

To build a beautiful future

- ~ Finding and educating young people ~
- ~ Environmental development of teaching and learning ~
- ~ Construction project of the museum and pavilions ~
- ~ Future perspectives ~

NPO Mathematics and Technology Promotion “MathMathGood”

Originator

Toshio Sasaki

<http://mathmathgood.com/>

On 11 March 2011, there was a disaster. **Many people died.**

I mourned their deaths and wondered what positive contribution can I make to Japan and the world; **I thought day and night..**

I decided to **devote all my strength to the education of the next generation** and aid them in creating a more beautiful and peaceful future.

With all my heart, I would like to create a **utopian society** rooted in **mathematics, technology, and the humanities**. However, today, we see resources wasted, science rejected, and religious zealotry amplified. These are like **steps backwards!**

We must reconsider **the reason(s) for our being. While we are here,** we must make the best choices for **ourselves and our posterity.**

We propose to provide an environment of support for **kids who have amazing powers and talents.** We hope to **maximize their abilities. I will support them my whole life.** Through an assemblage of some of the best and brightest, perhaps, we will find the **geniuses who will redeem our world.** Hopefully, in the very near future.

The goal of our association, as described in the **article** of incorporation, will **never change.** Many people are **suffering.** We hope to find ways to relieve suffering.

We want to make **everyone 's life happier** with **mathematics.**

Now, **we are searching for someone to help us.**

We sincerely appreciate your time and interest in this announcement .

◆ Introduction

1. Self-introduction
2. Association introduction

◆ To build a beautiful future

1. Are we really happy?
2. What are the technologies of the future?

◆ Finding and educating young people

1. Are there any geniuses in the world?
2. Let's fully understand mathematics and use it easily.

◆ Environmental improvement of teaching and learning

1. Introduction of teaching materials.
2. Development of laboratory and residential facilities.
3. To collaborate with corporations.

◆ Construction project of the museum and pavilions

1. Notifying mathematics and technology to people.
2. To reserve technology of social infrastructure .

◆ Future perspectives

◆ Introduction

1. Self-introduction

Toshio SASAKI
Birthday : Apr. 9th 1971
Nationality : Japan
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WORK EXPERIENCE

***** Okinawa Institute of Science and Technology Graduate University (OIST) (2008 - Present)
TEM Engineer and Specialist with operating the biological samples.
FIB(FEI HELIOS NANOLAB 650), AFM(Agilent 5500)
<http://www.oist.jp/press-room/news/2012/6/5/interrogating-elusive-membrane-proteins>
<http://www.oist.jp/slide/sasaki-mary-and-microscope>

***** Research Labo. for Ultra-High Voltage Electron Microscopy (Aug. 2008 – Jan.21 2010)
EcoTopia Science Institute Nagoya University
TEM Engineer with operating and keeping the maintenance of
Ultra-High Voltage Electron Microscopy (1MeV Hitachi / H-1250ST)
Cs-Corrector Ultra-High Electron Microscopy (JEM-2100F)
<http://hvem.nagoya-microscopy.jp/>
http://www.tech.nagoya-u.ac.jp/event/h21/Vol05/hon_secuor/OBUN-2.pdf

***** Mitsui Chemical Analysis & Consulting Service Inc. (April 2008 – August 2008)
TEM Specialist with observing and analyzing the polymer samples by
Ultra High Resolution TEM(JEOL JEM-2200FS - Ω filter)
<http://www.mcanac.co.jp/company/index.html>

***** International Center for Young Scientists (April 1995 – March 2008)
National Institute for Materials Science (NIMS)
TEM Engineer with considerable experience and knowledge operating the
following microscopy equipment, with a specialty in ultra-high resolution
analysis of crystalline materials by
Ultra High Resolution TEM(JEOL JEM-2100F, 2000FX11) ,
Ultra High Resolution SEM(Hitachi S-4800) ,
Microtome (LEICA EM-UC6), AFM(HITACHI E-sweep)
http://www.nims.jp/icys/formericycs/01/about/pdf/04-05_melting_11.pdf

EDUCATION

***** Graduate School of Pure and Applied Sciences of University of Tsukuba (April 2006 – Present)
Study Ph. D. in Science (Now,temporary absence from University because working)

***** First Cluster of Colleges of University of Tsukuba (April 1991 – March 1995)
Physics Department, College of Natural Sciences
Bachelor's of Science Degree

LANGUAGES

*****Japanese (excellent), Chinese (excellent), English (conversation level)



NIMS 独立行政法人 物質・材料研究機構
National Institute for Materials Science



mc nac 株式会社 三井化学分析センター
Mitsui Chemical Analysis & Consulting Service, Inc.



筑波大学大学院
数理物質科学研究科

Graduate School of Pure and Applied Sciences
University of Tsukuba



◆ Introduction

1. Self-introduction

The List of Paper & Conference Presentation

1. "Improved Creep Strength and Creep Ductility of Type 347 Austenitic Stainless Steel through the Self-Healing Effect of Boron for Creep Cavitation" K. Laha, J. Kyono, **T. Sasaki**, S. Kishimoto, and N. Shinya METALLURGICAL AND MATERIALS TRANSACTIONS A 2005
2. "Effect of additions of Ti, B and Ce on microstructural stability, creep strength and creep damage in austenitic stainless steel" K. Laha, J. Kyono, **T. Sasaki** and N. Shinya Materials Science and Technology 2005
3. "Liquid-liquid interfacial precipitation of hexagonal crystals and nano-rods" M. Sathish, K. Miyazawa and **T. Sasaki**, presented in 2007 Spring Meeting of The Japan Institute of Metals at Chiba Institute of Technology, Tsudanuma on March 27 to 29, 2007.
4. "Synthesis, Characterization and Electrical Conductivity of Metal/Metal ion Incorporated Fullerene Nanowhiskers" to be presented in "NSTI Nanotech 2007" M. Sathish, K. Miyazawa and **T. Sasaki**, at Santa Clara Convention Center, Santa Clara, California, USA, on May 20 to 24, 2007.
5. "Preparation, Characterization and Electrochemical Application of Metal/Metal Ion Loaded Fullerene Nanowhiskers" M. Sathish, K. Miyazawa and **T. Sasaki**, to be presented in International Conference on Materials for Advanced Technologies (ICMAT-2005) Singapore, July 1-6, 2007.
6. "Nanoporous Fullerene Nanowhiskers" M. Sathish, K. Miyazawa and **T. Sasaki** (2007) Chem. Mater., 2007, 19 (10), pp 2398-2400 DOI: 10.1021/cm070114a Publication Date (Web): April 24, 2007 Copyright © 2007 American Chemical Society
7. "Novel Hexagonally Ordered Nitrogen-doped Mesoporous Carbon from SBA-15 Polysiloxane Nanocomposite" Ajayan Vinu, Pavuluri Srinivasu, Toshiyuki Mori, **Toshio Sasaki**, Anjana Asthana, Katsuhiko Ariga, and Shunichi Hishita Chemistry Letters Vol. 36, No. 6 (June, 2007)
8. "Ultra Narrow PbS Nanorods with Intense Fluorescence" Somobrata Acharya,* † Ujjal K. Gautam ‡, **Toshio Sasaki**, † Yoshio Bando, †, ‡ Yuval Golan, † and Katsuhiko Ariga † J. AM. CHEM. SOC. 9 VOL. 130, NO. 14, 2008 4595
9. "Synthesis of alcoholic ZnO nanocolloids in the presence of piperidine organic base: Nucleation-Growth evidence of Zn5(OH)8Ae2.2H2O fine particles and ZnO nanocrystals," F. GRASSET, O. Lavastre, C. Baudet, **T. Sasaki** and H. Haneda J. COLLOID INTERFACE SCI 317 (2008), p. 493-500
10. "Design of new M@ZnO nanocolloids: synthesis and shaping" F. Grasset, S. Cordier, Y. Molard, C. Perrin, V. Nazabal, M. Guilloux-Viry, S. Pechev, N. Saito, H. Ryoken, H. Haneda **T. Sasaki** International Journal of Nanotechnology Volume 5, Number 6-8, 2008
11. "When "Metal Atom Clusters" Meet ZnO Nanocrystals: A (In C4H9)4N)2Mo6Br14@ZnO Hybrid" Fabien Grasset1,2,*; Yann Molard1,*; Stéphane Cordier1,*; Frédéric Dorson1; Michel Mortier3; Christiane Perrin1; Maryline Guilloux-Viry1 **Toshio Sasaki**2; Hajime Haneda4 Article first published online: 15 APR 2008 DOI: 10.1002/adma.200701845 Advanced Materials Volume 20, Issue 9, pages 1710–1715, May 5, 2008
12. "Preparation and Characterization of Novel Microporous Carbon Nitride with Very High Surface Area via Nanocasting Technique" Srinivasu, Pavuluri; Vinu, Ajayan; Hishita, Shunichi; **Sasaki, Toshio**; Ariga, Katsuhiko; Mori, Toshiyuki Microporous Mesoporous Mater. (2008), 108 (1-3), 340-344.
13. "Relationship between Carbon Nanotube Structure and Electrochemical Behavior: Heterogeneous Electron Transfer at Electrochemically Activated Carbon Nanotubes" Martin Pumera,* [1] **Toshio Sasaki**, [1] and Hideo Iwai[c] Chem. Asian J. 2008, 3, 2046 – 2055 _ 2008 Wiley-VCH Verlag GmbH & Co. KGaA, Weinheim www.chemasianj.org 2047
14. "Design of size controlled ultranarrow PbS rods with robust fluorescence" Somobrata ACHARYA, Ujjal K. Gautam, **Toshio Sasaki**, Yoshio Bando, Yuval Golan and Katsuhiko Ariga, J. AM. CHEM. SOC. 130, 4594-4595 (2008).
15. "Water-in-Oil Microemulsion Preparation and Characterization of Cs2[Mo6X14]@SiO2 Phosphor Nanoparticles Based on Transition Metal Clusters (X = Cl, Br, and I)" F. Grasset, ‡, F. Dorson1, S. Cordier1, Y. Molard1, C. Perrin1, A.-M. Marie, **T. Sasaki**2, H. Haneda4, Y. Bando2,4, M. Mortier5 Advanced Materials Volume 20, Issue 1, pages 143–148, January, 2008
16. "Preparation and Optical Properties of Fullerene/Ferrocene Hybrid Hexagonal Nanosheets and Large-Scale Production of Fullerene Hexagonal Nanosheets" T. Wakamura, M. Sathish, K. Miyazawa, C. Hu, Y. Tateyama, Y. Nemoto, **T. Sasaki** and O. Ito : J. Am. Chem. Soc. 131[29] (2009) 9940-9944 DOI: 10.1021/ja901032b
17. "Ultrathin Organically Modified Silica Layer Coated Carbon Nanotubes: Fabrication, Characterization and Electrical Insulating Properties" Martin Pumera, †, **Toshio Sasaki**, †, J. Petislav Smid Chem. Asian J., 2009, 4, 662. Highlighted as Frontispiece. Featured in Angew. Chem. Int. Ed. 2009, 48, 3386; Chem. Eur. J. 2009, 15, 4744, Eur. J. Inorg. Chem. 2009, 9, 2200 and Eur. J. Inorg. Chem. 2009, 9, 2594.
18. "Novel Nanomaterials Based on Inorganic Metal Atom Clusters" S. Cordier, F. Dorson, F. Grasset, Y. Molard, B. Fabre, H. Haneda, **T. Sasaki**, M. Mortier, S. Ababou-Girard, C. Perrin, Journal of Cluster Science March 2009, Volume 20, Issue 1, pp 9-21
19. "Platelet Graphene Nanoribbons for Electrochemical Sensing and Biosensing": Adriano Ambrogi, **Toshio Sasaki**, Martin Pumera* The Influence of Graphene Sheet Orientation Chem. Asian J., 2010, 5, 266. Highlighted as Frontispiece.

◆ Introduction

1. Self-introduction

◆ Jam Session

—ICYS accepts young researchers for fellowship from all over the world to engage in advanced research assisted by TSS, whose support system, which is unparalleled in terms of caring attitude and attention to detail, is highly evaluated by research institutions and universities both in Japan and overseas. How do you assist research fellows?

Uemura: My main job is to look for necessary experiment equipment. I need information on who uses what equipment so that the right equipment can be provided to young research fellows who need it. When suitable equipment is not available within NIMS, I contact other research institutions, universities, and agents.

Uemura: I assist experiments, ranging from giving advice on a suitable mask to be used, to procuring expensive new equipment. For the latter, I help decide the specifications and then negotiate with the budget staff. If the request for buying the equipment is accepted, I compile a specification document and reasons for choosing the equipment in Japanese. Subsequently when the equipment is delivered, I explain how to use it in English. One of the ICYS characteristics is that English is an official language. Life is much easier for non-Japanese research fellows if we help eliminate the language barrier.

Fujita: Sasaki-san, it must be tough to allocate electron microscopes because so many research fellows want to use them.

Uemura: And also because the electron microscopes at ICYS/NIMS are among the best in Japan, aren't they?

Sasaki: One electron microscope has a linear resolution of 0.1 nm. Research is dependent upon the knowledge of researchers and the capacity of the equipment used, so I think our research fellows can get good results and papers published if we can provide them with the best equipment. But we must ensure experimental equipment is used safely because not all ICYS research fellows know how to use it, and because such equipment is usually expensive. I also help analyze experimental data.

Uemura: In general, Japanese tend to handle equipment operation carefully.

Sasaki: That's true. Non-Japanese tend to be carefree or adventurous (chuckle). If the equipment breaks, it's prohibitively expensive to repair.

Fujita: Repair expenses are a serious problem, but it's even more serious for experiments to be suspended during repairs.

Uemura: Incorrect use of experiment equipment could be more serious than just an injury.

Sasaki: As support staff, we carry a heavy responsibility for safety.

—Do you notice any differences in the attitudes of research fellows from overseas in conducting research depending on their nationality?

Uemura: Of course, individuals differ, but in general European researchers tend to take their time in conducting research, whereas those of Chinese origin tend to hurry to get results.

Fujita: Research fellows from China in particular tend to concentrate on trendy research fields, and the same applies to their papers. They seem to be joining the bandwagon of the American standard. Research fellows from small and rapidly developing countries come here filled with ambition.

Uemura: That's true among Eastern Europeans. They come here with pride at being the best in their country.

Fujita: Some ICYS alumni have achieved success at ICYS and moved on to higher position after returning to their home countries. ICYS alumni will become university professors or directors-general of research institutes in due course.

—What are the challenges or remarks as support coordinators?

Uemura: Some research fellows have transferred to NIMS after completing their fellowship at ICYS, where they strive for practical application of their exploratory research. Meanwhile, collaborative research



“Behind-the-scenes supporters” of ICYS research activities

ICYS attracts attention from researchers and research institutions overseas for its outstanding level of research and solid research support system. Today we look at the work of three research support coordinators from the Technical Support Station (TSS) of ICYS, who are also researchers and engineers themselves.

Yoichiro UEMURA × Taketoshi FUJITA × Toshio SASAKI

with Japanese researchers has become increasingly active year by year. It is a pleasure to work at a place where I can see successful results being obtained and human networks being expanded. I feel stimulated by interacting with young research fellows (chuckle).

Sasaki: Those from overseas generally believe that Japanese equipment is the best in the world. Japanese electron microscopes, for instance, are of high resolution, excellent quality, and easy to handle. ICYS alumni in the Czech Republic, UK, France, and other countries sometimes send me specimens and ask me to view them under an electron microscope at ICYS. Although meals and cosmetics can be handled easily, sophisticated skills are required for observing organic matter, such as biogenic specimens, with an electron microscope.

Uemura: Yes, because electron beams of 200 kV are irradiated. Research fellows from overseas are impressed by the skills of Japanese who can handle the equipment smoothly, in addition to the excellence of the equipment itself.

Fujita: Incidentally, I once repaired the wheels of a baby buggy of a foreign researcher, and in return he gave me a bottle of wine from his country (chuckle). But returning to the subject, both researchers coming to ICYS from other countries and we support staff had a hard time at the start of the ICYS Project, although the support system is solid now. For instance, to use a huge radiation experiment facility called SOR at the High Energy Accelerator Research Organization (KEK) in Tsukuba, users must undertake radiation safety training in advance. When a new Japanese research fellow wanted to use it, I had to search all over Japan for a facility which could give such training in English until I finally found one, as there was none nearby. It's challenging to open new fields, but also a pleasure, being rewarded by a sense of fulfillment.

Uemura: The duties of support coordinators range from calm assistance to patient efforts, so we need to have a personality that enjoys getting things done.

Sasaki: I think international projects like the ICYS Project, in which you can meet researchers from all over the world and improve your English skills, will become increasingly important in the future.

Uemura: Ideally, the research outcomes of ICYS research fellows would be compiled into papers and connected to obtaining patents, eventually making NIMS the core of global communication.

Fujita: I think the support system of TSS at ICYS is excellent because bilingual experts provide all-inclusive technical assistance, both in Japanese and English to meet the needs of young research fellows concerning experiments.

—The prestige of ICYS will continue to spread worldwide through the dedicated assistance of the behind-the-scenes supporters at TSS.



◆ Next Phase

Enhancement of the NIMS research support system

English training for NIMS administrative staff

One means of promoting internationalization at NIMS is English training for administrative staff, which ICYS implements in cooperation with the International Affairs Office of NIMS.

In fiscal 2005, these staff members attended three- to four-week courses at a language school in California. Although the participants commented that they would have liked to stay longer to acquire the necessary skills for actual administrative work, they certainly picked up good English during the training.

“The time spent with my host family greatly improved my listening ability, and I learned colloquial expressions and the ordinary lifestyle of people” (Hioko Inoue, International Affairs Office)

“I'm pleased with the remarkable progress of my English conversation skills, particularly my listening ability, since the start of the training course, and my improvement was clear through conversations with my host family and other people” (Shinichi Matsuyama, Integrated Strategy Office)

For fiscal 2007, these staff members have already been selected for the upcoming English training course. Based on the feedback of participants in 2006, the training program has been enhanced, including a longer training period and training of business practices. We will continue to offer substantial English training courses for developing skilled human resources who can contribute to the internationalization at NIMS.

Orientation and laboratory tour program

We have been providing an orientation and laboratory tour program since January 2005, mainly for foreign researchers on fixed-term contracts to help them carry out research smoothly at NIMS.

ICYS is in charge of implementing the program on behalf of the International Affairs Office of NIMS. The program comprises about a two-hour orientation and a tour of major laboratories, and is held monthly so that researchers can attend it some other time. Usually, one staff member responds to the program, and they provide detailed information on the purchasing of samples, overview of experiment facilities, management of toxic substances and waste, handling of intellectual property, working regulations, and health care.

This program had been held 15 times by the end of August 2007, with 90 participants in total. Although participants have already said that the program is very helpful, we will continue to improve it to help non-Japanese researchers focus on their research, as part of our duty to create a good research environment.



Column: An administrative intern from Poland

I am Karolina Stankiewicz from Poland. I am working as a secretary at the Warsaw University of Technology, while studying at the Department of Japanese and Korean Studies, Institute of Oriental Studies, Warsaw University, where I major in Japanese studies, which includes the Japanese language, culture, literature, and history. As the Warsaw University of Technology collaborates with the National Institute for Materials Science (NIMS), I became involved in the ongoing bilateral activities in the field of materials science, so I applied for the internship position at the ICYS Administration Office, and worked there from July to September 2007.

This was my first visit to Japan and so there was much to learn. At ICYS, I gained useful knowledge about bilateral cooperation between Poland and Japan for the future, while listening to natural Japanese and observing the work style and lifestyle of the Japanese people. Having worked with ICYS research fellows, I now understand more about the way of being and thinking of Japanese people.

Life in Tsukuba is convenient, and Nimitopia House is a very comfortable place for four people. I enjoyed staying at ICYS because I could make friends with not only Japanese people but also non-Japanese research fellows.

Things that impressed me most during my stay in Japan included the clean towns and the remarkable politeness of the Japanese who express respect to others using various honorific and humble forms. I also noticed that the Japanese are very interested in the people and culture of other countries.

I like Japan very much and found many fascinating things every day. In the future, I would like to become involved in cooperative activities between Poland and Japan, using my intercultural experience at ICYS, and to keep on learning many more things so that I can act as a bridge between our two countries.

(Note: This article was translated from the original Japanese written by the writer here.)



◆ Introduction

1. Self-introduction

独立行政法人 沖縄科学技術研究基盤整備機構 一般公開

OIST オープンキャンパス 2010

in 恩納村
ご家族そろってどうぞ!!

科学の世界って
おもしろい!!

11/28日 **入場無料**

2012年秋の開学を目指す沖縄科学技術大学院大学。恩納村に完成した施設を会場に小中学生をはじめとする県民の皆様へOISTの研究活動について楽しくわかりやすくご紹介するオープンキャンパスを開催します。研究者による講演会、科学実験のデモンストレーション、ラボツアーなど、普段は見られない内容が盛りだくさんです。

当日はうれしいプレゼントもあるよ!

場所: 沖縄科学技術大学院大学 キャンパス
時間: 10:00~16:00

講演会

午前 (11:30~12:30)

- 進化システム生物学ユニット 若手代表研究者 ホルガー・イェンコダマ博士
「パリティキンの謎ー海洋生物学での探偵業務」
- 神経生物学研究ユニット 研究員 新道まゆみ博士
「神経シナプス伝達の記録」

午後 (14:00~15:30)

- 数理生物学ユニット 代表研究者 ロバート・シンクレア博士
「生命の数学的謎」
- 生態・進化生物学ユニット 若手代表研究者 アレクサンダー・ミケエブ博士
「世界を制する小さいものーあなたの知らないアリについて」
- 神経システム行動ユニット 代表研究者 磯田昌雄博士
「脳と運動」

ラボツアー

受付	入室
10:00	11:00~11:45
11:30	12:30~13:15
12:30	13:30~14:15
14:00	15:00~15:45

※ラボツアーへの参加は各限20名まで。当日会場内所定の場所にてお申し込み下さい。各ツアー-出発時間の1時間前にお受付を開始します。※全体のツアーで最大1回のみのご参加となります。

研究内容の展示および科学実験のデモンストレーション

- ロボットの"脳"をつくる
- 「脳の中のプログラムを解読する」
- 「わくわく科学体験」
- 「OIST子ども研究所について」
- 「すばらしい細菌の話」
- 「見えないものを見るようにする」

主催: 独立行政法人 沖縄科学技術研究基盤整備機構
共催: 沖縄科学技術大学院大学 設置促進委員会
後援: 沖縄県、恩納村
お問い合わせ: 独立行政法人 沖縄科学技術研究基盤整備機構
電話 098-966-8711 9:00~17:30(平日のみ)

講演会

午前 (11:30~12:30)

- 進化システム生物学ユニット 若手代表研究者 ホルガー・イェンコダマ博士
Evolutionary Systems Biology Unit
Principal Investigator
Dr. Holger Jenko-Kodama
「パリティキンの謎ー海洋生物学での探偵業務」
"The Paritykin Mystery - Detective Work in Marine Biology"
本来動物にはない成分、怪毒パリティキンが何の薬毒もない海洋生物から見つかった。どうして創りだされるようになったのか?この疑問を探偵のように解いていこう!
- 神経生物学研究ユニット 研究員 新道まゆみ博士
Neurobiology Research Unit
Researcher
Dr. Mayumi Shinoda
「神経シナプス伝達の記録」
"Recording Synaptic Transmission"
私たちの脳の中には、様々な状況に応じて活発な情報伝達が行われています。それどのような仕組みなのでしょう?電気生理的手法を用いて紹介いたします。

午後 (14:00~15:30)

- 数理生物学ユニット 代表研究者 ロバート・シンクレア博士
Mathematical Biology Unit
Principal Investigator
Dr. Robert Sinclair
「生命の数学的謎」
"Mathematical Mysteries of Life"
ゲームを通して生命のある豊富な側面を数学的・コンピュータ的視点から考え、生きることの新しい意味を考へていきたいと思います。
- 生態・進化生物学ユニット 若手代表研究者 アレクサンダー・ミケエブ博士
Ecology and Evolution Unit
Independent Young Investigator
Dr. Alexander Mikheyev
「世界を制する小さいものーあなたの知らないアリについて」
"Little things that rule the world and other things you did not know about ants"
ここでは驚くべきアリの多様性と彼らの行動を復元します。皆さんはアリ社会がどんなに人間と結びついているか、また、アリの出来ることの多さに驚くでしょう。
- 神経システム行動ユニット 代表研究者 磯田昌雄博士
Unit on Neural Systems and Behavior
Principal Investigator
Dr. Shiro Inoue
「脳と運動」
私たちが毎日行っている様々な運動は、脳の複雑な働きによってコントロールされています。この仕組みをご紹介します。

科学実験 デモンストレーション

- 神経計算ユニット
Neural Computation Unit
「ロボットの"脳"をつくる」
Creating the "brain" of robots
最初はたために動くロボットが電池をつかまえて充電するといふ成功体験から確実に電池をつかまえる行動を学習します。
内田英治 博士
Dr. Eiji Uchida
副谷賢治 博士
Dr. Kenji Doya
- 発生分化シナプス研究ユニット
Developmental Synaptic Unit
「わくわく科学体験」
Experiencing exciting science
リトマス紙の代わりに葉キャベツを使った実験や、キウイを使った色の分析など、身のまわりの食べ物を使ってわくわくする科学実験をおこないます。
メリアン・プライス 博士
Dr. Mary Ann Price
- 細胞間通信遺伝学ユニット
Transmembrane Signaling Unit
「すばらしい細菌の話」
Let's talk about speedy bacteria
細菌は人工モーターに似た毛を使って活発に動き回っています。その回転数は1分間に2万回細菌の驚くべき能力をご紹介します。
フェデル・サマタ 博士
Dr. Fedel Santana
- 細胞分子シナプス機能ユニット有志
Cellular and Molecular Synaptic Function Unit
「見えないものを見るようにする」
Observing what you cannot see in everyday life
注意欠陥多動性障害 (ADHD)は、集中し続けることが難しい、落ち着かない、順番を守れない、結果を考えずに行動するなどの症状がみられる障害です。OIST子ども研究所では、ADHDの原因の解明を目的としています。
OIST Children's Research Center
三浦工博士
Dr. Kunisaku Eguchi
中西節子博士
Dr. Setsuko Nakashima
高木 博博士
Dr. Hiroshi Takagi
ゴーヤーのスライス切片を使って細胞と細胞を染めたり、脳の全体像と脳の中の構造の観察、コンピュータシミュレーションで神経細胞の電気活動を見ます。
ゲイル・トリップ 博士
Dr. Gail Tripp
丸山一郎博士
Ichirou Maruyama
情報処理生物学ユニット
Information Processing Biology Unit
Dr. Eriko Miyazono
神経発生ユニット
Developmental Neurobiology Unit
Dr. Ichiro Inoue
GO細胞ユニット
Golgi Cell Unit
Dr. Mitsuhiro Yanagida
OIST 電子顕微鏡室
OIST Electron Microscopy Room

ラボツアー

11:00~11:45 12:30~13:15 13:30~14:15 15:00~15:45

OISTってなあに?

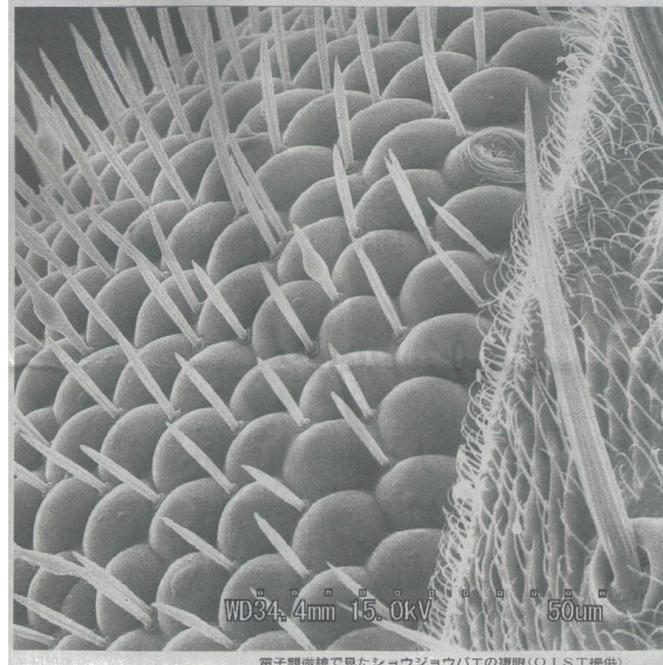
沖縄科学技術大学院大学 (Okinawa Institute of Science and Technology) の略称。2012年秋の開学 (学生入学) をめざして設立準備がすすめられている世界トップクラスの科学技術系の大学院大学のこと。現在恩納村のキャンパスを中心に、国内外から集まった180名近くの研究者が活動を開始しています。

◆ Introduction

1. Self-introduction



電子顕微鏡で見たショウジョウバエ (OIST提供)



電子顕微鏡で見たショウジョウバエの複眼 (OIST提供)

**News Paper
RyukyuShinbo**

May 27th, 2014

**琉球新報
平成26年5月27日 (火)**

旅行や冒険の楽しさ

佐々木 敏雄さん (OIST生物研究支援
セクション技師)

電子顕微鏡を使うと日頃見られない世界を体験できる。旅行というと、みんな外へ出掛けるが、どこに行かなくてもこの場で旅行ができる。OISTではショウジョウバエの遺伝子を変えて、どの組織に影響を与えるかを調べる研究などに使っている。小さな変化は高倍の顕微鏡でなければ分からない。

日本は電子顕微鏡を使った研究で世界をリードしている。特に物質の構造の研究は先を行っている。日本の製品がなぜ壊れないかといえば、物質をよく研究しているからだ。例えば、物を包むことなどに普段何も考えずに使っているラップは、強度を測る実験を何度も繰り返してい



電子顕微鏡の前に立つ技師の佐々木敏雄さん

る。肉眼では何の変化がなくても、高倍で広げて見ると、実は物質が壊れていたりする。実験を重ねて良い製品を作っている。毎日新しい発見があり、冒険しているような楽しさがある。

◆ Introduction

1. Self-introduction



ミクロの世界を冒険!

【那覇市立松川小5年・國吉薫子】研究者になつたきつかけを知ろうと、7月25日、恩納村の沖縄科学技術大学院大学に電子顕微鏡の専門家佐々木敏雄さんを訪ねた。佐々木さんはシヨウジョウバエなど昆虫の細胞などを顕微鏡で見る仕事をしている。佐々木さんによると、電子顕微鏡を使うことで、チヨウの羽の色は、色素ではなく粉のような物の表面の構造が違い、光の当て方で色が変わるといふことが分かった。チヨウの羽と同じように「色素で染めない服の開発に役立つ」と話した。

佐々木さんは、研究室を暗くして顕微鏡をのぞく研究を行うので、あつという間に時間がたち、気付けば真夜中ということがあつた。

子どもは「なぜ時計の針が回るの?」「なぜ小さな蛇口から水が出るの?」と身の回りの物にいろいろな疑問を持っていて、そのことから研究者になつてうれしいことは、身近な物を何でも電子顕微鏡で見ることができると、旅や冒険をしているような感覚になるそう。

研究者を目指す子どもたちには「疑問に思ったことを見つけて、諦めずに答えを見つけてほしい。疑問に思ったことは手帳などに書き、いつも持ち歩くようにしてほしい」と話した。

電子顕微鏡について説明する専門家の佐々木敏雄さん(7月25日、恩納村の沖縄科学技術大学院大学)

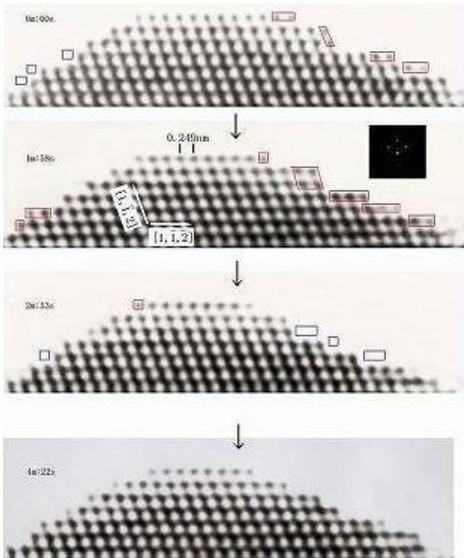
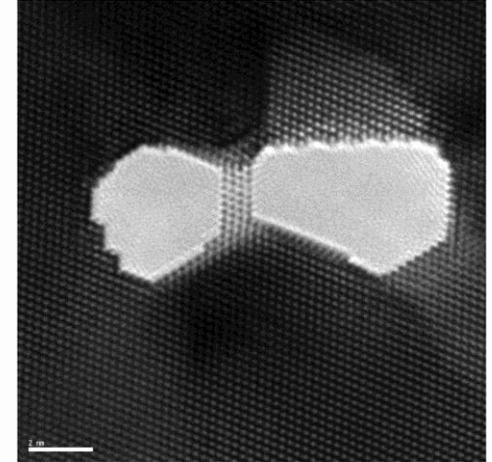
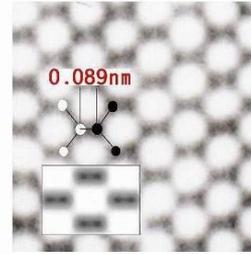
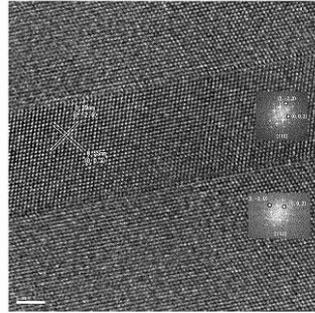
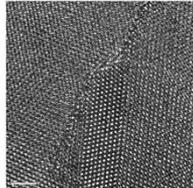
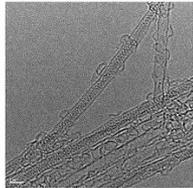
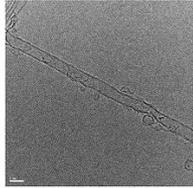
News Paper
RyukyuShinbo
for Children

Sep. 1st, 2014

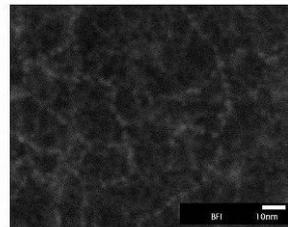
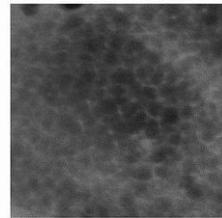
琉球新報 こども新聞
平成26年9月1日(月)

◆ Introduction

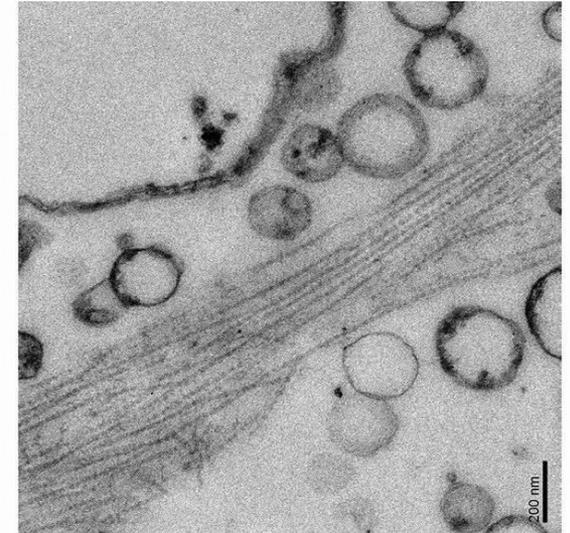
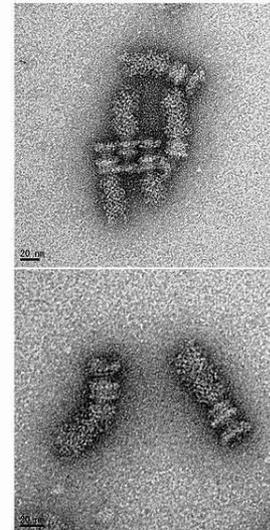
1. Self-introduction



In situ observation of Au atom

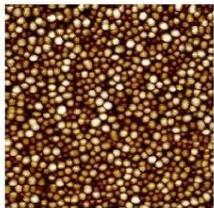


The DNA image without any stains (HADDF-STEM)



◆ Introduction

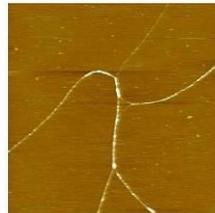
1. Self-introduction



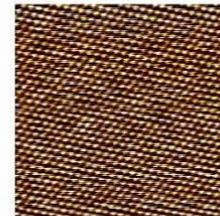
salmo_pantida_AFM_01



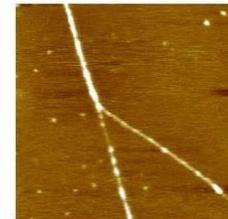
Miss_AFM_01



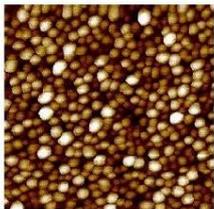
Δ DNA_AFM_01



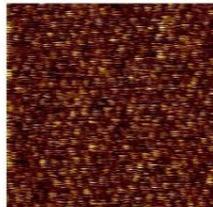
HOPG_STM_01



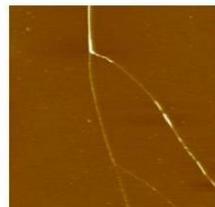
Δ DNA_AFM_03



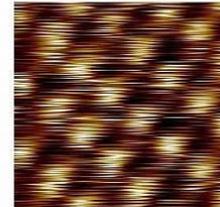
salmo_pantida_AFM_02



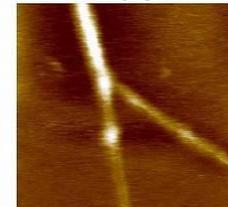
Miss_AFM_02



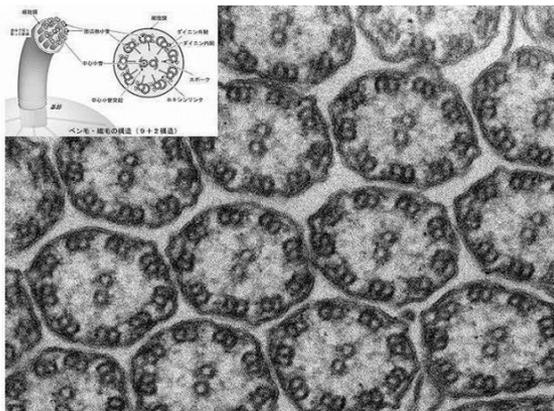
Δ DNA_AFM_02



HOPG_STM_02



Δ DNA_AFM_04

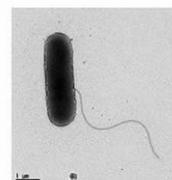
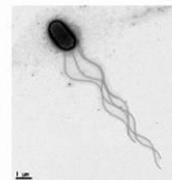


Mutants of *Salmonella enterica* can be made and the effect on the cell and on flagellar synthesis examined by electron microscopy:
サルモネラ菌の変異体を作製し、細胞や鞭毛合成への影響を電子顕微鏡で観察することができます。

This image shows a cell with a mutation a gene for an enzyme for ubiquinone biosynthesis. Ubiquinone is found in the respiratory chain. The cell has less energy to grow and make flagella. 右の画像は突然変異ユビキノン(ミトコンドリアの内膜にある稼働型電子伝達体の一つ)生成のための酵素の遺伝子を持つ細胞です。ユビキノンは、呼吸反応連鎖から見つかっています。この細胞は成長や鞭毛を作るためのエネルギーが少なくなっています。

This image shows a cell with a mutation a gene for a protein called FlhB, which is found at the base of the flagellum. This cell has just one flagellum.

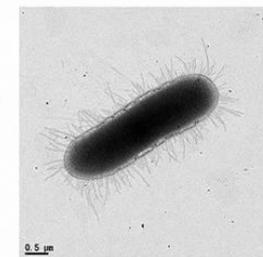
このイメージは、鞭毛の基部にあるFlhBという蛋白質のための突然変異遺伝子をもつ細胞を示しています。このセルは、鞭毛を一本だけ持っています。



Bacteria also make surface appendages other than flagella, which can be seen with an electron microscope. 細菌はまた、鞭毛以外の表面付属物を作ることができ、電子顕微鏡で見ることができます。

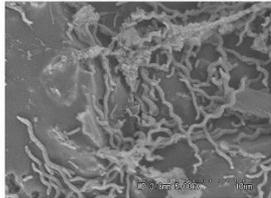
This image shows a *Salmonella enterica* cell covered in fimbriae. 右の画像は線毛で覆われたサルモネラ菌を示しています。

Fimbriae are used by bacteria to stick to surfaces and each other. 線毛は、細菌同士をくっつける役割も持っています。



◆ Introduction

1. Self-introduction



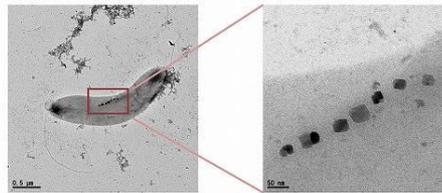
Helical bacteria forming conductive pili
螺旋状の細菌は導電性ある線毛を形成する

Anodic carbon granules with attached helical-shaped bacteria
陽極炭素顆粒に付着した螺旋状の細菌

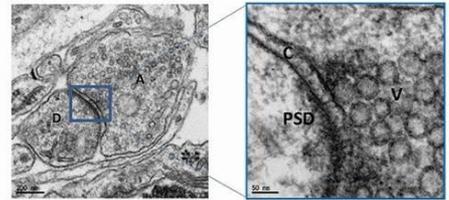


Magnetospirillum magnetotacticum very well growing in microbial fuel cell environment.
微生物の *Magnetospirillum magnetotacticum* は、バイオ燃料電池の環境下で非常によく成長しています。

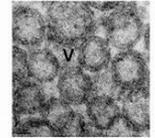
Higher magnification image shows magnetosomes – chains of magnetic crystals inside bacteria.
高倍率で観察した magnetosomes の画像です。一細菌内部の磁性結晶の鎖



"Electron microscopy" has helped to know how synapse looks like in reality.
“電子顕微鏡”は、シナプスが実際どのように見えるかを示す有効なツールです。



Electron micrograph of a nerve ending making a synapse in a rat brain. These synapses are identical in the human brain. The presynaptic nerve axon ending (A) makes synaptic contact with a dendrite (D) of the dendrite of the next (postsynaptic) neuron. Note the synaptic cleft (C), 20 nm wide, which is the narrow space separating the two neurons, synaptic vesicles (V), and postsynaptic densities (PSD).
こちらはラット脳内のシナプスを作る神経終末の電子顕微鏡写真です。これらのシナプスは、人間の脳のものと同じです。シナプス前神経軸終末 (A) は、次のシナプス結合部位 (D) ニューロンの樹状突起 (D) とシナプス結合します。二つのニューロンのシナプス小胞 (V) 部位と、シナプス部位 (PSD) を分離するシナプス隙 (C) の間は 20 nm しかありません。



020 菊池ラインに沿って試料を傾斜させ、明視野像は透過波、暗視野像は 020 の回折スポットのみを用いて撮影した。

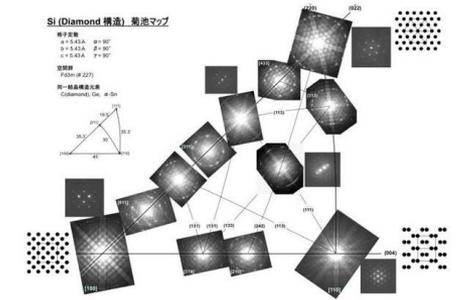


fig.67

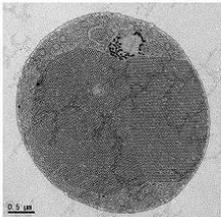


fig.68

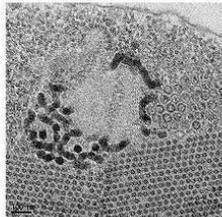


fig.71

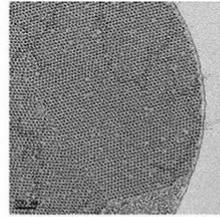


fig.72

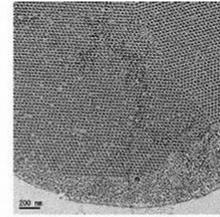


fig.69

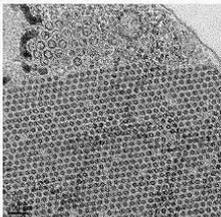


fig.70

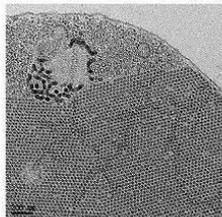


fig.73

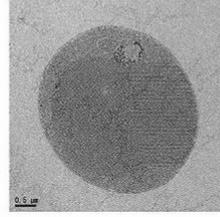


fig.74

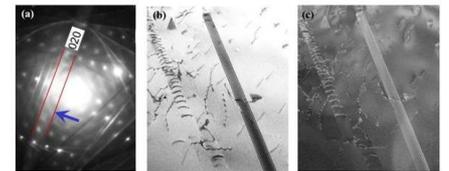
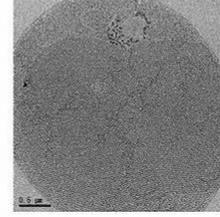


図2 ステンレス鋼中の結界欠陥と転位の電子顕微鏡写真。(a) 電子回折図形, (b) 明視野像, (c) 暗視野像

図3は、ガソリン自動車用三元触媒に使われているセリア・ジルコニア固溶体 ($Ce_2Zr_2O_7$) の結晶モデルと高分解能電子顕微鏡像である。この結晶は、モデルに示したように結晶内で金属イオンのセリウムとジルコニウムが規則的に置換し、その間隙に酸素イオンが充填する。酸素原子は、(a) サイトの全てが酸素で充填された例 (図中に濃い青丸で示した酸素原子)、(b) そのうち4分の1の酸素が欠損している例 (白丸で示した酸素原子)、(c) 全てのサイト

◆ Introduction

2. Association introduction

Purpose of the association

The MathMathGood association will not discriminate by **nationality or whether a child is rich or poor.**

We will help young people improve their mathematical capacity by teaching **high level mathematics** and then educate using **advanced technology.**

Our goal is create innovation in areas such as **“infinite Energy”, “artificial intelligence”, “micromachines”.**

Through education of gifted children our dream is to **eliminate starvation, poverty, disease, and war and build a prosperous and peaceful future.**

◆ Introduction

2. Association introduction

Company name

MathMathGood Mathematics Technology Promotion NPO

Our Goals

We shall give all our strength to create a strong future society.

For the first year, we will raise capital and recruit members to our organization. During the second year, facilities will be constructed and staff recruitment will continue. From the third year, students will be recruited and the program will be started. Then from the fifth year, construction of a museum will begin.

Corporate obligation

All the directors will promise that they shall not change what is written in the articles of the association.

To contribute to society, and as stipulated in article of the association, the chief director and the members will not receive any financial reward beyond their basic salary as staff.

We will disseminate the technology developed and contribute to society.

We will publically report details of the activities of the organization and the education results regularly.

Personnel affairs

All the employees promise to obey the articles of the association in order to find a happier life.

All employees will have the same salary and working conditions regardless of their position.

◆Introduction

2. Association introduction



沖縄県指令第 736 号



佐々木 敏雄

特定非営利活動法人設立認証書

平成26年8月15日付けで申請のあった下記の特定非営利活動法人の設立については、特定非営利活動促進法（平成10年法律第7号）第12条第1項の規定により認証します。

平成26年10月22日

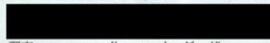
沖縄県知事 仲井眞 弘多 

記

1 特定非営利活動法人の名称	特定非営利活動法人 数学・科学技術推進協会 MathMathGood
2 代表者の氏名	佐々木 敏雄
3 主たる事務所の所在地	沖縄県名護市東江5丁目6498番1-704号 ウィンベル沖縄名護コーラルビュー

現在事項全部証明書

沖縄県名護市東江五丁目6498番1-704号ウィンベル沖縄名護コーラルビュー
特定非営利活動法人数学・科学技術推進協会 MathMathGood
会社法人等番号 3600-05-005018

名称	特定非営利活動法人数学・科学技術推進協会 MathMathGood
主たる事務所	沖縄県名護市東江五丁目6498番1-704号 ウィンベル沖縄名護コーラルビュー
法人成立の年月日	平成26年11月11日
目的等	目的及び事業 この法人は、国内外を問わず、また貧富を問わず、優れた才能を持つ児童や若者に対し、個々が持つ能力を最大限に発揮できるように、数学に重きを置き、サイエンスとテクノロジーに関する高度な教育を行い、未来型科学技術の「無限エネルギー」、「人工知能」、「マイクロマシン」を開発できるように、次世代の優れた人材を育成して、貧困、飢餓と疾病、戦争のない、平和な未来社会の実現を目指すことを目的とする。 この法人は、上記の目的を達成するため、次に掲げる種類の特定非営利活動を行う。 1 科学技術の振興を図る活動 2 子どもの健全育成を図る活動 この法人は、上記の目的を達成するため、次の事業を行う。 1 特定非営利活動に係る事業 (1) 優秀な若手人材の発掘と育成事業 (2) 教育と学習の環境整備事業 (3) 展示館と博物館の建設事業
役員に関する事項	 理事 佐々木 敏雄
資産の総額	金0円

これは登記簿に記載されている現に効力を有する事項の全部であることを証明した書面である。

平成26年11月18日
那覇地方務局
登記官 大 島 浩 

整理番号 ヨ562907 * 下線のあるものは抹消事項であることを示す。 1/1

NPO certification form

◆Introduction

2. Association introduction

News Paper
RyukyuShinbo

Nov 24th, 2016

第3種郵便物認可

「数学楽しいよ」

毎週水曜開催 宜野湾図書館 NPO・佐々木さん主宰

【中城・宜野湾】毎週水曜日、宜野湾市民図書館の会議室で「数学研究会」が開かれている。数学好きの中高生らが集まり、問題を解いている。活発な意見交換が行われ、正解を導き出すとハイタッチで喜び合う。会はNPO法人数学・科学技術推進協会Math Goodが2014年から開いている。佐々木敏雄代表は「数学を楽しんでほしい」と、問題に取り組む生徒を見てほほ笑む。



参加者が挑んでいるのは算数オリンピックの問題集だ。佐々木代表は「直感とひらめき、思考力を育てることができると狙いを語る。難易度が高く、金賞が問題を解けた人が解けない人に教える。納得できなければ「どうして」をぶつけ合ふ。議論は家に帰ってメールや電話で続くこともある。

会の取り組みが美り、佐々木代表の息子で副理事長の佐々木陽悠さん(14)が中城3年が九州・沖縄地区の「第20回ボランテア・スピリット賞」のブロンズ賞に輝いた。陽悠さんは「最初自分が教えられるか不安だったが、今は『楽しい』という言葉しか出ない。数学の面白さを伝えたい」と目を輝かせる。たゞ複雑な数式が一つの1年は前から通う新答えになる美しさがいい。地域の人々をつなぐ城与主呼さん(16)は「楽しい」と語る。「ここは数のも図書館の役割だ」と語る。佐々木代表は「全体的に広げていきたい」と意欲的だ。

一つの問題に取り組む数学研究会の参加者(佐々木敏雄代表、左端)、佐々木陽悠さん(右から2人目)

11月16日、宜野湾市民図書館

息子・陽悠さん(中城3年)スピリット賞

教える合い息子・陽悠さん(中城3年)スピリット賞
教直感育む

琉球新報掲載
平成28年11月24日(木)
教育欄27ページ

◆ To build a beautiful future

1. Are we really happy?

In 2011, there was a disaster in Tohoku, Japan. Poverty, plague, war, and terrorism are global challenges. We all know that the problems of overpopulation, food shortage, and energy crisis lie in front of us. Many people will die because of natural and man-made disasters. Even with our advanced technology, we must strive to improve our happiness.

◆ To build a beautiful future

1. Are we really happy?

Energy crisis

The economy of all developed countries depend on energy from fossil fuels. And it is predicted that fossil fuel reserves will be gone in a few dozens years. However, consumption increases year by year, and countries aim at economic expansion, so it is certain that they will dry up even quicker.

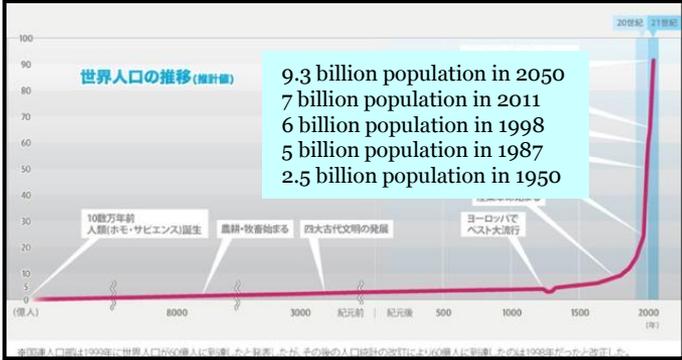
Population

On October 31, 2011, the world's population reached 7 billion. So, 2.47 people increased per second. **78 million** people increased **per year**. It is equivalent to the combined populations of Portugal, Canada, Australia, and Greece.

Food shortage

In 2001, the stock surplus of food crops was approximately 600 million tons. But, because of drought and scorching heat, and also meat consumption by developed countries, the stock decreased to 450 million tons. The countries of Africa are still suffering from the food shortage; approximately **40 to 50 thousand people die from starvation each day**. Moreover, about **70% are children**.

Petroleum	45
Natural gas	62
Coal	118
Uranium	68



世界人口の推移 / 国連人口基金さんのホームページより

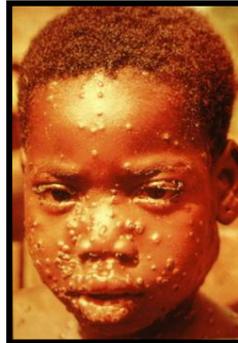


◆ To build a beautiful future
1. Are we really happy?

Poverty



Plague



War



Solution

Infinite energy

- Nuclear fusion
- Antimatter
- New physics

Artificial intelligence

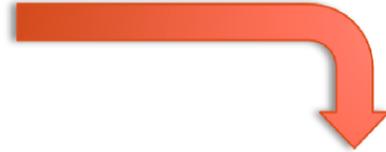
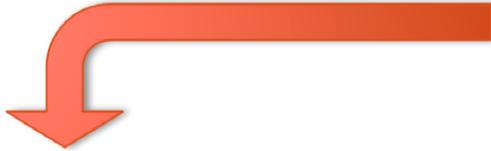
- Neuroscience
- Quantum computers
- New mathematics

Micro machine

- Life phenomena
- Nanotechnology
- Combination of math and science

◆ To build a beautiful future
2. What are the technologies of the future?

Infinite energy



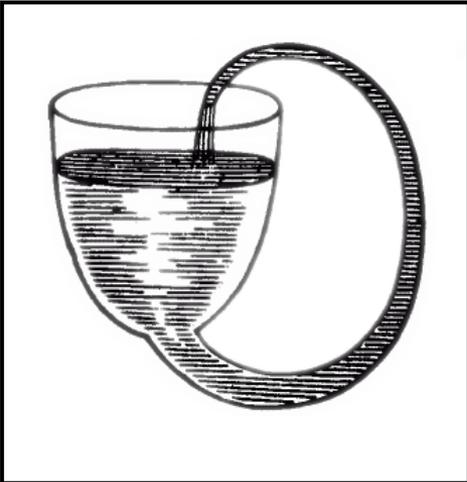
Perpetual motion

Clean energy

Nuclear fusion

Einstein's equation
 $E=MC^2$

By using anything with a mass of 1 gram, it can produce the amount of power of the 7 big cities for a day.



Solar energy
Solar power generation
Water power generation
Wind power generation
Tide power generation
Ocean current power generation
Geothermal power generation
Biofuel

Fusion is a way of **using the deuterium**. By causing the fusion reaction between the proton and change in the energy content of the mass loss. Our sun, of course, all the heavenly bodies shining in space, use fusion energy from hydrogen and helium. Nuclear fusion is a clean and safe energy. However, it is still difficult to achieve the goal of **"Making a sun on Earth"**, and could take time. We have to find a new way to develop energy such as, **the fusion reaction of substances and antimatter, and develop new technology**.

◆ To build a beautiful future

2. What are the technologies of the future?

Artificial intelligence



What is it?



Learning from life forms



The history



Knowing our possibilities

- Self learning ability
- It has intelligence equal of us, and could communicate with humans
- Have a personality and ego
- There are 7 billion humans on earth !!!!
- In 1950, John von Neumann made a renewable program called automaton by using 29 different types of cells.
- In 1956, John McCarthy used the word artificial intelligence at the Dartmouth conference.
- In 1997, a chess program Deep Blue won the world chess champion, Garry Kimovich Kasparov.
- In 2000, Honda Motor Co. made a full-fledged two-legged walking robot ASIMO in the world for the first time.
- They can do mentally monotonous and dangerous work.
- What do they dream?
- We might find the answer about ourselves??

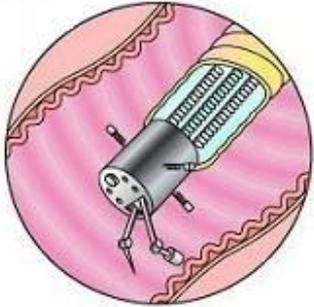
◆ To build a beautiful future

2. What are the technologies of the future?

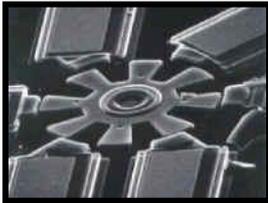
Micro machine

In Wikipedia, “micromachine” means small sized machines.

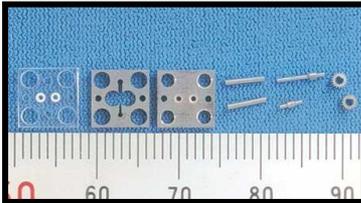
The definition of size are varies, it’ s range is from mm to μ m.



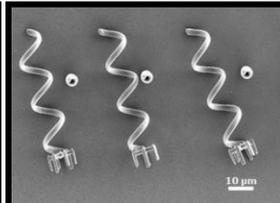
Examples of the micromachine



立命館大学



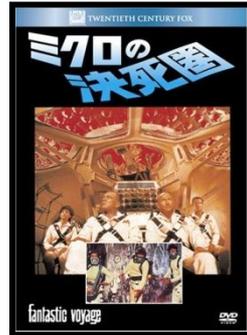
岡山県産業振興財団



ナノスクライブ



キヤノン電子



Manufacturing process

▪ Batch process :

By using lithography and laser micromachining such as Semiconductor Integrated Circuits for System Technology, we could make devices in a new way .

▪ Extension of conventional machining :

By using ultrasonic machining, we could make things a nm size. We could make small and complex structures.

▪ Even a simple bacterium can live by itself.

▪ Life is like a micro machine

▪ To become a tree, seeds grow with only water, sun and air..

Blending life with machines

◆ To build a beautiful future

2. What are the technologies of the future?

University, industry labs, have never succeeded in the three goals :
“**infinite energy**”, “**artificial intelligence**”, and “**micromachine**”.

One reason is because education of technology is too late at the university student level.

Only few university students use math and science freely.

Solution

Find **excellent children**, and train them when they are **young**, we will educate them in **highly advanced technology**, and we believe that, when they grow up, they could make **a new way for the world**.

◆ Finding and educating young people

1. Are there any geniuses in the world?

The definition of genius

The definition: Having a greater ability than other people, and succeeding to use it.

Mathematical genius:

Fast calculation
Greater memory
Sharp intuition

Artistic genius:

Could tell apart the tones
Could make a new creativity and values
Able to think theoretically

Genius

- William James Sidies Intelligence 250~300 (Estimation)
American mathematician. Graduated high school at 6.
He is said to be a prodigy.
- Terence Tao Intelligence 220~230 (Estimation)
Fields Medal winner. Chinese American. Professor at the Department of Mathematics in the California University.
- Christopher Hirata Intelligence 225
Japanese American. Expert of astrophysics.
At age of 13, he won the first of the International Physics Olympic with the youngest age.
- Kim Un Yon Intelligence 210
He started talking at 6 months of age, and began to speak four languages at the age of 3. At 8, he was invited to work for NASA in the USA, and got a Ph.D. of physics when he was 16.

◆ Finding and educating young people

1. Are there any geniuses in the world?

東北の生産者を応援「復興アパートメント」

YAHOO! ニュース ようこそ、oabcbabcさん ログアウト Yahoo! JAPAN ヘルプ

キーワードを入力 ニュース

トップ 速報 写真 映像 雑誌 個人 Buzz 専業調査 ランキング ニュースフィード

国内 国際 経済 エンタメ スポーツ IT・科学 ライフ 地域 アーカイブ

[PR] セブン銀行ATMで24時間・何度でも・ATM手数料0円! ソニー銀行

国内 政治 社会 人

来たれ、未来のエジソン=異才の不登校児、発掘へ—東大先端研などサポート

時事通信 8月6日(水)15時13分配信

突出した才能を持ちながら、学校生活になじめず不登校になっている子どもを選抜し、日本をリードする人材に育てる「異才発掘プロジェクト」に東京大先端科学技術研究センターと日本財団が乗り出す。目標は、小学校を中退した後、母親が寄り添って勉学を支え、才能を開花させた発明王エジソンの再来という。

飛び抜けた才能の持ち主は、コミュニケーションが苦手だったり、興味が偏ったりして授業に興味を失い、不登校になるケースがある。こうした子どもの探求心に応え、長所を伸ばすのがプロジェクトの狙いだ。

小学3年～中学3年を対象に公募し、書類選考と面接で10人程度を選ぶ。先端研に活動スペースを設け、専門家が特別授業を開くほか、オンラインで質問に答えるなど個別指導を行う。選抜に漏れた子どものうち100人には、教材などを提供する。日本財団が、運営資金として5年間で5億円を積み立てる。

計画が4月に発表されると、保護者からの問い合わせが500件を超えるなど反響が大きかったため、募集開始を5月から9月に延期。5都市で説明会も行うこととしたが、東京都内の会場はすぐ予約で埋まり、8月末の追加開催が決まった。

プロジェクト責任者の中邑賢龍同センター教授は「勉強ができて先生の話をつまらないと感じ、不登校になる子どもの存在が忘れ去られてきた」と指摘。日本財団の担当者、沢渡一登氏は「先生を質問攻めにして授業を中断させるような子どもが行き場を失っている。ユニークな才能をつぶしかねず、受け皿が必要だと思った」と話す。

今後の説明会は、9日札幌市、23日福岡市、29日東京都目黒区で。いずれも先着順。

【関連記事】

- [写真特集] 天才少年・天才少女
- [写真特集] 東大出身ですが、なにが?
- [写真特集] 全日本国民的美少女コンテスト2014
- 【特集】わたし誰の子? 誰の親? ~DNAのなせるワザ~
- [写真特集] びっくり人間大集合

最終更新:8月6日(水)15時17分



おやすみ

Yahoo! ニュース関連記事

「異才発掘プロジェクト」の中邑教授 時事通信 14時46分

異才の不登校児、発掘へ 時事通信 14時46分

海外事業関連の転職ならJAC!年収800万円以上の非公開求人が多数。無料転職サポートのお申込みはこちら

ウェブ検索

PR

東京23区内、3000万円～
一戸建てを買うなら今!

OPEN HOUSE

国内アクセスランキング(記事)

- 「さっきはゴメンね」犯行後、携帯で謝る強制わいせつ男 着信履歴から逮捕 産経新聞 8月6日(水)10時49分
- 弘前ねぶたまつり中止に 参加者死亡事故で 朝日新聞デジタル 8月6日(水)9時58分
- なら産花会、シカ押し寄せ困った 猛暑…カップの水ゴクリ 産経新聞 8月6日(水)12時24分
- <菅井氏自叙>2カ月前から研究室メンバーの就職先探し 毎日新聞 8月6日(水)8時15分
- 強い台風11号 7日午後到大東島 地方に接近 暴風や高波に警戒 ウェザーマップ 8月6日(水)17時10分

もっと見る

注目情報

若い頃と、太りが違う? カロリー制限や運動もしてるのにサントリーの新成分がサポート

たるみ…本当はイヤだった 以前は1g3000万円した成分が費資に私の本気にハイクラス美容ドリンク

新築マンション特集

ブランドのこだわりを形に。

PR

一戸建てを買うなら今!

The special program “ROCKET” to educate genius children was started in Tokyo University.

異才発掘プロジェクト

ROCKET

Room Of Children with Kokorozashi and Extraordinary Talents

ROCKETとは 応募の流れ Q&A 更新情報 お問い合わせ

ROCKETとは

東京大学 先端科学技術研究センターと日本財団は、東京大学先端科学技術研究センター所長 西村幸夫、日本財団会長 笹川陽平の出席のもと調印を行い、「異才発掘プロジェクト(ROCKET: Room Of Children with Kokorozashi and Extraordinary Talents)」を発足しました。本プロジェクトは、異才を発掘し、継続的なサポートを提供することで、将来の日本をリードしノベションをもたらす人材を養成することを旨とする。

事業趣旨・目的

突出した能力はあるが、現状の教育環境に馴染めず、不登校傾向にある小・中学校生を選抜し、継続的な学習保障及び生活のサポートを提供することで、将来の日本をリードする人材を養成すること。

実施体制

日本財団は東京大学に日本財団基金を設置。事業は東京大学先端科学技術研究センター中邑賢龍教授を中心に実施。

実施内容

- 発掘
 - 全国から毎年10名程度を選抜(この他、応募者からオンラインのみ参加可能な生徒を100名程度選抜)
 - 条件: 突出した能力はあるが、現状の教育環境に馴染めず、不登校傾向にある小・中学生
- 教育機会の提供: 選抜した異才を対象に、以下のサポートを大学卒業まで継続する。

◆ Finding and educating young people

2. Let's fully understand mathematics and use it easily.

Algebra

Semi-group theory, group theory, ring theory, field theory, linear algebra, algebraic theory, lattice, invariant theory, automorphic form, harmonic analysis, commutative ring theory algebraic geometry

Geometric

Classical geometry, analytic geometry, topology, differential geometry, algebraic geometry, fractal, computational geometry

Analysis

P.D.E., analysis, probability theory functional analysis, applied analysis, numerical analysis

Information mathematics

Statistics, logics, computational mathematics

The modern research in mathematics is only just 3 centuries. It is not yet finished.

What is mathematics?
● Math is a vast cosmos of what we create. It is made by a free thinking and logical rigor. Now it is a wide world. It is one of the most brilliant masterpiece of mankind.
● Math is not only a universal language, it is also a key of our future technology. Math is the best weapon of the strongest essential to technological development and exploration of science.



$$y = \frac{1}{\sqrt{2\pi}\sigma} e^{-\frac{(x-\mu)^2}{2\sigma^2}}$$

Old 10 Deutsche Mark bill

(There is a portrait of Gauss and his error curve equation) <http://www.pas.tsukuba.ac.jp/faculty/math.html>

◆ Finding and educating young people

2. Let's fully understand mathematics and use it easily.

In 2006, a paper about mathematics was presented
by the Ministry of Education in Japan.
The title is "Forgotten science : Mathematics" 

(お問い合わせ先)
文部科学省 科学技術政策研究所(NISTEP)
担当: 細坪(ほそつぼ)、伊藤
TEL 03-6733-4910(直通)
FAX 03-3503-3996
NISTEPホームページ: <http://www.nistep.go.jp>

Policy Study No.12

忘れられた科学 — 数学

～主要国の数学研究を取り巻く状況及び我が国の科学における数学の必要性～

2006年5月

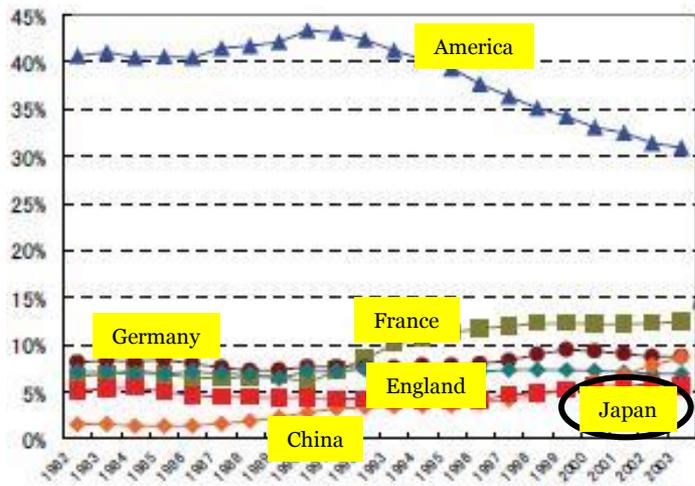
文部科学省 科学技術政策研究所

細坪護挙、伊藤裕子、桑原輝隆

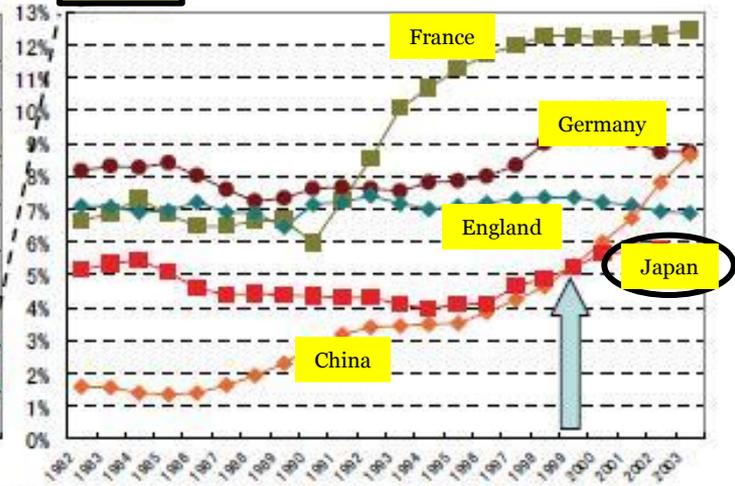
◆ Finding and educating young people

2. Let's fully understand mathematics and use its easily.

Total papers in mathematics

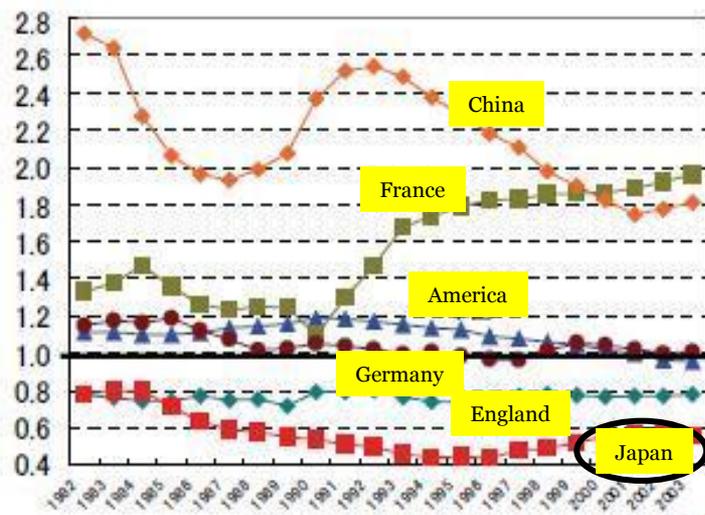


Zoom

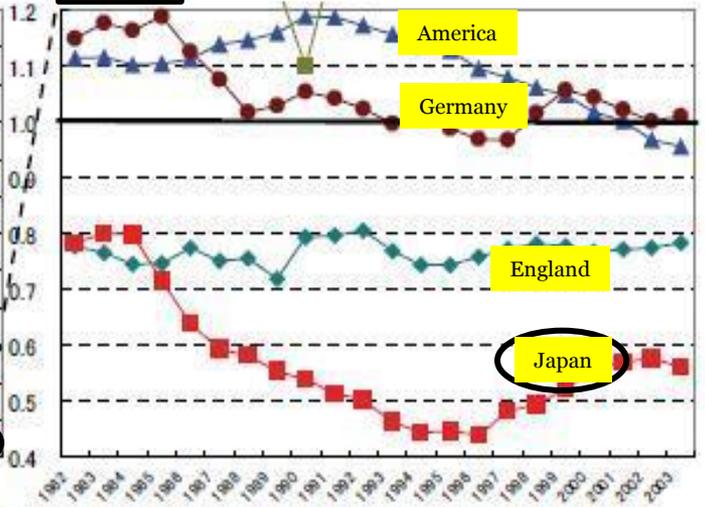


(Thomson Scientific社"Science Citation Index (1982-2003)"に基づき科学技術政策研究所が集計)

Total papers in mathematics ÷ Total papers in all field science

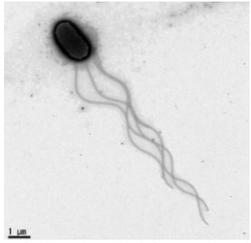
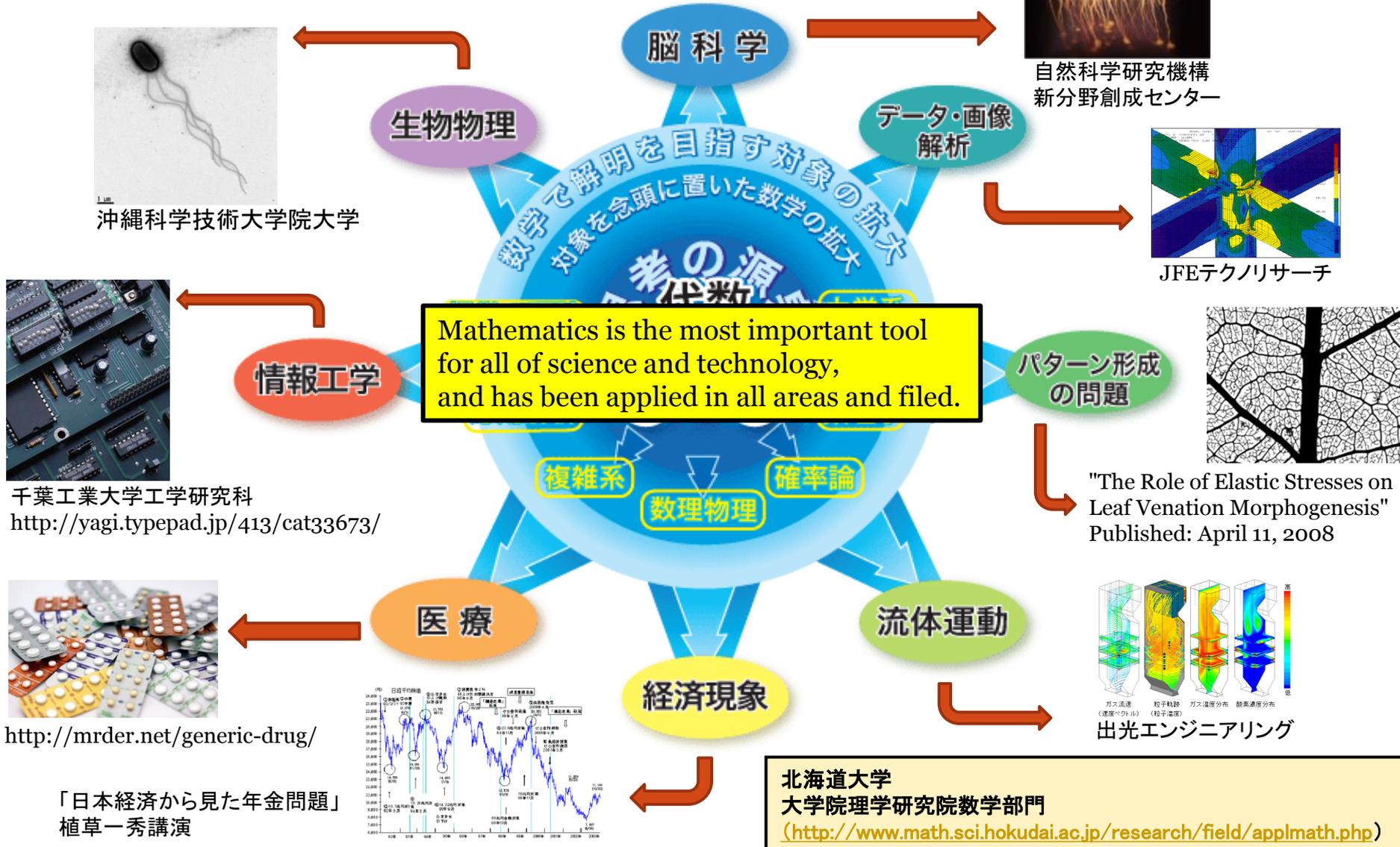


Zoom



(Thomson Scientific社"Science Citation Index (1982-2003)"に基づき科学技術政策研究所が集計)

◆ Finding and educating young people
 2. Let's fully understand mathematics and use its easily.



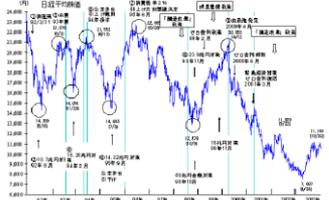
沖縄科学技術大学院大学



千葉工業大学工学研究科
<http://yagi.typepad.jp/413/cat33673/>



<http://mrder.net/generic-drug/>



北海道大学
 大学院理学研究院数学部門
<http://www.math.sci.hokudai.ac.jp/research/field/applmath.php>

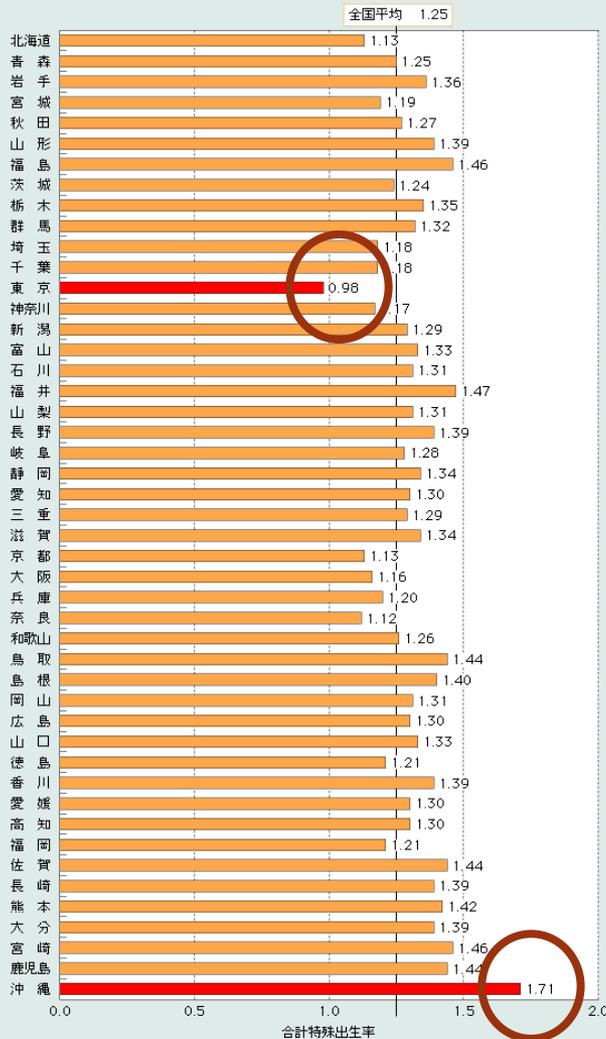
◆ Environmental improvement of teaching and learning

1. Introduction of teaching materials.

Okinawa's birth rates has a greatest record in the past 39 years in Japan.

Surrounded by the **pure atmosphere** and the **beautiful ocean** in Okinawa, We would like to construct a facility that could teach those **excellent children high-advanced technology**. And would like to give them **time to consider mathematics**.

I hope that someone **genius** will appear and save the world in future.



◆ Environmental improvement of teaching and learning

1. Introduction of teaching materials.

Math



Physics

Engineering

Astronomy

Biology

Musical

Literature

Chemistry

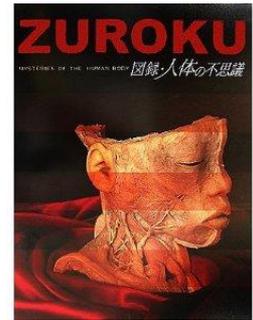
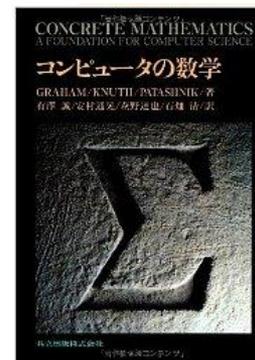
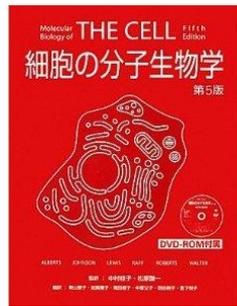
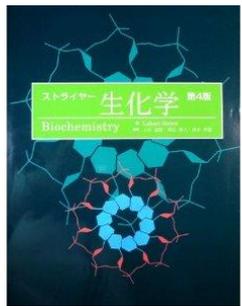
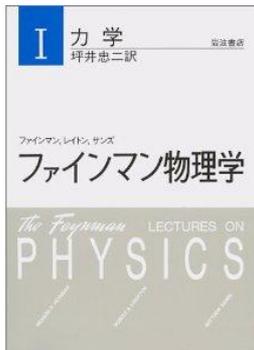
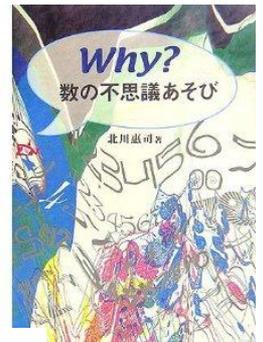
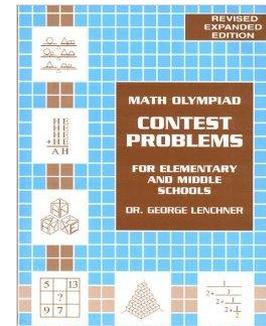
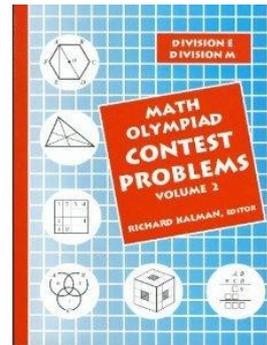
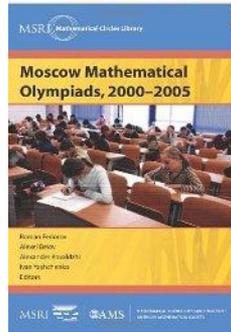
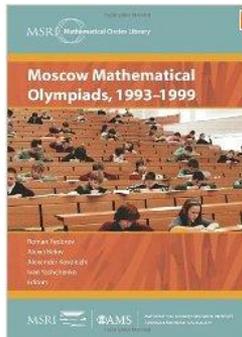
Computing

Medical

Art

Social technology

We will help the youth to improve their capacity by starting with high grade mathematics, and educate high level technology.



◆ Environmental improvement of teaching and learning

1. Introduction of teaching materials.

An educational tie-up by attending the world science olympics starting from mathematics

- **International Mathematical Olympiad**
- **International Physical Olympiad**
- **International Astronomic Olympiad**
- **International Chemistry Olympiad**
- **International Biological Olympiad**
- **International IT Olympiad**

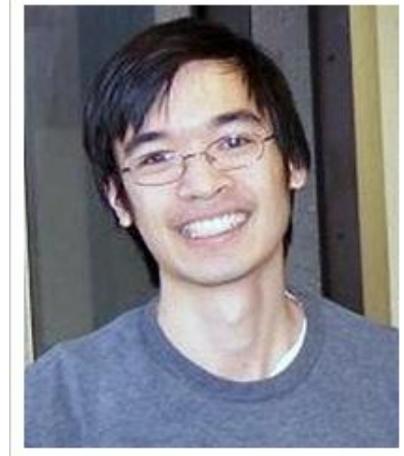
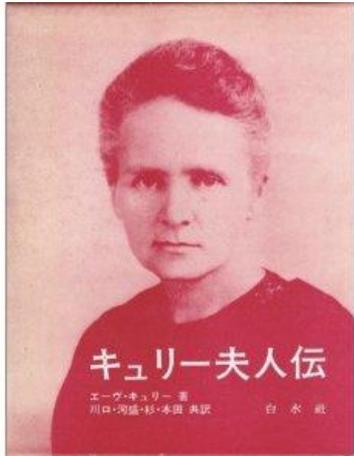
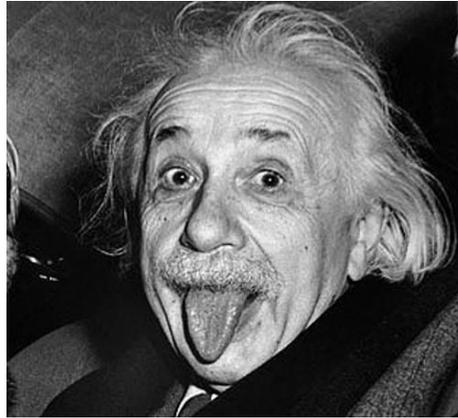
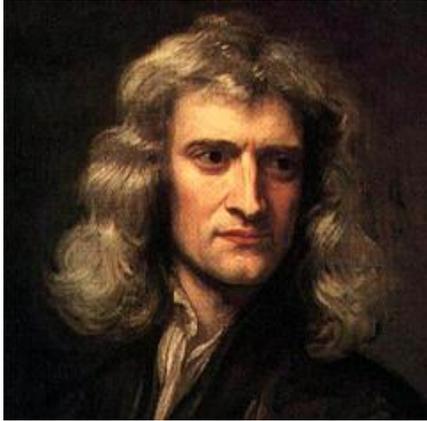


◆ Environmental improvement of teaching and learning

1. Introduction of teaching materials.

An educational tie-up by attending the world science olympics starting from mathematics

We will invite **real** scientists of every expertise.



◆ Environmental improvement of teaching and learning

1. Introduction of teaching materials.

An educational tie-up by attending the world science olympics starting from mathematics

We will invite *real* scientists of every expertise.

Learning contents

- We provide time and environment for children to have “ **Imagination**” and “ **Creation**”.
- We would teach every theorem and **its history**.
- Would use **flexible ideas of education**, rather than teaching them perfunctory.
- By teaching those children, **Japanese and the whole Asian culture**, we will make them be **a very nature loving, caring** person.
- We will not give rigorous curriculum, but would keep **an attitude of learning at any time**.
- We are going to **educate them to love knowledge**.
- Will make them understand **the importance of theory and also technology** , like the movies such as “Back to the Future”.
- To teach them **basic technology to provide self-sufficiency**, in this resource lacking Japan.
- To learn 5 languages (**Japanese, English, Korean, Chinese, Russian**)
- By training **instant insight** and **speed-reading**, we will bring up their concentration.
- The genuine research about mathematics is already for 300 more years. But we are going to organize a program for children to learn within **15-20 years**.
- We are going to find **excellent engineers, scientists**, who would cooperate with us.
- The medical guidance by medical experts.
- To find a **good education and environment** by sending staffs to **foreign universities and industries**.

◆ Environmental improvement of teaching and learning
2. Development of laboratory and residential facilities.

Location

Higashi-son is called { Yanbaru } is at the Northeast part of Okinawa, the eastern shore, Kunigami-son is at the Northern part, and Oogimi-son, it is beside the Southwest known as Nago-shi, and its Southeast is facing the Pacific Ocean. It is a long and narrow village for about 4-8km East to West, 26 km North to South..

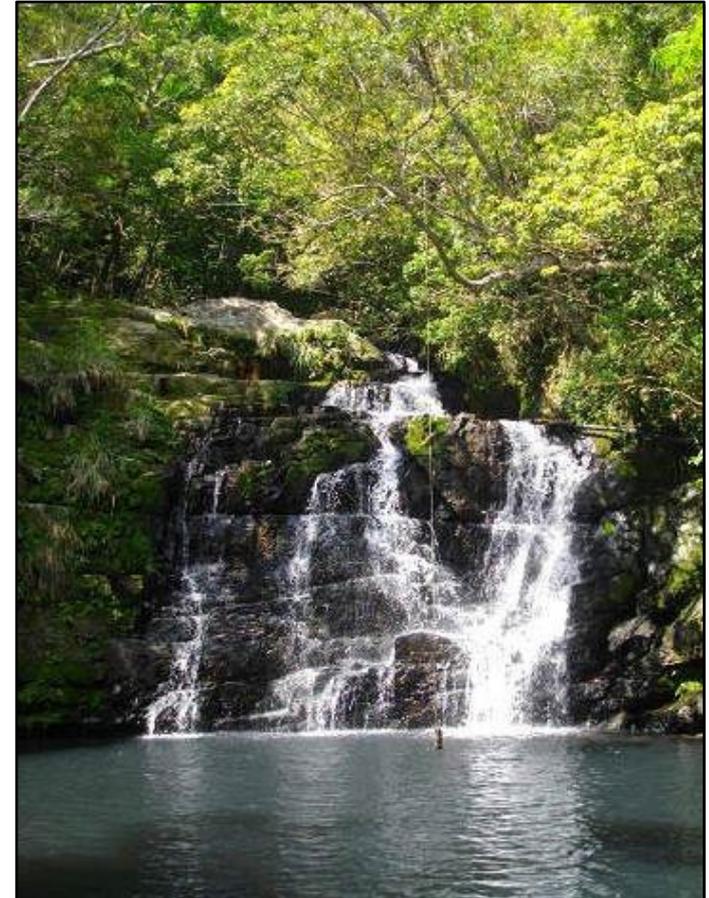


Population

Total: 1753 people (12/1/2013)

Industries

It is mainly made of primary industries.
It is flourishing with pineapples and flowers.



◆ Environmental improvement of teaching and learning

2. Development of laboratory and residential facilities.

Building facilities, laboratories, and hospitals capable of emergency medical care (Heliports needed).

- A building of a **simple** but a **firm** structure facilities with a coexistence to the nature.
- A facility by cherishing each of the children 's privacy and personality with a **homely atmosphere**.
- A facility that could **design** and live inside a space by **their selves**.
- To build a space for them to **think and imagine deeply** by their own.
- With **2 medical doctors** and **2 nurses** for 24 hours.
- A construction of **TEM room, Telescope room, Laboratory, Library, Dancing room, and a Pool**.
- An environment that they could write their idea anytime on the **magnetic board** on every wall.
- An **eco-friendly resource recycling facility** that could provide water, vegetables, and electricity.
- Could connect with the world' s universities and labs to acquire information by the **internet**.
- The most important is that the children must be **surrounded by caring staffs and their families**.

Facilities for families and staffs

- To support kids with thorough system, we will construct **a safe facility** for staffs and their families.
- To support children with a homely atmosphere for **24 hours**, rather than a company organization.
- Staff' s children could attend our **learn program for free**.

Facilities and accommodation for supporters

- Could be used as **a accommodation, a staff training room, a industrial interaction** at our facilities.
- By interchanging with children and supporters, we can **nourish kid' s heart to contribute** in society.

◆ Environmental improvement of teaching and learning
2. Development of laboratory and residential facilities.



◆ Environmental improvement of teaching and learning

3. To collaborate with other corporations.

Purpose

Because of the **declining birth rate**, young people learning technology is decreasing every year in Japan. In addition, there is also the **problem of aging** in Japanese society, teaching science and technology to the young people has become a big problem . It is now a **great issue** for corporations to **produce the next generation** of **scientists and engineers**. And we the MathMathGood NPO want to help.

Details

Visiting corporations' production site and in-house training for **acquisitions of skill**.

We are strongly asking for **free provision of training of technology and equipment**. Acquiring technology requires a **long period of time**, so we would like to **cooperate with corporations**, and build up a **firm study program for kids**.

Report **learning outcomes and activities**, and the contents of **donations and expenditure**.

Recruitment

After children grow up, **they have a right to choose their own way**, but we hope the children benefit from their experience learning within our supporters' companies, and it will be **helpful for the companies** too in the future.

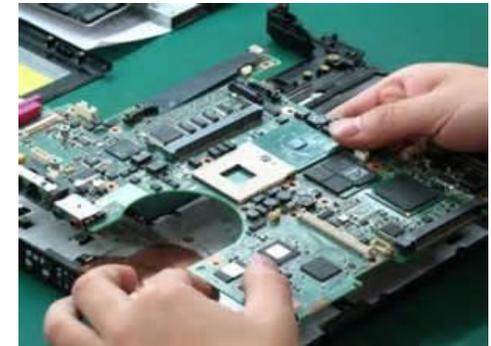
Our dreams

It is the same as **raising a tree** . I might not be able to see the results myself, but I wish that someone **genius appears** who would **improve our world**.

◆ Environmental improvement of teaching and learning
3. To collaborate with a corporation.



dreamstime.com

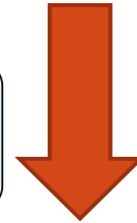


◆ Construction project of the museum and pavilions
1. Notifying mathematics and technology to people.

For the accomplishment of our dreams to the future.



4 definitions of museums



For the another accomplishment of our dreams of present

4 definitions of museums are collectively function are "Data collecting", "Storage organizing", "Researching" and "Educational spreading". Various activities and businesses that museums is all based on these four major functions.

Business concept

In the field of science and technology in Okinawa, the development of physical and human still has been **delayed**. We want people in Okinawa to recognize **the importance of the technology**, and also **enjoy the science and mathematics in their whole life**. For this purpose, we want to build a museum and exhibition hall to give a **deep impression** on the people who participated. We believe that will lead to the **regional development of Okinawa** in the future. We would like to take the strong cooperation with elementary school and junior high school in Okinawa too. **Admission is free**.

Details

Place the weight in "mathematics", "physics", "chemistry", "biological", "electrical engineering", "astronomy", "computer", "medicine", "music", "art", and "literature", and **demystify the history of the discovery and development** of each. And also to introduce the **research site** and **cutting-edge research**.

◆ Construction project of the museum and pavilions

1. Notifying mathematics and technology to people.



◆ Construction project of the museum and pavilions
 2. To reserve technology of social infrastructure .

Purpose

Because of the tragedy on March 11th, the **regional industrial infrastructure** including the coastal area itself has **collapsed**.
 And because of the **low birth rate**, the **youth getting away from science**, and because of the shortage of engineers, and the lack of technology skills, corporations are being pushed to withdraw from business, or to recruit foreign workers. To **leave and save the basic infrastructure** to our posterity, we do **suggest to store and preserve all mathematics and technology**.

公益社団法人 関西経済連合会わが国の産業を支える基盤技術の維持に向けて
 一絶滅危惧分野における人材の育成・確保のための仕組みづくりー 2011年8月
<http://www.kankeiren.or.jp/material/pdf/110823%20Rikoukei%20jinnzai%20Teigen.pdf>

Contents

- Electronics field
- Machinery field
- Steel field
- Medicines field
- Materials field
- Construction field
- Food field



ルネサス エレクトロニクス社



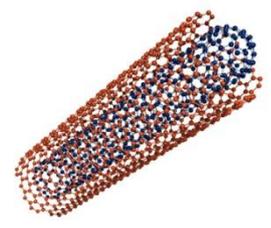
ロストワックス



清水鋼鉄



エムアールデアール



東海大学



建設通信新聞



東方ネット

◆ Future perspectives

In this **beautiful earth**, We are **breathing the air freely**, and could also **eat what we want**. But if we leave our home planet, it is not easy to survive.

In the universe, I feel that I am a very **small and tiny substance**, and I guess we are only **permitted by something**.

And, someday, I will also leave this world.

So I would want to **do some good thing for our next generation**.

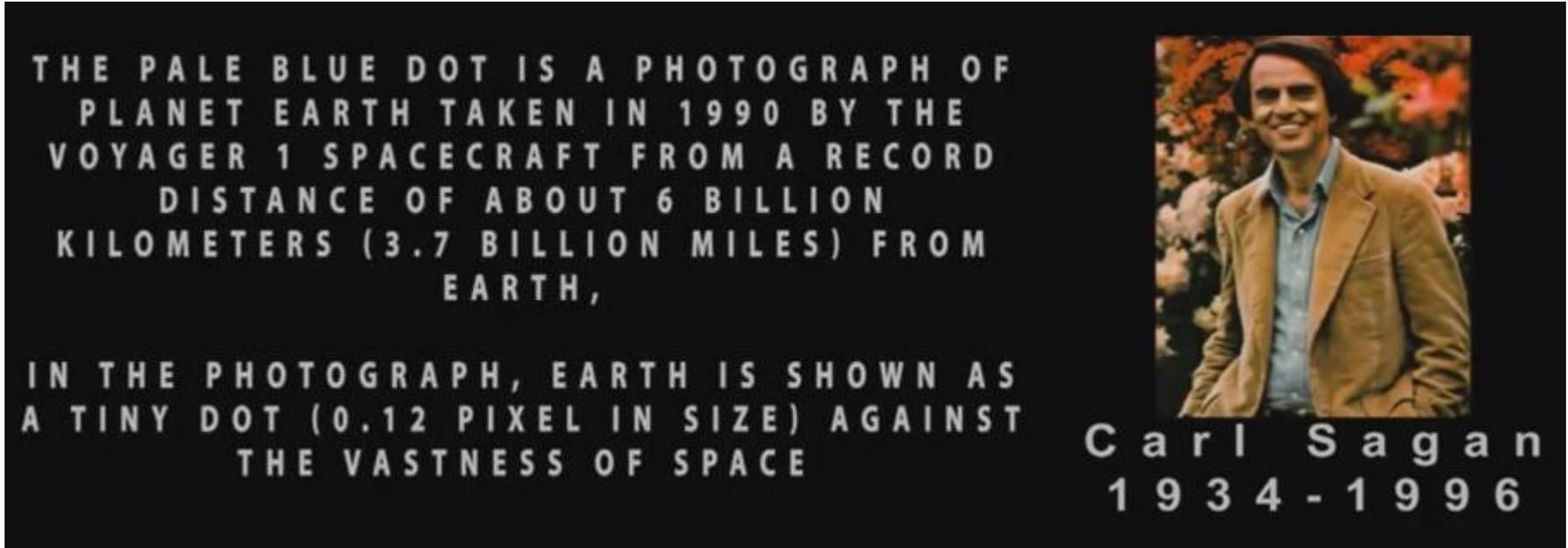
I want **every human** being to spend **a logical, but natural life**.

We all **adore to young, genius sports olympian**, but we should have a **flexible idea about prodigies and genius**, we must show some **humble attitude to them**, and **respect their knowledge** and **expect salvation from them** .

- A **free educational program** for children in the world, with **multi-language applications**, by using **solar generating suit case** communicated with **satellites**.
- Cooperate with **the elementary and junior high school** in the world, and plan to establish a **private school** in near future.
- We would aim at a 24 century world, just like the movie “**Star Trek**”.
To eliminate starvation, poverty, plagues, war and **building up a peaceful future**.
- To **solve the mystery of life and the universe** completely ,
and to **explore the reason of human existence and the meaning of human life**.

◆ Future perspectives

“Pale Blue Dot” by Dr. Segan



This is the famous "Pale Blue Dot" video from one of Carl Sagan's books. It's the photograph of Dr. Sagan's idea which NASA had agreed to film at the direction of the sun.

The little dot in the slanted light rays is our home planet, Earth.

The light rays have formed because of the scattering of light from the Sun.

It is the photograph of Voyager 1 from 6000 billion kilometers from the Earth.

**The earth is a very small stage in a vast cosmic arena.
That's here. That's home. That's us.**

THANK YOU FOR YOUR Time.

**WE WILL BE LOOKING FORWARD
FOR YOUR SUPPORT.**

NPO Mathematics and Technology Promotion “MathMathGood”

Chief director

Toshio Sasaki

<http://mathmathgood.com/>