



*Some experience in experiential  
learning activities  
CUHK Teaching Expo 2012*

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## *Some History ...*

- *CUHK Physics back in 1995: low admission grades (AL median: EED), many students not motivated in studying physics, very few continued on further study (~ 1 for PhD overseas), almost no one joined exchange programs*
- *CUHK Physics in 2012: high admission grades (AL median: ABB), most students motivated in studying physics, many continue on further study (>50%, ~10 for PhD overseas), many apply to exchange programs (>20/year)*



# *Extracurricular Learning Opportunities*

*SURE, OPUS, STAR, ...*

<http://www.phy.cuhk.edu.hk/internship/>

# Research & Internship

- encourage students to take up research projects and/or internship, eg.: Overseas Program for Undergraduate Students (*OPUS*), Summer Undergraduate Research Exchange (*SURE*), Summer Teacher Apprenticeship (*STAR*), Special projects, internship opportunities (HKO, Space Museum, etc.)

[www.phy.cuhk.edu.hk/internship](http://www.phy.cuhk.edu.hk/internship)



STAR ↑ Sze Wing Chun working at a secondary school

← SURE Ben Lau at Caltech

# Research opportunities for undergraduates

- strongly encourage students to join research groups
- May earn credits (special experimental/theoretical projects)
- Final-year projects (PHY4610, 4620)



*Undergraduates taking up projects*



# Summer Undergraduate Research Exchange

[www.phy.cuhk.edu.hk/sure](http://www.phy.cuhk.edu.hk/sure)

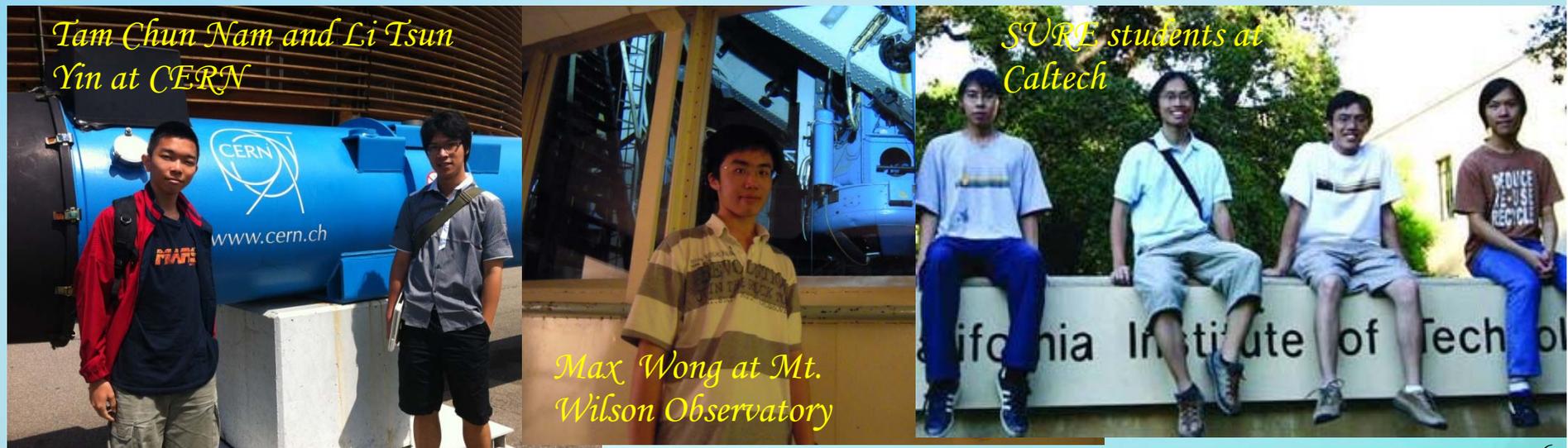
Since 2000

*Selected students take up summer research projects in leading groups abroad, with financial support from the dept. Eg.: planetary science (Caltech) 、 CERN experiments, dark energy survey (UIUC) 、 nuclear physics (MSU/NSCL, UIUC) 、 biophysics (Brown) 、 ...*

*Dec 2012: 83 have completed the program*

*59 have continued on to graduate study; 40 admitted to PhD programs*

*Published: 3 PRLs, 2 Phys. Lett. B, 1 Geophys. Res. Lett., 3 PRCs, 1 Global Biogeochem. Cycles*



# Overseas Program for Undergraduate Students

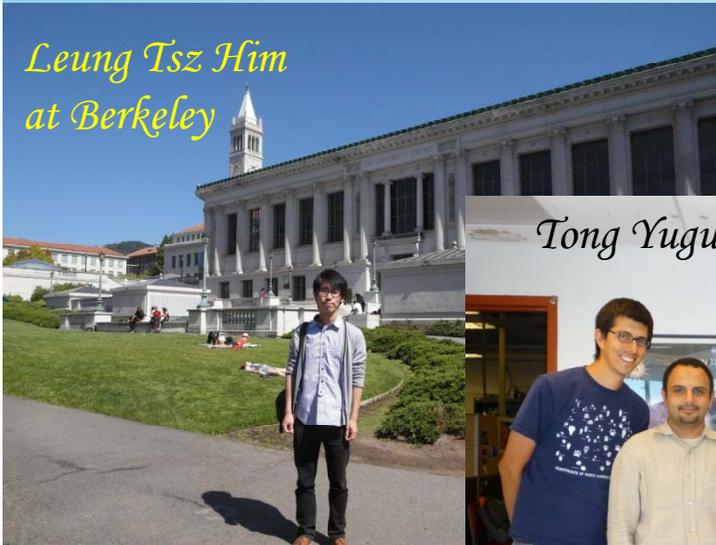
[www.phy.cuhk.edu.hk/opus](http://www.phy.cuhk.edu.hk/opus)

Since 2006

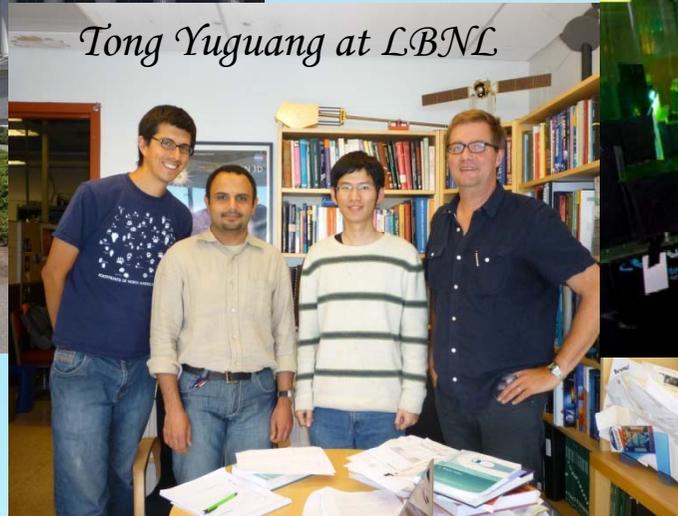
Map of alumni overseas: <http://maps.google.com/maps/ms?ie=UTF&msa=0&msid=111514872469039539967.00044a2dd8eae8cd1d386>

Dept. sponsors 4 – 8 students each year to take up 1 semester of exchange and 1 summer research at U. C. Berkeley, Fudan Univ., and Peking Univ.

*Leung Tsz Him  
at Berkeley*



*Tong Yuguang at LBNL*



*Choy Kit Yan at Berkeley*



*Cheng Ka Ming in Peking*



*Dec 2012: 27 have completed the program  
18 have continued on to graduate study; 11 for PhD*

# Summer Teacher AppRenticeship

[www.phy.cuhk.edu.hk/star](http://www.phy.cuhk.edu.hk/star)

Since 2002

Dept. sponsors 5-10 each summer to work in local secondary schools as teaching assistants



*Lai Yik Man with students*



*Tommy Wong teaching*



*Sze Wing Chun tutoring students*



*Lee Wai Tak with students*

*Dec 2012: - 86 have completed the program*

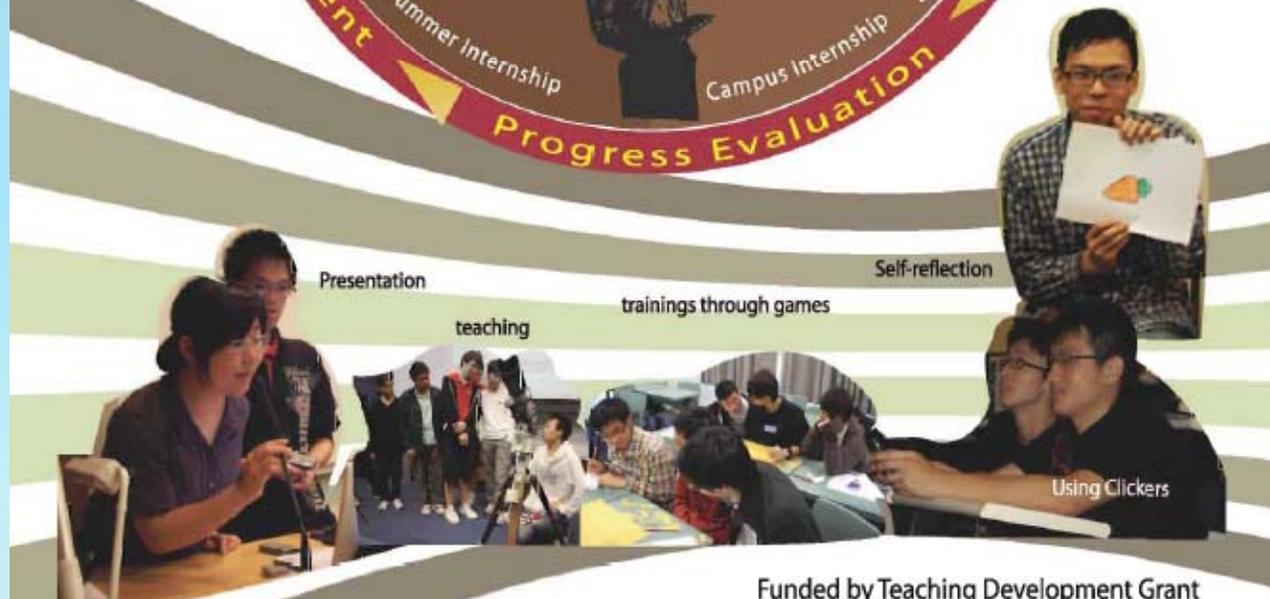
*- 29 have continued on to graduate study, 7 for PhD*

*- 30 have become teachers*

# Learning through Teaching

Perhaps the most thorough learning experience is to **TEACH!**

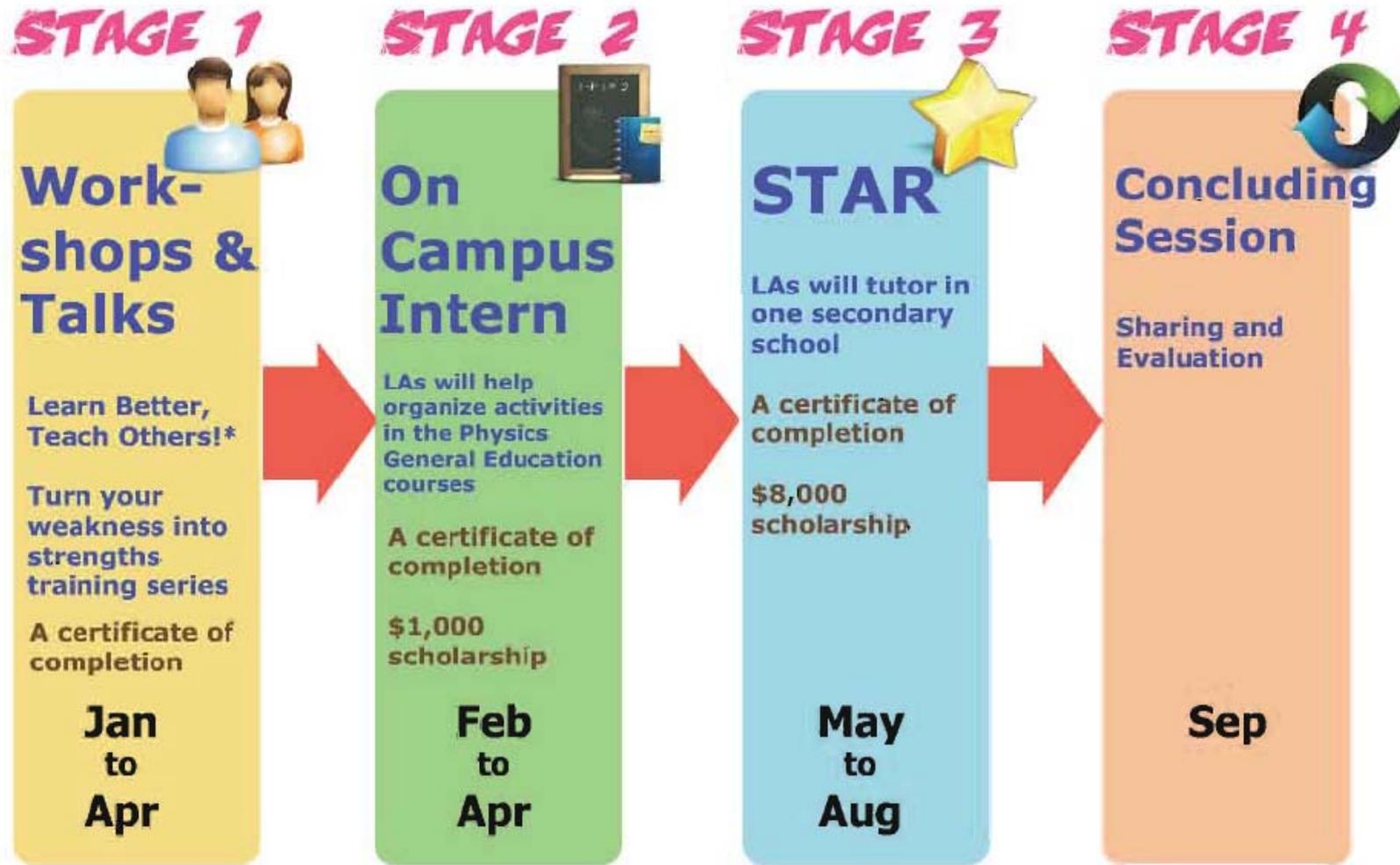
<http://www.phy.cuhk.edu.hk/tdg/>



Funded by Teaching Development Grant

# Learning through Teaching

## Training Schedule in 2010



# Learning through Teaching

	Date	Time	Topics	Speaker/ Trainer
Activity One: Talk	18 Jan (Mon)	4:30-6pm	Learn Better? Teach Others!	Ms Anna Lee, Education Bureau, HKSAR
Activity Two: 'Turn Your Weaknesses into Strengths' Series	25 Jan (Mon)	4:30-6:30pm	Manage Your Time	Mr Simon Ho, CLEAR, CUHK Sharing: Dr WH Siu, SKH St Benedicts School
	25 Feb (Thu)	4:30-6pm	Present Yourself to Your Best Advantage	Mr Simon Ho, CLEAR, CUHK
	4 Mar (Thu)	6:30-8:30pm	Take Your Power-Confidence Building	Ms Grace Wong, OSA, CUHK
	9 Mar (Tue)	4:30-6:30pm	Do Communicate	Ms Eunice Yip, OSA, CUHK
	25 Feb (Thu)	4:30-6pm	Set Off Your Better Life	Mr Simon Ho, CLEAR, CUHK

*Stage 1: talks and workshops*



# Learning through Teaching

## Stage 2: On-campus internship

Date	Time	Content
1 April (Thur)	7-10pm	Star-gazing I
8 April (Thur)	7-10pm	Star-gazing II
9 April (Thur)	2-5pm	Visit to Science Museum
17 April (Thur)	9:30am-12:30pm	Visit to Space Museum
19-23 April	2-4:15pm	Quiz Game using Clickers

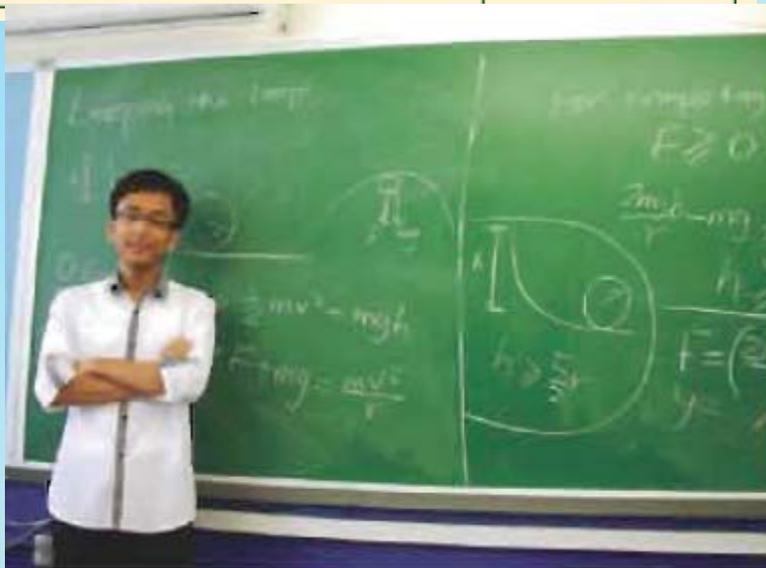


# Learning through Teaching

## Stage 3: Off-campus internship: STAR

### Schedule and Participating Schools & Organization:

Schools / Organization	Teachers / Supervisor
C&MA Sun Kei Secondary School 基督教宣道會宣基中學 ( <a href="http://www.skss.edu.hk/">http://www.skss.edu.hk/</a> )	Mr. Ho Chun-yan 何俊恩老師
Lui Cheung Kwong Lutheran College 路德會呂祥光中學 ( <a href="http://www.lck.edu.hk/">http://www.lck.edu.hk/</a> )	Mr. Fong Cheuk-yu 方卓如老師
SKH Lam Woo Memorial Secondary School 聖公會林護紀念中學 ( <a href="http://www.lamwoo.edu.hk/">http://www.lamwoo.edu.hk/</a> )	Mr. Cheng Hong-yung 鄭航勇老師
SKH Li Ping Secondary School 聖公會李炳中學 ( <a href="http://skhlp.school.net.hk/">http://skhlp.school.net.hk/</a> )	Mr. Chan Fu-shing 陳輔成老師
SKH St. Benedicts School 聖公會聖本德中學 ( <a href="http://www.skhsbs.edu.hk/">http://www.skhsbs.edu.hk/</a> )	Dr. Siu Wing-hon 蕭榮漢老師
Hong Kong Space Museum 香港太空館 ( <a href="http://www.lcsd.gov.hk/CE/Museum/SPACE/">www.lcsd.gov.hk/CE/Museum/SPACE/</a> )	Mr. CHAN Ki Hung, Curator of the Museum



# Learning through Teaching

## Stage 4: Reflection and Evaluation

### For the project team:

1. To gain an understanding of program operation;
2. To document program effectiveness;
3. Examine strengths and weaknesses of program;

### For participants:

1. To identify ways to think about their skills and the areas they want to develop;
2. To reflect on their learning style and strategies so as to enhance and improve their learning in the future.

- 2 focus-group evaluations conducted by CLEAR
- 1 closing seminar: experience sharing by participants



# Local Internship

[http://www.phy.cuhk.edu.hk/intern/notice\\_2008.pdf](http://www.phy.cuhk.edu.hk/intern/notice_2008.pdf)

Since 2005

*Placement at Hong Kong Observatory: summer or full-year*



*June 2012: - 28 have completed the program, 2 continuing  
- 19 have continued on to graduate study, 8 for PhD*





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## *Previous 3-year cohort JUPAS (Form 7) Students...*

*In comparison with Students accepted by Physics Departments in Hong Kong*

	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>
<b>CUHK</b>	<b>3.8011</b>	<b>3.5078</b>	<b>3.5601</b>	<b>3.3263</b>	<b>4.1517</b>	<b>4.2761</b>	<b>4.5299</b>
U2	2.7774	2.8674	3.2988*	3.4709*	3.4821*	3.6166*	3.5648*
U3	2.4018	2.4012	2.2073	2.5587	2.2650	2.7705	2.9394
U4	1.9342	2.1064	2.0600	2.2390	2.3059	2.3648	2.3694
U5	1.9251	1.9617	2.0692	2.0468	2.3337	2.3500	2.2851
U6	1.9085	1.8682	2.0452	2.0091	2.7560	2.3087	2.0815

*(CU physics program always attracted the best students!)*

*\*FACULTY BASED*