

Establish Good Relationships between

廈門理工學院 & 群馬大学

中国 & 日本

Haruo Kobayashi (小林 春夫)

Division of Electronics & Informatics, Gunma University

k_haruo@el.gunma-u.ac.jp

Contents

- Introduction to Gunma University
- Introduction to Science & Engineering
- Introduction to Kobayashi Lab.
 - Collaboration with Industries
 - Globalization
 - Fun and Human Relationship
- Summary

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Gunma University has 4 Campuses

Maebashi 1: Education, Social and Information Studies

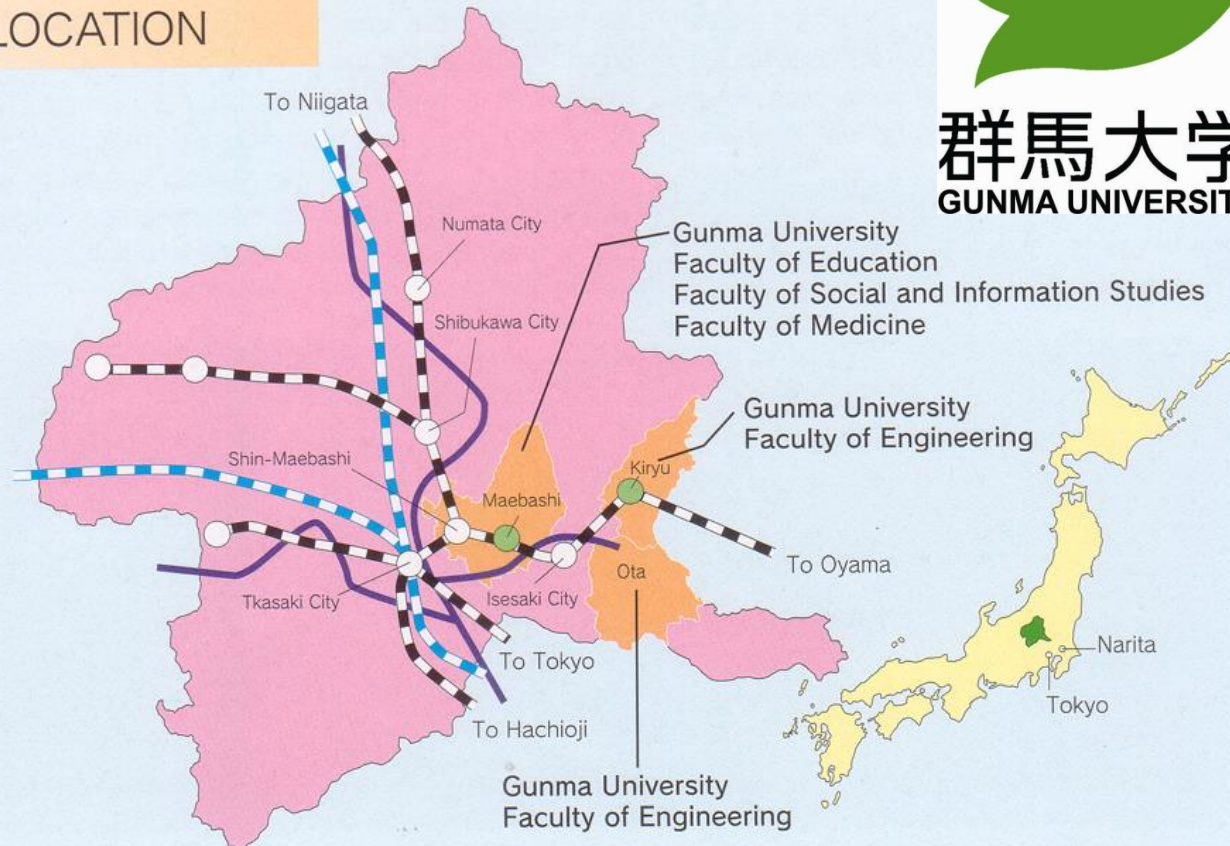
Maebashi 2: Medicine

Kiryu: Science & Engineering

Ota: Science & Engineering



CAMPUS LOCATION



Gunma's Yuru-chara
Gunma chan

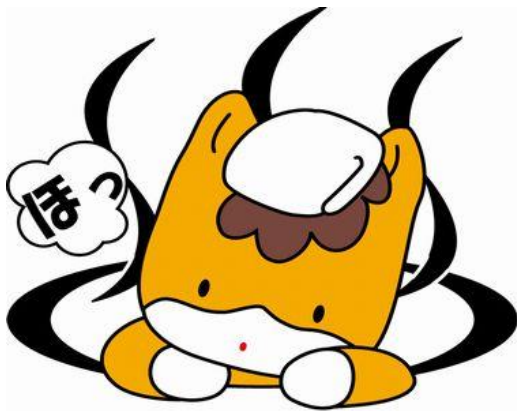


4 Faculties in Gunma University

- 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 Science & Engineering
510 students/year

Many Hot Springs in Gunma

We, Japanese
love bathing
In hot springs.



Beautiful Nature in Gunma

Insect Zoo



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Science & Engineering: 5 Departments

- Chemistry and Chemical Biology
(化学・生物化学科)
- Mechanical System Engineering
(機械知能理工学科)
- Civil and Environmental Engineering
(環境創生理工学科)
- **Electronics and Informatics**
(**電子情報理工学科**)
- General Science & Engineering
(総合理工学科)

Electronic Engineering Research Fields

Kiryu Campus

8 professors

12 associate professors

5 assistant professors

3 major areas

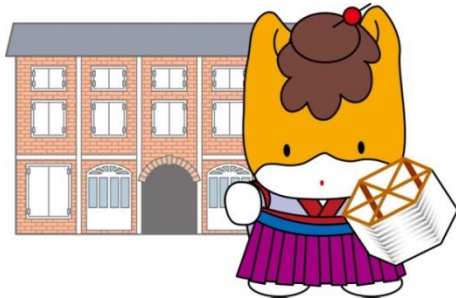
- Electronic Devices
- Measurement, Control and Power Electronics
- Information, Communication and System

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



Kinopy



Full of Greenery in Kiryu



Cherry Blossoms



Kiryu City View
from a Neighbor Mountain

The Oldest University in Japan

足利学校 “Ashikaga Gakkou” School
is close to Kiryu City.

孔子廟



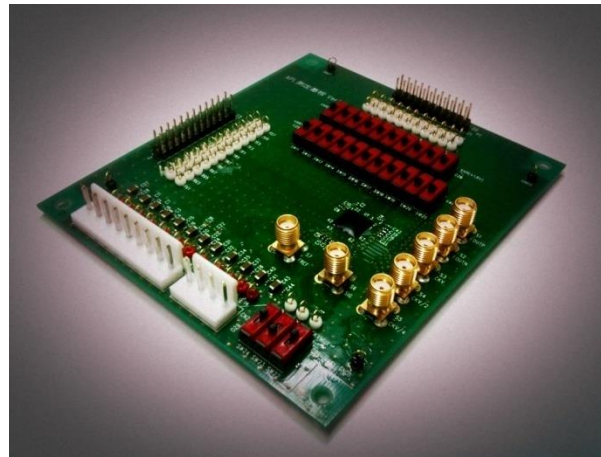
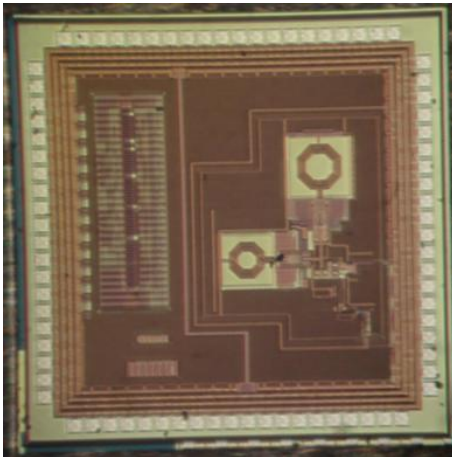
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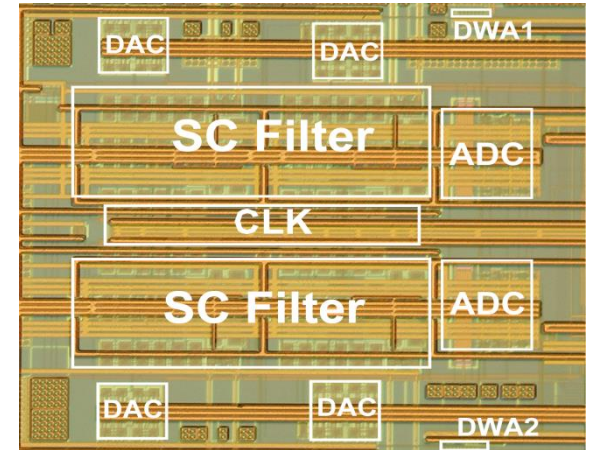
Research & Education Area

Analog & Mixed-Signal Integrated Circuit Design

Our research result examples :

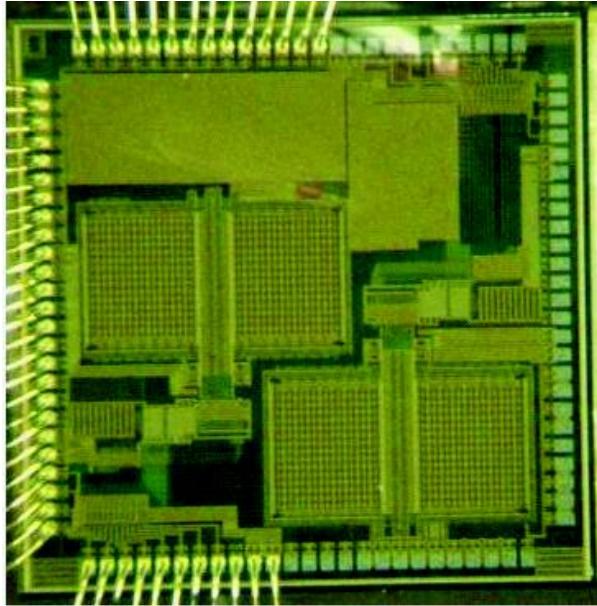


TV tuner application IC & evaluation board
(collaboration with Sanyo Semiconductor)

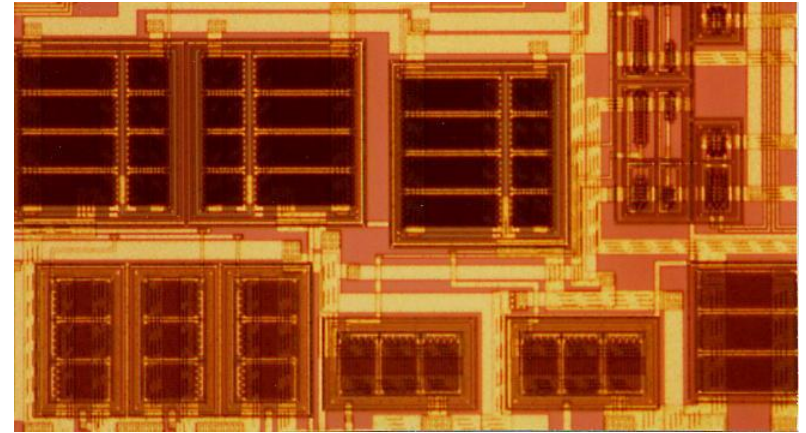


Communication application
analog-to-digital converter
(collaboration with STARC)

Research Result 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

Visiting Associate Professor:

加藤健太郎

Engineer: 石川信宣

Ph.D. Students: 5

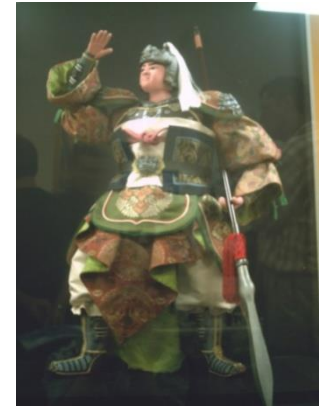
MS students: 28

Bachelor students: 11

Each member is
一騎当千.



関羽



趙雲

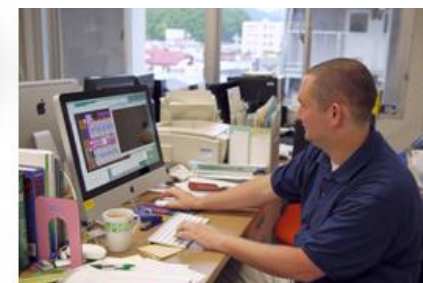
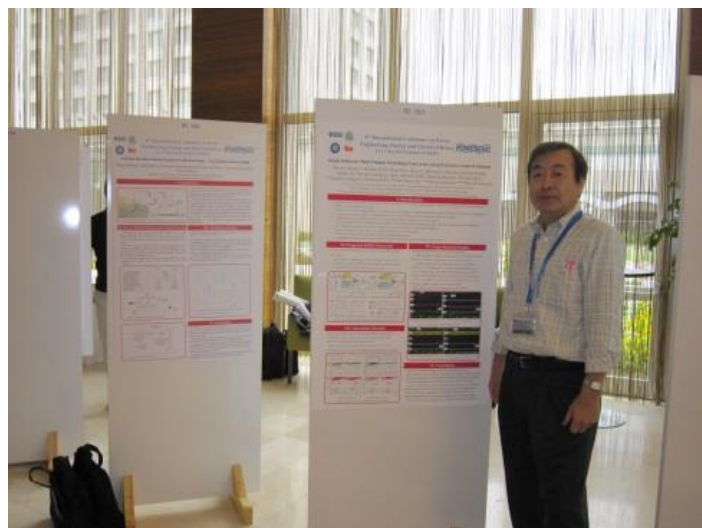


張飛

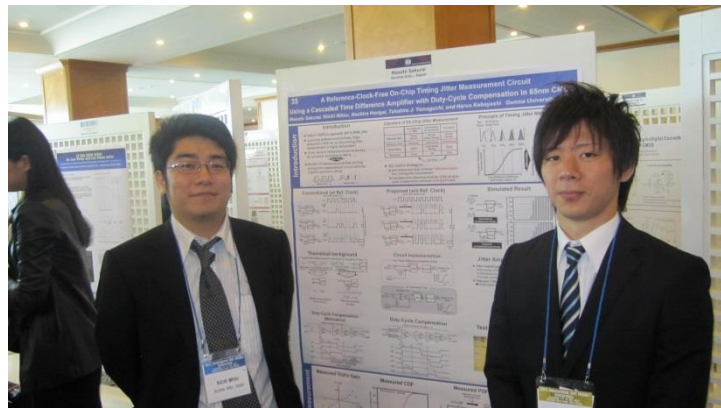


Female members might be like 大喬、小喬, 孫夫人, or 貂蟬, 。。。

Lab. Members & Visiting Professors



Lab. Members



Laboratory's 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 collaborations with industries in semiconductor, electronics fields pushes our lab. to higher level.
- Advanced technologies are developed.
- Job/Internship opportunities for students
- Research funds are supported.

I learned importance of industrial collaboration when studying at UCLA.

Current Joint Research Projects

Semiconductor Technology

Academic Research Center (STARC)

Mixed-Signal LSI Testing Technology



Sanken Electric Power Supply Circuit

Dialog Semiconductor

Asahi Kasei Electronics



Sanyo Semiconductor

Wideband Low Noise Amplifier



Past Joint Research Projects

Agilent Technologies

Electronic Measurement Technologies

Sumitomo Electric

Envelope-Tracking Power Amplifier for Base-Station

Sharp

Direct-RF Sampling ADC

The logo for Renesas, featuring the word "RENESAS" in a blue, stylized font with a blue square icon to the left.

Renesas Electronics

Digital Calibration Algorithm for ADC

The logo for Toshiba, featuring the word "TOSHIBA" in red, bold, uppercase letters, with the tagline "Leading Innovation >>>" in black below it.

Toshiba Microelectronics

High-precision ADC for Power-Meter Applications

Nichicon Power Supply Circuit

Adjunct Professors from Industry

Prof. 青木 均 (Semiconductor Device Modeling,
former in Hewlett Packard Lab.)

Prof. 落合 政司 (Power Electronics, Sanken Electric)

Prof. 小堀 康功 (Power Electronics, former in Hitachi)

Prof. 恩田 謙一 (Power Electronics, Hitachi)

Prof. 松田 順一 (Semiconductor Process, former in Sanyo)

Prof. 植田 慶一 (Semiconductor Process, Sanyo)

Prof. 馬場 清一 (High Frequency Circuit, Sanyo)

Prof. 三木隆博 (Analog IC Design, Renesas)

Prof. 松浦 達治 (Analog IC Design, former in Renesas)

Prof. 畠山 一実 (LSI Testing Algorithm, former in Hitachi)

Prof. 山口 隆弘 (LSI Testing Technology, Advantest Lab)



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.



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My Experiences of Study in the USA

- 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 (1)



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

International Conference (2)



Presentations by three Chinese students

IEEE Conferences in Taiwan in 2012.

Student Short Stay in the USA

- Visit to Prof. Fred Lee Lab, Virginia Tech in 2008.
- 5 graduate students stayed at UCLA in Sept. 2011.



Chinese Students in Kobayashi Lab.

Currently 13 Chinese students

Ph. D. Course

吳澍, 李从兵

Master Course

吳明輝 from 廈門理工學院

靳光磊, 李慕容、朱秋霖, 權力, 李恩思,

楊志翔, 趙峰, 李恩思

Bachelor Course (4th grade)

王俊善、王銳

There is a China town
in my lab !

Chinese Alumna of Kobayashi Lab

傘昊, 林海軍, 康劍, 張挺, 趙楠, 韓將星, 叶佳霓
孫清波, 劉愛燕(福永順子), 徐峰(福永裕平)
邢林, 高虹, 劉羽, 高川, 易茹, 陳昊, 張伝鵬, 白平平

(昭和21年2月8日第三種郵便物認可) 夕刊 桐生タイムス 2009年(平成21年)9月24日 木曜日 特集 (12)

夢を 追いかけて

26

りん かいぐん
林 海軍さん(32)

アナログ技術 根性の開発



「研究は根性だ。根性がある前に進める」。群馬大学工学部研究科でアナログ集積回路を研究する中国人留學生、精神面が大事だとする指導教授の言葉を忠実に実践し、研究成果を上げてきた。いまきの日本の若は敏速されがちな「根性」と言葉だが、来日してから大学までの苦勞を乗り越えられた。まさにこの気持ちがある。博士後期課程を修了するは、富士通研究所への就職がり、「社会に役立つ研究が」と意欲を燃やす。

中国の大学では生物化学をした。就職した株式会社で輸入機仕事に携わるうち、「電気電勉強がしたい」と思うようになった。うせなら半導体技術の進んだで「2008年に来日した。

夢を抱いて香港に降り立つの、話せる日本語はないさ度。群馬県内に住んでいたさを頼って生活を始め、まずは市内の日本語学校へ通った。を支えるためのアルバイトや勉強もあり、睡眠時間は3時間くらい。「負けてはいられない。的につら時期だったから、バイト先の上司と同僚の優は心に染みだ。「感謝の気持ち生、忘れたい」

2000年春、群大工学部格。「困難に負けずに頑張れたは大きな収穫だった。あのとことを考えれば乗り越えられ

自身で設計したチップと測定基板を手にする林海軍さん(桐生市天神町にある群馬大学大学院の研究室で)

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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

Shaiful Nizam Mohyar : from Malaysia

Also students from Bangladesh, Iran, Peru..

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

Alps Electric, and many.

Invitation from Chinese Univ.

I was invited by 瀋陽化工大学 in Sept. 2011.
Two graduate students from 瀋陽化工大学
are currently in my lab.



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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
Mr. Khatami Ramin

Lab & Marriage Party



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All of you are welcome to Gunma U.

- Kiryu is an attractive city.
- We have been accepting many international students.
- You can learn advanced and practical technologies 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.



臥龍 Sleeping Dragon

Internationalization is important

Good relationships between
廈門理工學院 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. 林海軍 先生 and

all people of 廈門理工學院

for invitation and transferring a very good student

Mr. 吳明輝 to Gunma Univ.



Slide-preparation was supported by

Engineer, Mr. 石川信宣 and

a graduate student, Mr. 荒川雄太.

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、大きな叫び声を上げ、爪・牙を露わにして、全身を躍動させ、一気に天に駆け昇る。



福建省



廈門(アモイ、Xiamen)

