

Toward Good Relationships between

沈阳化工大学 & 群馬大学

中国 & 日本

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Contents

- Introduction of Gunma University
- Introduction of Faculty of Engineering
- Introduction of Kobayashi Lab
 - Collaboration with Industry
 - Internationalization
 - Fun, Passion and Human Relationship
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Gunma University has 4 Campuses

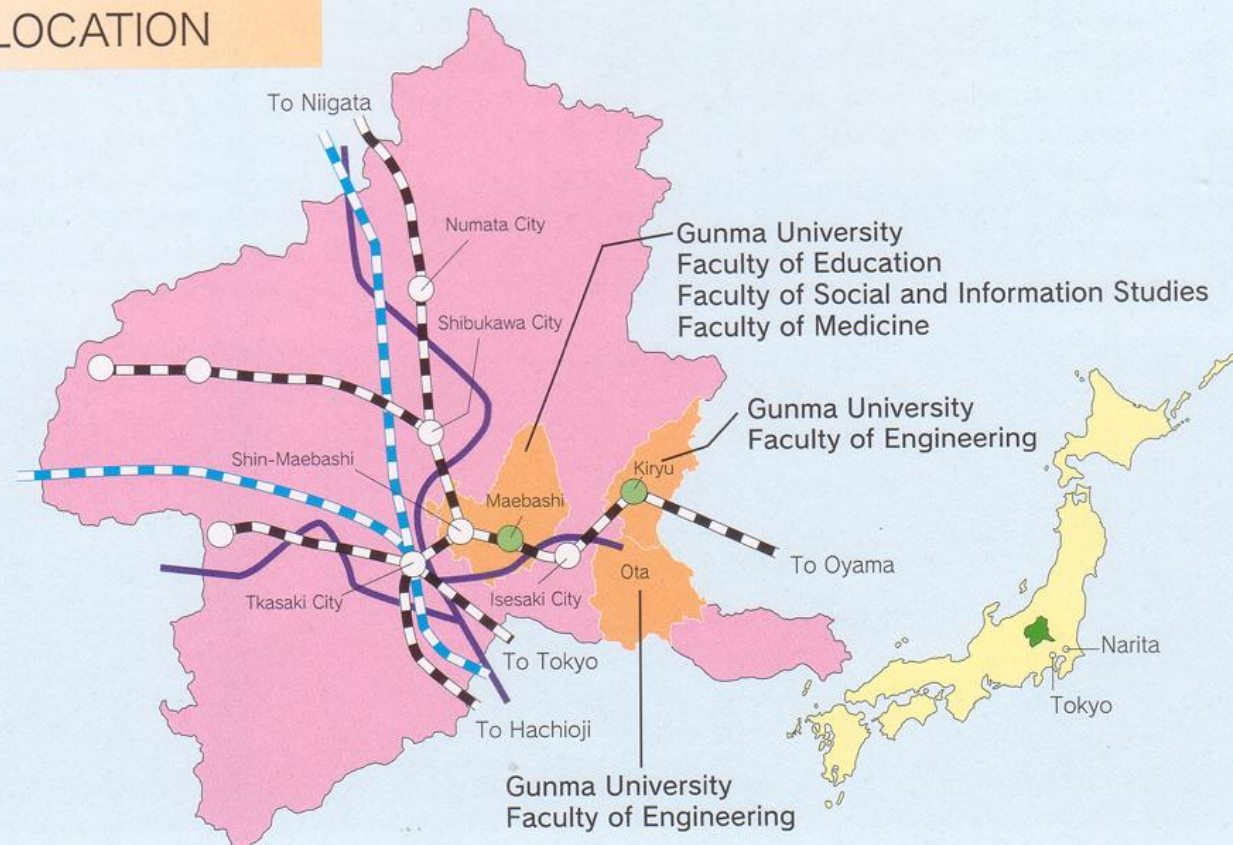
Maebashi 1: Education, Social and Information Studies

Maebashi 2: Medicine

Kiryu: Engineering

Ota: Engineering

CAMPUS LOCATION



4 Faculties in Gunma University

- Faculty of Education
220 students / year
to be teachers in junior, junior high-schools
- Faculty of Social and Information Studies
100 students /year
to lead information society
- Faculty of Medicine
medical doctor course 108 students /year
nursing science course 160 students/year
- Faculty of Engineering 510 students/year

Many Hot Springs in Gunma

We Japanese
love bathing
In hot springs.



Good Nature in Gunma

Insect Zoo



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Faculty of Engineering: 7 Departments

- Chemistry and Chemical Biology
- Mechanical System Engineering
- Production Science and Technology
(Ota campus)
- Chemical and Environmental Engineering
- Civil and Environmental Engineering
- **Electronic Engineering** 70 students/year
- Computer Science

Dept. of Electronic Engineering

Kiryu Campus

8 professors

12 associate professors

5 assistant professors

3 major areas

- Electronic Devices
- Measurement, Control and Power Electronics
- Information, Communication and System

Manufacturing Industry in Gunma

Many manufacturing companies in Gunma

Electronics, semiconductor, automotive,
machinery....

Historical Factory
in Meiji Era



Kiryu Campus for Faculty of Engineering

Founded as an engineering college for silk long time ago.



Kiryu: Capital of Silk in Japan

絹織物 Silk



Silk Industry was Popular

Historical house



Summer Festival in Kiryu



Ancient, Modern Aspects in Kiryu



Green Environment in Kiryu



Cherry Blossom



Kiryu City View
from Mountain

Oldest University in Japan

足利学校 Ashikaga Gakkou

is located close to Kiryu City.

孔子廟



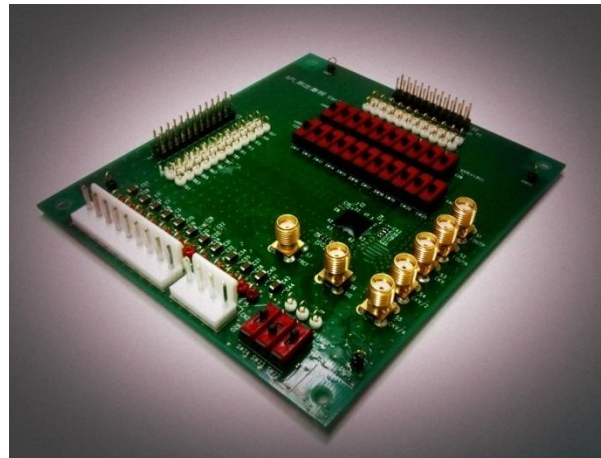
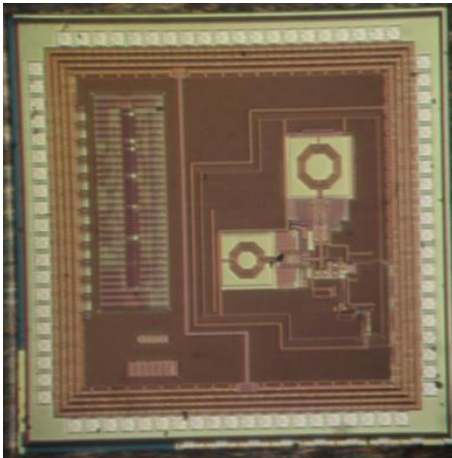
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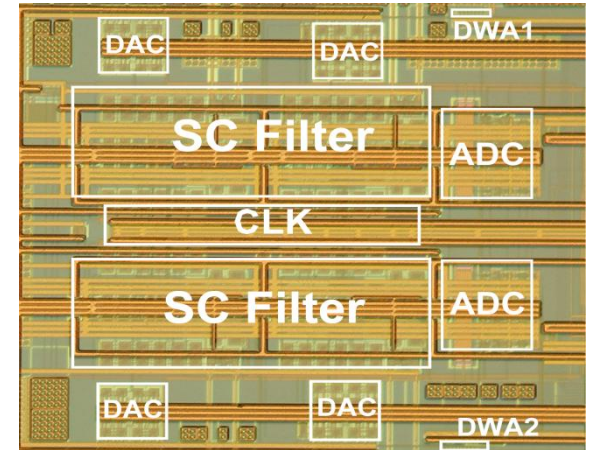
Research & Education Area

Analog & Mixed-Signal Integrated Circuit Design

Our research result examples :

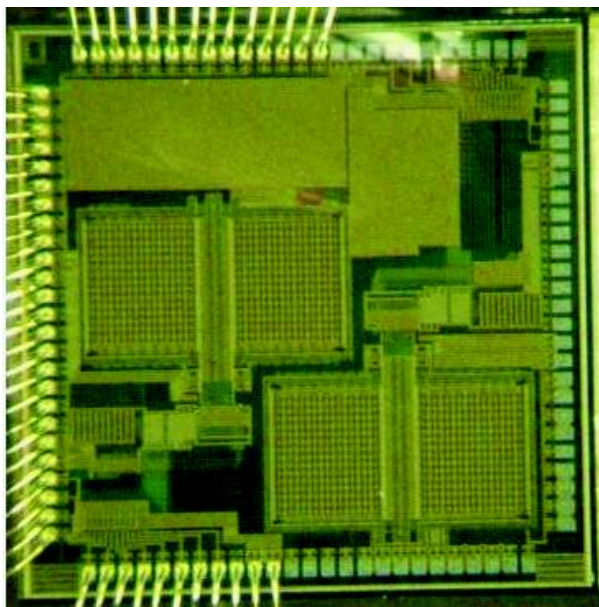


TV tuner application IC & evaluation board
(collaboration with Sanyo Semiconductor)

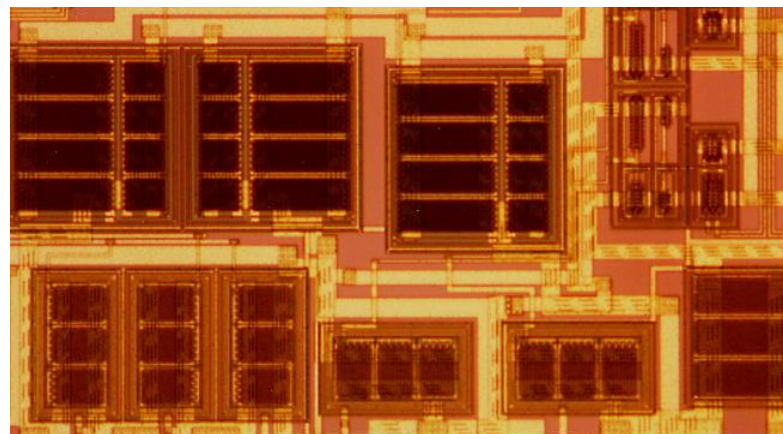


Communication application
analog-to-digital converter
(collaboration with STARC)

Research Results Examples



Low-Power Successive Approximation
Analog-to-Digital Converter IC
(collaboration with STARC)



Charge Pump Circuit
(with Sanyo Electric)

Active Research

Journal Publication: 4-6 papers/year

Trans. of Institute of Electronics, Information and Communication Engineers (IEICE)

International Conference Publication: 5-8 papers/year

IEEE International Test Conference

IEEE Asia Pacific Conference on Circuits & Systems

IEEE Asian Solid-State Circuits Conference

Domestic Conference Publication: ~20 papers/year

Several conferences in Japan

Patent Applications (with industry):

3-7 applications/year

Publish or Perish !

Members of Laboratory

Full Professor: 小林 春夫

Associate Professor: 高井 伸和

Assistant Professor: 新津 葵一

Engineer: 石川信宣

Ph.D. Student: Zachary NOSKER

MS students: 26

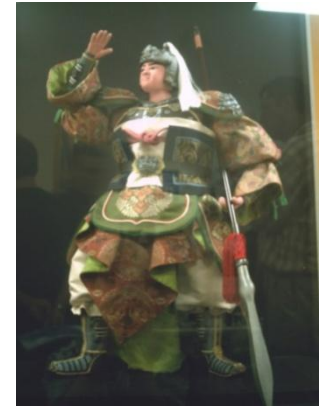
Bachelor 4th grade students: 12

Research students: 5

Each member is
一騎当千.



関羽



趙雲



張飛

Female members might be like 大喬、小喬, 孫夫人, or 貂蟬, 。。。

Laboratory Policy

Open, Fair, Independent

- **Open**, **fair** to anyone regardless of his/her nationality, affiliation, ethnics, belief/religion, gender or age.
- All of research / education contents are **open**.
- We are **independent** in all aspects.



A lot of excellent people are coming .

曹操 pursued to obtain many talented people.



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Merits of Industry Collaboration

- Aggressive collaboration with industry in semiconductor, electronics fields pushes our lab to higher level.
- Advanced technology is introduced.
- Job/Internship opportunities for students
- Research funds are supported.

I leaned importance of industrial collaboration when studying at UCLA.

Current Joint Research Project

Semiconductor Technology



Academic Research Center (STARC)

Mixed-Signal LSI Testing Technology

Sanyo Semiconductor



All Digital PLL for TV Tuner Application

Asahi Kasei Electronics



Power Supply Circuit

Nichicon

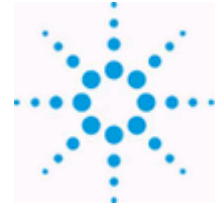


Power Supply Circuit

Past Joint Research Project Examples

Agilent Technologies

Electronic Measurement Technologies



Sumitomo Electric

Envelope-Tracking Power Amplifier for Base-Station

Sharp

Direct-RF Sampling ADC

Renesas Electronics



Digital Calibration Algorithm for ADC

Toshiba Microelectronics



High-precision ADC for Power-Meter Applications

Adjunct Professors from Industry

Prof. 恩田 謙一 (Power Electronics, Hitachi)

Prof. 小堀 康功 (Power Electronics, Hitachi OB)

Prof. 松浦 達治 (Analog IC Design, Renesas)

Prof. 堀口 真志 (Analog for MCU, Renesas)

Prof. 植田 慶一 (Semiconductor Process, Sanyo)

Prof. 山口 隆弘 (LSI Testing, Advantest)

Prof. 畠山 一実 (LSI Testing, STARC OB)

Lecturer 田中 紘資 (LSI design, Sanyo OB)

劉備玄德 invited 諸葛孔明
with 三顧 礼



Industry-Oriented Education

- Adjunct professors provide industry-oriented lectures in electronics and LSI technology fields.
- Students can learn advanced and practical technology.

ADVANTEST

SONY
make.believe

HITACHI
Inspire the Next

SHARP

Summer Internship Program

2-4 weeks in summer vacation

The following companies have kindly accepted our students for internship :

Sanyo, Hitachi, Renesas, Sharp, Advantest,
Asahi Kasei Electronics, Toko, Seiko Instru,
ZHine Electronics, Sony, Nichicon
Analog Devices, Toshiba, Yamaha, Verigy,
Texas Instruments, and many.

The logo for SanKen, featuring the word "SanKen" in a stylized blue font with a horizontal line above the letters.The logo for FE, consisting of the letters "FE" in a bold blue font, with a horizontal line through the "E". Below it, the tagline "e-Front runners" is written in a smaller blue font.The logo for Analog Devices, featuring a black square with a white play button icon to the left of the text "ANALOG DEVICES" in a bold, black, sans-serif font.The logo for THine, featuring the word "THine" in a blue, italicized font, followed by the Japanese text "ザインエレクトロニクス株式会社" and the English tagline "Mixed Signal Processing System on Chip." in a smaller black font.The logo for SERVO, featuring the word "SERVO" in a bold, black, sans-serif font, with a blue and white graphic element resembling a servo motor's internal gears to the right of the letter "O".

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My Experiences of Study in the US

- University of California, Los Angeles (UCLA)
Electrical Engineering Department
Integrated Circuits and Systems Laboratory
Master course 1987-1989

Prof. KI Wing-Hung at Hong-Kong University of
Science and Technology was a classmate there.
- Also 1-year work experiences
in Silicon-Valley in the US.

International Conference



We have presented **6 papers** and **23 members** attended to IEEE Asia Pacific Conference on Circuits & Systems Kuala Lumpur, Malaysia, Nov. 2010.

Internship in the USA

Cirque Corp. (ALPS Electric)

at Salt Lake City in the US

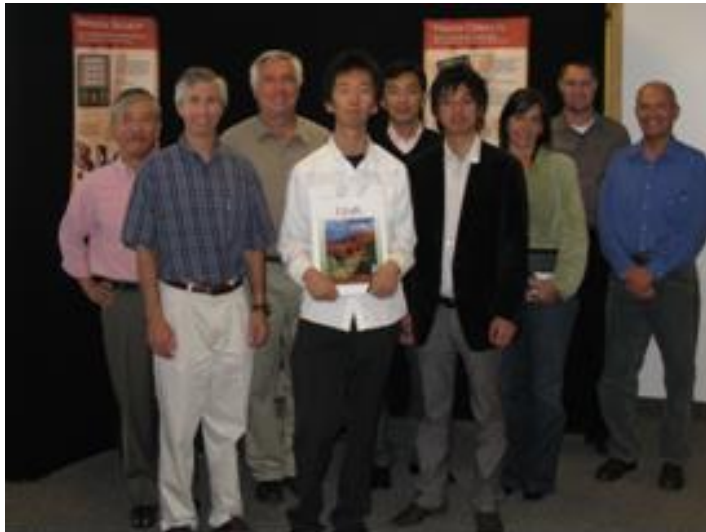
accepted two students for the internship.

Everything was kindly supported by them.

From Oct. 6 to Oct. 31 in 2008.

CIRQUE

美しい電子部品を究めます
ALPS



Student Short Stay in the US

- Visit to Prof. Fred Lee Lab, Virginia Tech in 2008 with Prof. K. Onda.



- From Sept. 11 to Sept. 25, 2011
5 graduate students will stay
at UCLA and international conference.

Chinese Students in Kobayashi Lab

Currently 13 Chinese students

Exchange Student from Shenyang Univ. of Chemical Tech.

李慕容 (Li Murong)

Master Course

邢林, 高虹, 劉羽, 高川, 易茹, 陳昊

Bachelor Course (4th grade)

靳光磊, 張伝鵬

Research Student

朱秋霖, 權力, 李恩思, 楊志翔

There is a China Town
In my lab !

Chinese Alumna of Kobayashi Lab

傘昊

林海軍

康劍

劉愛燕

徐峰

張挺

趙楠

韓將星

叶佳霓

孫清波

白平平

Students from Various Countries

Zachary NOSKER : from the US

5-year working experience in silicon valley.

Santhos Ario WIBOWO: from Indonesia

Working for Texas Instruments, Japan

Mohd Asmawi Mohamed Zin: from Malaysia

Joined Panasonic, Malaysia

International students have achieved
good research results,
which contribute to academia and industry.

Job Employment after Graduation

Chinese graduates of my lab are working for

Sanyo Electric

Renesas Electronics

Texas Instruments, Japan

Analog Devices Inc. Japan

Fujitsu Laboratories

New Japan Radio Co., Ltd.

Tokyo City University (Associate Professor 傘 昊

his home town is close to 瀋陽)

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Local Society Support

- Kind Local community occasionally takes care of international students.
- Rotary-Yoneyama scholarship (米山奨学金) recipients from my lab:
Mr. 林 海軍
Ms. 高 虹
Mr. SANTHOS ARIO WIBOWO



皆さんお世話になります。高と申します。私は一昨年10月に中国から来ました。今、群馬大学大学院工学研究科電気電子専攻修士2年です。

私は1986年中国山東省乳山市で生まれました。青島の隣の市で、日本にも近く、山もあり海もあり、伝統的な建物も、高いビルもたくさんあります。秦の始皇帝に仕えた徐福は、私の出身地で生まれました。

食べ物は日本とだいたい同じで、海のものが多いです。名産品はナマコと海老です。日本と違う所は、生で食べずに、炒めるか茹でて食べる事です。

私は2005年から両親の地元の北京に行き、北京の中国石油大学で4年間学びました。中国ではとても有名な大学で、昔の北京大学の石油学部です。1953年に設立されました。元女性副総理の呉儀さんを始めとし、政治家として活躍している卒業生が、清華大学に次いで多くいます。また、石油企業のリーダーの殆どが私の大学の出身です。大学では寮に入り、6人部屋でした。卒業する時はとても良い友達になりました。



私の大学時代は北京オリンピックが開催された時でしたので、北京オリンピックは勿論、プレオリンピックやパラリンピックなど、全てのボランティアに参加しました。大学時代の専攻が英語でしたので、通訳として世界の人々とコミュニケーションしました。

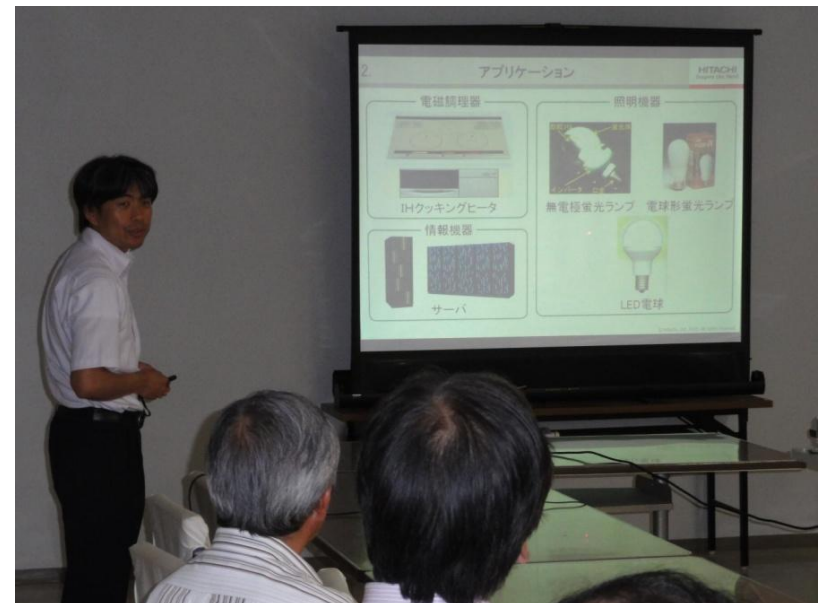
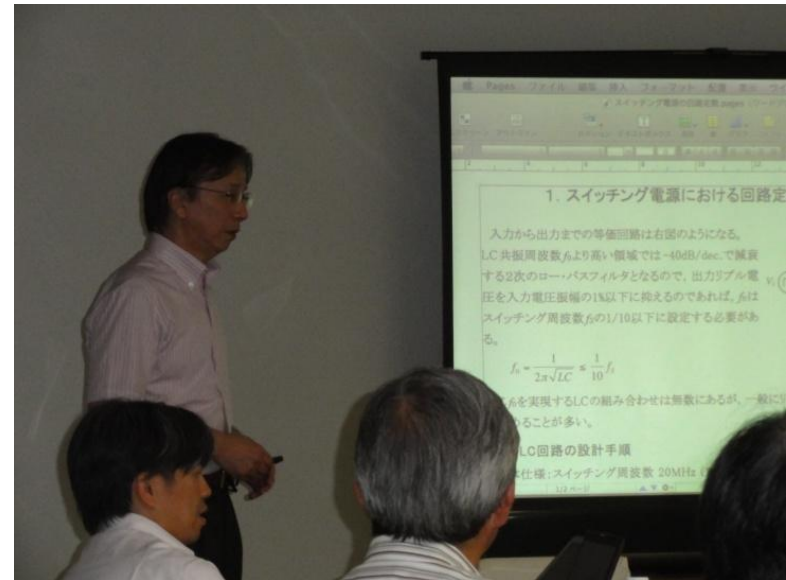


皆さんが北京に行かれる時は、私がガイドをしたいと思っています。北京には色々な観光地があります。例えば、天安門、故宮、万里の長城、皇帝のお寺 天壇、西太后の離宮として有名な頤和園などです。

来週の月曜日が中国の端午の節句です。日本とちょっと違いますので、少し紹介させて頂きます。中国では子供の為の日ではなく、みんなの日です。朝起きるときは花の水で顔を洗います。ヨモギの束を門に飾り、舟の競漕、特別なお酒やチマキ・卵を食べ、子供は絹糸で出来た綺麗な飾り物を身に付けたりします。健康を祝う行事も色々あります。

Joint Technical Seminar

Universities, industry joint seminar in power supply technology area is held every 3-4 months.



Party after Joint Technical Seminar

After lectures of famous researchers,
we enjoyed party.
(at Gunma University, July 9, 2011)



相撲 横綱 from Mongol

We can enjoy watching 大相撲.



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All of you are welcome to Gunma U.

- Kiryu is a good city.
- We have accepted many international students.
- You can learn and advanced and practical technology in electronics and LSI fields.
- There are plenty of chances for conference presentations and paper publications.
- You can have many good friends.

Lesson from 三国志

- We have very good potential like 諸葛孔明 at his young age, but have not been fully exploited yet.



伏龍 Sleeping Dragon

Internationalization is important

Good relationships between
沈阳化工大学 and 群馬大学
will make us to be
at the top-level worldwide.



諸葛孔明



昇龍 Rising Dragon

Acknowledgement 謝辭

I would like thank

Prof. Yuan Decheng 袁德成 副校長先生 and
all people of Shenyang Univ. of Chemical Tech.
for invitation and sending a very good student
Ms. 李慕容 to Gunma Univ.

Slide-preparation was supported by
Engineer, Mr. 石川信宣.

日本語での補足説明

中国での伝説の動物 龍

臥龍、伏龍:

湖底の奥に潜み、身を縮め、爪・牙を隠し、息を殺し、存在の気配さえ感じさせない。

昇龍: 機が熟すと、

嵐をよび雷を興し、爪・牙を露わにして、全身を躍動させ、大きな叫び声とともに一気に天に駆け昇る。