

# Hiroshima Micromachine Seminar

Hiroshima Micromachine Seminar was held in the afternoon of February 8, 2002 at AIST Chugoku of National Institute of Advanced Industrial Science and Technology (AIST) in Kure City. It was organized by Micromachine Center, co-organized by AIST Chugoku and Chugoku Technology Promotion Center (CTPC), and supported by Kure Area Industrial Promotion Center.

At this seminar, Mr. Takayuki Hirano, Executive Director of MMC, made a speech dealing with the "MMC's Activities"; Mr. Yuich Ishikawa, Principal Research Scientist of AIST, spoke regarding the "Characteristics of Micromachine Technology"; Koji Yada, General manager of MMC's research department, presented an "Overview of Results in Micromachine Project".

In addition, as part of the introduction to the research results of the members companies, Mr. Eiichi Yonezawa of Corporate R&D Center Material Science and Technology Laboratory, Fuji Electric Co., Ltd., presented a speech about "Two-Dimensional Micro-Conveyor", and Mr. Teruhisa Akashi of Engineering Research Laboratory, Hitachi, Ltd., spoke

regarding "Micro Device Using Silicon Anisotropic Wet Etching". Then Mr. Kazunori Okada of Harima Research Laboratories, SUMITOMO ELECTRIC INDUSTRIES, Ltd., presented a speech dealing with "LIGA Micromachining Technology Using SR(synchrotron radiation)", and Mr. Ryo Ohta of R&D Center, OLYMPUS OPTICAL CO. LTD., dealt with "Research on Multifunctional Integration Film Technology".

During the interval, Mr. Ryo Ohta and Mr. Teruhisa Akashi conducted a presentation of a 1mm $\phi$ SMA micro actuator (OLYMPUS OPTICAL CO. LTD.) and a microfluid operating device (Hitachi, Ltd.) - two portable exhibits of micromachine technology which had been brought to the seminar. Accordingly, this provided an excellent opportunity for the attendants to become more familiar with micromachine technologies.

With a total of 45 people present - 21 individuals from 16 companies in Hiroshima prefecture, and another 24 individuals from universities, research centers, public organizations and the like - the seminar was both well and of considerable significance.

## Eighth Micromachine Drawing Contest Award Ceremony

The Micromachine Center (MMC)-sponsored Micromachine Drawing Contest for elementary and junior high school students was held this year for the eighth time. The contest was conducted with the cooperation of MMC's supporting members AISIN COSMOS R&D CO., LTD., FANUC LTD., and Fujikura Ltd. as well as the schools that participated in the Fifth Micromachine Drawing Contest.

This year's contest attracted a total of 1,984 entries (957 entries in the elementary school category and 1,027 entries in the junior high school category) submitted by students from the following 17 elementary schools and 10 junior high schools.

### Participating Schools

#### Elementary Schools:

Arai Municipal Elementary School (Takasago, Hyogo Prefecture)  
Iho Minami Municipal Elementary School\* (Takasago, Hyogo Prefecture)  
Iho Municipal Elementary School (Takasago, Hyogo Prefecture)  
Kitahama Municipal Elementary School (Takasago, Hyogo Prefecture)  
Takasago Municipal Elementary School (Takasago, Hyogo Prefecture)  
Nishino-Cho Municipal Elementary School (Nishio, Aichi Prefecture)  
Oshino Municipal Elementary School (Oshino, Yamanashi Prefecture)  
Higashi-Kakio Municipal Elementary School (Kawasaki, Kanagawa Prefecture)  
Kazuya Municipal Elementary School (Koto-ku, Tokyo)

Koganei Elementary School attached to Tokyo Gakugei University (Tokyo)  
Mihama-Kita Municipal Elementary School (Urayasu, Chiba Prefecture)  
Igusa Municipal Elementary School (Kawashima, Saitama Prefecture)  
Kasumigaseki-Minami Elementary School (Kawagoe, Saitama Prefecture)  
Oriya-Minami Elementary School (Saitama, Saitama Prefecture)  
Numasaki Municipal Elementary School (Tsukuba, Ibaraki Prefecture)  
Ninomiya Municipal Elementary School (Tsukuba, Ibaraki Prefecture)  
Mase Municipal Elementary School (Tsukuba, Ibaraki Prefecture)

#### Junior High Schools:

Shoyo Municipal Junior High School (Takasago, Hyogo Prefecture)  
Arai Municipal Junior High School (Takasago, Hyogo Prefecture)  
Kano Municipal Junior High School (Gifu, Gifu Prefecture)  
Kariya-Minami Municipal Junior High School\* (Kariya, Aichi Prefecture)  
Numazu School for Special Education (Shizuoka Prefecture)  
Oshino Municipal Junior High School (Oshino, Yamanashi Prefecture)  
Kakio Municipal Junior High School (Kawasaki, Kanagawa Prefecture)  
Fukagawa 3<sup>rd</sup> Municipal Junior High School (Koto-ku, Tokyo)  
Fukagawa 8<sup>th</sup> Municipal Junior High School (Koto-ku, Tokyo)  
Sakuragi Municipal Junior High School (Saitama, Saitama Prefecture)  
(\* School prize awarded)

A selection committee headed by Dr. Hirofumi Miura (professor, Kogakuin University) chose 15 drawings each from the elementary and junior high school categories. The prize-winning drawings are shown on the following pages. The award ceremony was held on March 26, 2002 at the Science Museum, Tokyo (Kitanomaru Park, Tokyo). The approximately 50 attendees included the winners of the Grand Prize and First Prize in both the elementary and junior high school categories, parents and relatives of the prizewinners, staff of the participating schools, guests, and members of the selection committee.

During the award ceremony, Mr. Kenichiro Yoshida, deputy director of the Manufacturing Industries Bureau, METI, addressed the audience and selection committee chairman and Kogakuin University Professor, Dr. Hirofumi Miura, explained the selection process and commented on the work submitted. This was followed by a few words from the Grand Prize winner

in the elementary school category, Shihori Matsukura (a 6<sup>th</sup> grader at Numasaki Municipal Elementary School, Tsukuba, Ibaraki Prefecture) and the Grand Prize winner in the junior high school category, Kaoru Tanaka (a 2<sup>nd</sup> year student at Kariya-Minami Municipal Junior High School, Kariya, Aichi Prefecture).



# Eighth Micromachine Drawing Contest Prizewinners

## Elementary School Category

### Grand Prize

Your Personal Mr. Fresh-Breath



**Shihori MATSUKURA**

Numasaki Municipal Elementary School  
(6th grade)

### First Prize

Let's Go, Fossil Scouts!



**Kenta KONISHI**

Omiya-Minami Municipal Elementary School  
(6th grade)

### Second Prize

Tooth-Brushing Machine



**Ai KOBAYASHI**

Nishino-cho Municipal Elementary  
School (5th grade)

### Second Prize

Robot Wiring Engineer



**Yasutaka HAYASHI**

Numasaki Municipal Elementary School  
(6th grade)

### Third Prize

Genetically-Modified Crab



**Yuki AMANO**

Oshino Municipal Elementary  
School (6th grade)

### Third Prize

Micromini Sensor and Earphone



**Yusuke NAKAMICHI**

Iho Minami Municipal Elementary  
School (5th grade)

### Third Prize

Sick Tree-Revitalizing Machine



**Hideyuki SUSEKI**

Omiya-Minami Municipal  
Elementary School (6th grade)

### Honorable Mention

Miss. Cleaning Brush



**Misa OSONO**

Mihama-Kita Municipal  
Elementary School (4th grade)

### Honorable Mention

Health Machine



**Misato KONDO**

Nishino-cho Municipal Elementary  
School (6th grade)

### Honorable Mention

Micromachine Dentist



**Aya HANAGATA**

Mihama-Kita Municipal  
Elementary School (4th grade)

### Good Idea Award

Automatic Focus-Adjusting  
Contact Lens



**Maori NAKANE**

Nishino-cho Municipal Elementary  
School (6th grade)

### Good Idea Award

Air Pollution Monitoring Machine



**Hayato IWASE**

Numasaki Municipal Elementary  
School (5th grade)

### Good Idea Award

Insect-Shaped Surgery Machine



**Shun GOTO**

Oshino Municipal Elementary  
School (6th grade)

### Encouragement Award

What's a Micromachine  
Doing HERE ?!



**Kumiko MINEGISHI**

Oshino Municipal Elementary  
School (5th grade)

### Encouragement Award

Repair Machine for Tiny  
Places



**Kaori ABE**

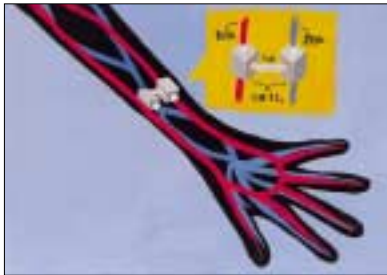
Kasumigaseki-Minami Municipal  
Elementary School (6th grade)



## Junior High School Category

### Grand Prize

#### Micro-Dialysis Machine



**Kaoru TANAKA**

Kariya-Minami Municipal Junior High School  
(2nd grade)

### First Prize

#### Memories-Preserving Micromachine



**Erika SUGAWARA**

Fukagawa 3rd Municipal Junior High School  
(1st grade)

### Second Prize

#### Real-Touch Ring



**Asuka SUZUKI**

Kariya-Minami Municipal Junior High School  
(1st grade)

### Second Prize

#### Blood Transfusion Mistake Stopper



**Sayaka SATO**

Kariya-Minami Municipal Junior High School  
(3rd grade)

### Third Prize

#### Ant-Shaped Robot



**Tomoyo YAMAOKA**

Kano Municipal Junior High School  
(2nd grade)

### Third Prize

#### Artificial Pollinator



**Minori TANAKA**

Kariya-Minami Municipal Junior High School  
(1st grade)

### Third Prize

#### Flower-Preserving Machine



**Nanae NAGASAKA**

Kariya-Minami Municipal Junior High School  
(2nd grade)

### Honorable Mention

#### Super Contact Lens



**Yuma FUKAZAWA**

Fukagawa 3rd Municipal Junior High School  
(1st grade)

### Honorable Mention

#### Shoulder Massaging Ladybird



**Megumi TAJIMA**

Kariya-Minami Municipal Junior High School  
(3rd grade)

### Honorable Mention

#### Forgetfulness-Preventing Pendant



**Atsushi YOSHIKAWA**

Fukagawa 3rd Municipal Junior High School  
(1st grade)

### Good Idea Award

#### Fingertip Reading Machine



**Misako KITO**

Fukagawa 3rd Municipal Junior High School  
(1st grade)

### Good Idea Award

#### Drink-Driving Stopper



**Satomi WATANABE**

Kariya-Minami Municipal Junior High School  
(1st grade)

### Good Idea Award

#### Danger Detecting / Reporting Machine



**Midori NOMURA**

Kariya-Minami Municipal Junior High School  
(2nd grade)

### Encouragement Award

#### Ozone Layer-Restorer



**Haruka FUJII**

Kariya-Minami Municipal Junior High School  
(1st grade)

### Encouragement Award

#### Duster Taro : The Dust Remover Machine



**Tomoyo MIYAOKA**

Kakio Municipal Junior High School  
(1st grade)