



Kei-ichi Maeda, JGRG 22(2012)111605

“Conclusion”

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**RESCEU SYMPOSIUM ON  
GENERAL RELATIVITY AND GRAVITATION**

**JGRG 22**

November 12-16 2012

Koshiba Hall, The University of Tokyo, Hongo, Tokyo, Japan



# CONCLUSION ?



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# Research on Gravitation

**Gravity**

Provide Mystery



**Big Progress in Physics**

motion of planets & falling objects

 **universal gravitation (Newton)**

Dawn of modern physics



**General Relativity (Einstein)**

gravity = geometry

spacetime becomes a physical object



**cosmology • black holes • GWs**

# Now

- Microscopic

**Unification of fundamental interactions**

**Quantization**



**gravity is exceptional**

- Macroscopic

**Dark energy ?**

**Many “modified” gravitational theories are proposed**



**new big progress in physics ?**

# Research on Gravitation in Japan

# Workshop on General Relativity and Gravitation 1974-76

(Uchiyama, Hirakawa, Nariai, Kimura, K. Hayashi, Fujii,...)



**JGRG1** (*Tokyo Metropolitan University*, Dec 4- 6 1991)

**T. Nakamura and KM**

a grant-in-aid for scientific research on **priority areas**,  
“**gravitational wave astronomy**” → **TAMA project**  
(PI: S. Hayakawa → T. Nakamura)

**Community (BIG3: Kodama, Sasaki, and Futamase)**

- JGRG1** (*Tokyo Metropolitan University, Dec 4 - 6 1991*)  
**JGRG2** (*Waseda University, Jan 18-20 1993*)  
**JGRG3** (*The University of Tokyo, Jan 17- 20 1994*)  
**JGRG4** (*YITP, Kyoto University, Nov 28 - Dec 1 1994*)  
**JGRG5** (*Nagoya University, Jan22-25 1996*)  
**JGRG6** (*Tokyo Institute of Technology, Dec 2- 5 1996*)  
**JGRG7** (*YITP, Kyoto University, Oct 27- 30 1997*)  
**JGRG8** (*Niigata University, 19th Oct - 22nd Oct 1998*)  
**JGRG9** (*Hiroshima University, 3rd Nov - 6th Nov 1999*)  
**JGRG10** (*Osaka University, 11th Sep - 14th Sep 2000*) **International Workshop**  
**JGRG11** (*Waseda University, 9th Jan - 12th Jan 2002*)  
**JGRG12** (*Komaba, The University of Tokyo, 25th Nov - 28th Nov 2002*)  
**JGRG13** (*Osaka City University, 1st Dec - 4th Dec 2003*)  
**JGRG14** (*YITP, Kyoto University, 29th Nov - 3rd Dec 2004*)  
**JGRG15** (*Tokyo Institute of Technology, 28th Nov - 2nd Dec 2005*)  
**JGRG16** (*Niigata Prefectural Center, 27th Nov - 1st Dec 2006*)  
**JGRG17** (*Nagoya University, 3rd Dec - 7th Dec 2007*)  
**JGRG18** (*Hiroshima University, 17th-21st Nov 2008*)  
**JGRG19** (*Rikkyo University, 30th Nov -4th Dec 2009*)  
**JGRG20** (*YITP, Kyoto University, 21st Sep -25th Sep 2010*)  
**JGRG21** (*Tohoku University, 26th Sep -29th Sep 2011*)  
**JGRG22** (*Tokyo University, 26th Sep -29th Sep 2011*)

**New Project : KAGRA**



Although they (Kodama, Sasaki, and Futamase) have played very important roles in research on gravity,

More important point is the following fact:

The JGRG workshop series have been supported by **active involvement of young postdocs and graduate students**. In turn, it is hoped that their experience from the JGRG workshop series will help them **grow into world's leading scientists**.

*From JGRG homepage:<http://www-tap.scphys.kyoto-u.ac.jp/jgrg/about.html>*

**So we will continue this series:**

Next is

# Hirosaki University



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**Jun'ichi Yokoyama** (chairperson)

and

**Teruaki Suyama, . . . .**