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札幌農學校印
年七月十日
開拓大書記官從五位調所廣丈
教頭代理
デ・ピ・ペンハルロウ
札幌農學校長調所廣丈ノ申稟ヲ
領シ印ヲ鈐シテ之ヲ證ス
開拓長官正四位勲二等黒田清隆

A

A model of the bathyscaphe “Kuroshio” operated by prof. Inoue to examine fisheries resources and environment

B

STUDIES ON SUSPENDED MATERIALS *MARINE SNOW* IN THE SEA
PART I. SOURCES OF *MARINE SNOW*

Noboru SUZUKI & Kenji KATO

(Faculty of Fisheries, Hokkaido University, Hakodate)

For several years, the junior author[1~4] has been making investigations on marine deposits which are an important factor affecting the biological environment in fishing grounds. But the investigations would not be satisfactory, unless characteristic properties of suspended materials in sea water and their sedimentation process become clear. Carson[5] imagined the existence of suspended materials as a stupendous "Snowfall" in the sea. However, numerous flake-like substances in sea water were actually observed in underwater survey by the undersea observation chamber "Kuroshio", designed by Prof. N. INOUE, of Hokkaido University, and his collaborators[6]. The flake-like substances might be the same as Carson's "snowfalling" particles. As yet only few investigations on the particles have been made and none has clarified their true characters.

Jerlov[7] made an interesting investigation on the distribution of the suspended particles, of which the biological or chemical characters were not conceivable. Fox and his collaborators[8] investigated on colloidally or finely particulate organic and inorganic detritus suspended in natural bodies of water and measured the chemical composition and relative quantities with reference to depth, latitude and proximity to land.

During a 1952 voyage aboard the "Oshoromaru" (617tons), the training ship of the Faculty of Fisheries, Hokkaido University at Hakodate, the writers observed suspension of the particles in sea water through the window of the chamber "Kuroshio", hanging from the ship, at several different stations around Japan. Sea water containing the suspended materials was sampled with a specially prepared water sampler (20 liters in volume), from which the water was transferred into some vessels by careful scooping with a cup and brought the laboratory without disturbance. By standing for several hours the suspended materials were sedimented on the bottom of the vessel. Then those sedimented materials were pipetted for microscopic observation.

N Suzuki & K Kato : Bull. Fac. Fish., Hokkaido Univ. vol. 4 (no. 2) : 132135(1953)

Otomar Linhart

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87.1.14

Dear Sir/ Madame,

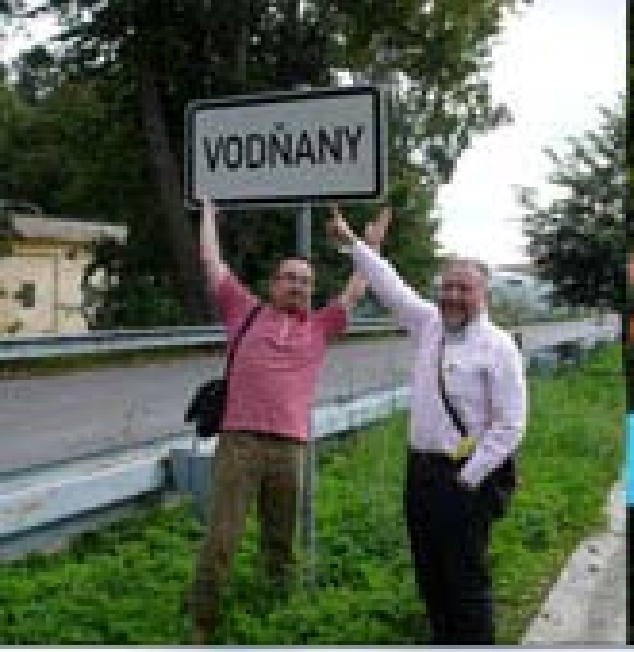
I would greatly appreciate receiving a reprint of your paper entitled ARAI,K.,,ONOZATO,H.,and YAMAZAKI,F.,1979.

Artificial androgenesis induced with gamma irradiation in masu salmon, Oncorhynchus masou.

which appeared in
Bull.Fac.Fish.,Hokkaido Univ.,30(1979):181-186.

Thank you for this favour.

O.Linhart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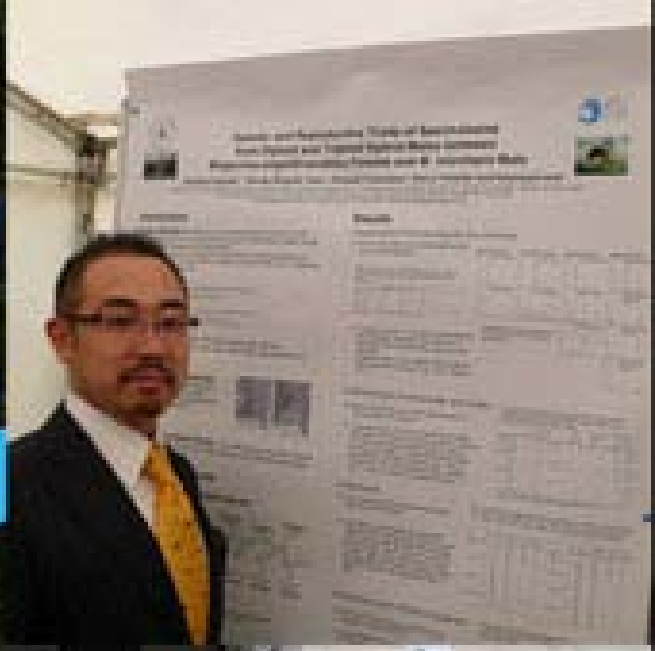


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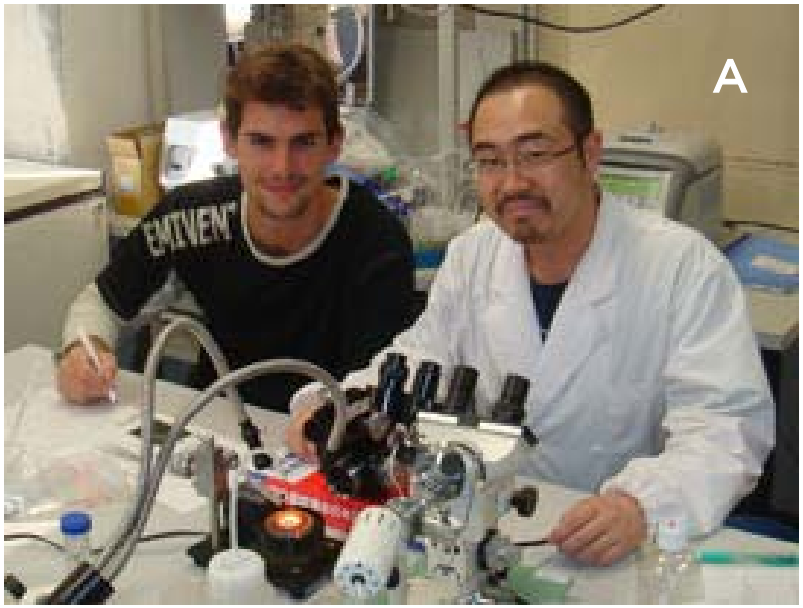
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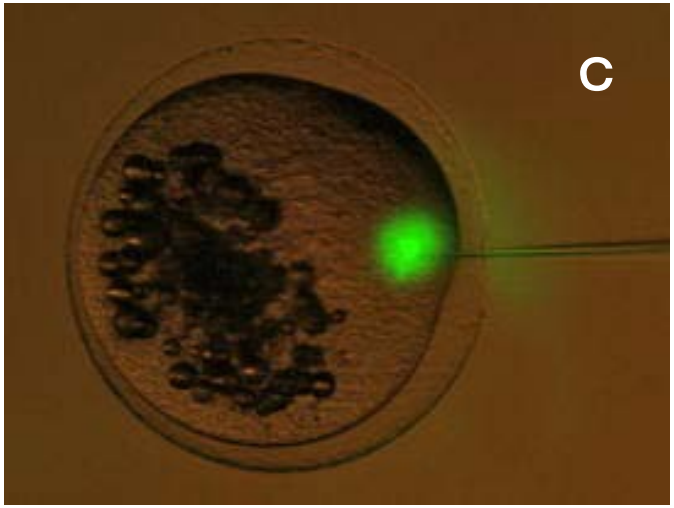
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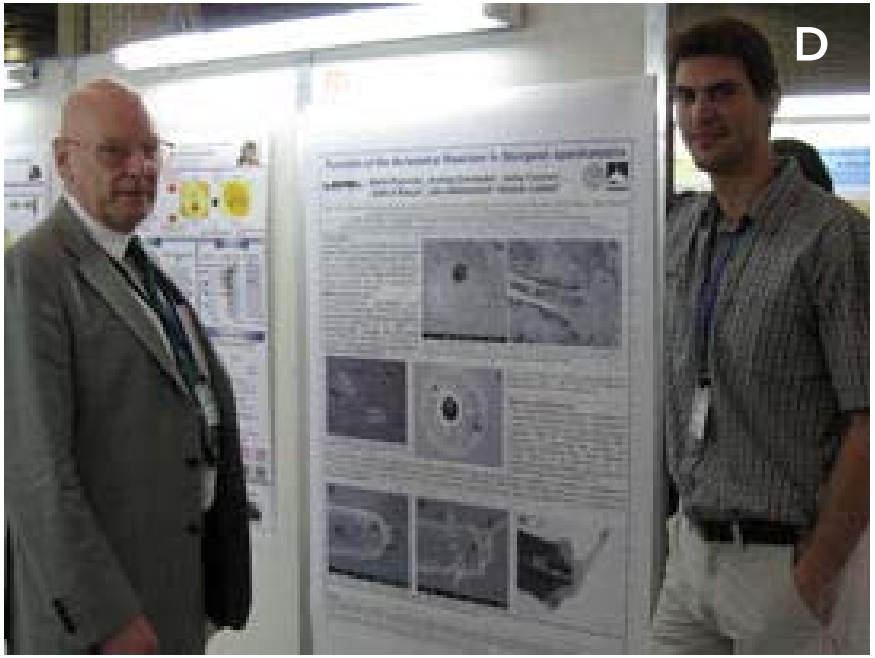
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