞穂 (東北大)

KANESHIRO, Yoshie (Osaka City University, Japan)

金城住恵 (大阪市立大学)

– Schedule –

9:30 – 10:00 Special session

Suzuki, N. and Matsuoka, A.: Studies on living Radiolarians in Japan

Kishimoto, N. : Three dimensional structure of Radiolarian skeleton in terms of optimal structural design and beyond.

10:00-11:30 Talks on the JST program members in the Japan side

Suzuki, N.: Potentially important Radiolaria for the corparative studies of molecular phylogeny and paleontology.

Tuji, A & Ogane, K.: Symbionts or retention of phygocytosis ? - Detection of enzyme activities -

Nakamura, Y. et al.: Food web structures of zooplankton communities and the vertical distribution of Phaeodaria.

11:30-13:00 Luncheon meeting

13:00-14:30 Talks on the JST program members in the France side

Not, F. et al.: Molecular diversity of Radiolarians with a particular emphasis on Acantharians

Probert, I. et al.: Morpho-molecular characterization of cultured radiolarian symbionts

Corre, E. et al.: Analysis of eukaryotic transcriptomes

15:00-16:30 Presentation by “Form” research members and external researchers

Yoshino, T.: Polyhedron Geometry and Radiolarian Skeletons

Matsuzaki, K. et al. : A last 75,000-year history of *Cycladophora davisiana* (Radiolaria)

Matsuoka, A.: Feeding behavior and skeletal morphology of radiolarians

(Discussion) How to achieve new direction of radiolarian studies?