

Dr. Cen Zhang — a Dynamo in Pursuit of Excellence

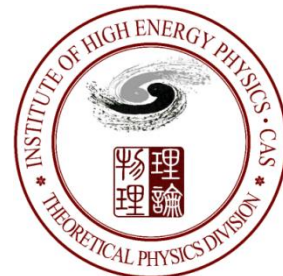
Pls refer to talks by:

Prof. Scott Willenbrock
Cen's PhD supervisor
USA

Dr. Eleni Vryonidou
Cen's collaborator
Europe



Zhi-zhong Xing
【IHEP Beijing】



→ @ IHEP (2017.6—2021.6)

- ◆ Personality of His Own
- ◆ Excellence in Research
- ◆ Cen Zhang Scholarship

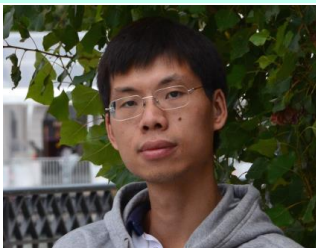
@ Conference on Multi-Boson Interactions, 2022.08.25, TDLI, Shanghai

Born at PKU, **Cen** won at the starting line

1

Cen's dad (Prof. **Ming Zhang**) and mom (Ms. **Xian-Qing Cen**) both graduated from the Department of **Chinese Language and Literature**, Peking University.

But **Cen** chose to become a **physicist** and told stories about nature.



S. Chern: You must always put yourself amid people who are better than you, so you can become better.

My colleagues and I feel deeply fortunate for having had the chance to work with **Cen**. We have become better.

陈省身先生：“你一定要和比你好的人在一起，你才会有进步。”



Shiing-Shen Chern
The father of modern
differential geometry

Cen
at the age of 16

Photo from **Qing-Hong Cao's** talk (2021)

Traveling long distance is to find a way home

2

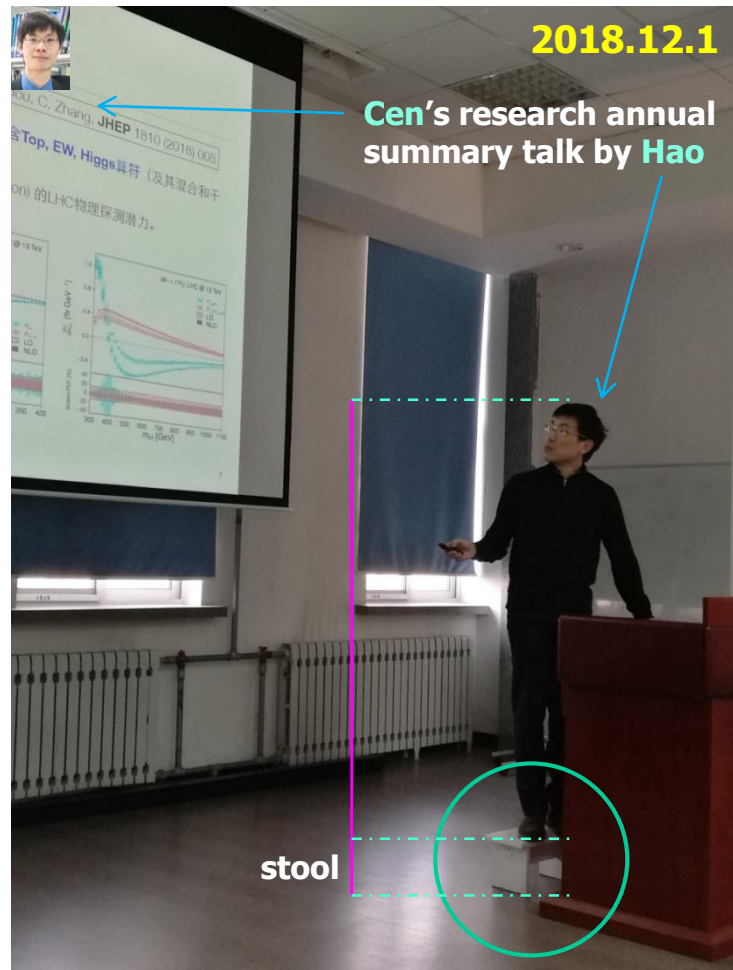
After graduating from PKU in July 2006, **Cen** went to USA and Europe. He came back and joined IHEP in June 2017.

- ◆ 2002.09 — 2006.07, PKU, Bachelor in physics
- ◆ 2006.08 — 2011.12, UIUC, PhD in TH physics
- ◆ 2012.02 — 2014.10, UC Louvain, Postdoc
- ◆ 2014.10 — 2017.05, BNL, Postdoc
- ◆ 2017.06 — 2021.06, IHEP, Associate Professor

My impression on **Cen's** personality as a colleague:

- ◆ Exceptional focus, pureness and profundity
- ◆ Outstanding courage and keen sense of humor
- ◆ Always open-minded, passionate and tolerant

Cen was the tallest amongst the TH colleagues. And that is why **Hao Zhang** had to stand on stool...



Cen's work at IHEP (2017.6/2021.6):

- ◆ Top quark and Higgs physics
- ◆ Phenomenology of collider physics
- ◆ Standard Model effective field theory
- ◆ New physics beyond Standard Model
- ◆ **Positivity bounds on SMEFT**

> 20 paper published

5 preprints

3 CERN yellow books

3 Phys. Rev. Lett.

3 Phys. Rev. D

> 10 JHEP

- ◆ Kept active international collaborations
- ◆ Established domestic collaboration network
- ◆ Supervised young students and postdocs

Cen's new and closest collaborator in China
~ 10 papers (2 PRL)

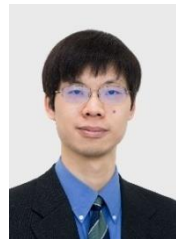


Shuang-Yong Zhou

ALL THINGS EFT...



- ◆ Adam Orion Martin
- ◆ Anke Biekötter
- ◆ Cen Zhang
- ◆ Clifford Burgess
- ◆ Huaxing Zhu
- ◆ Michael Robert Trott
- ◆ Michèle Levi
- ◆ Tom Melia
- ◆ William Shepherd



Global webinar series during the covid-19 pandemic 2020

Memorial events in Beijing

4

◆ 2021 Mcnet Summer School (2021.6.27 — 2021.7.2)

Special session (July 2, 14:30 — 15:15, IHEP):

Plenary speaker: **Fabio Maltoni**

Contributions from **Cen's** main collaborators all over the world and his students



◆ 15th Conference of TeV Physics Working Group (2021.7.18 — 2021.7.21)

Summary session (July 21, 11:35 — 12:00, Friendship Hotel):

Qing-Hong Cao: Top quark physics and Effective Field Theory

— in memory of Dr. **Cen Zhang**



◆ 2021 Theory Division Annual Meeting (2021.11.26 — 2021.11.27)

Special session (November 27, 16:00 — 17:30, IHEP):

Qing-Hong Cao: Top quark physics and Effective Field Theory

— in memory of Dr. **Cen Zhang**



◆ Memorial Meeting and **Cen Zhang Scholarship** Ceremony (2021.5.27)

Plenary speakers: **Shuang-Yong Zhou**, **Qiang Zhao**

Contributions from **Cen's** colleagues, friends and students at IHEP

04 March 2022: Donation ceremony of **Cen Zhang Scholarship for Scientific Research Excellence** at **Cen's Alma Mater** — **School of Physics, Peking University.**



Annually granted to an excellent PhD student
Scholarship = 30,000 CNY in lump sum

A long lasting *legacy of Cen's* to the places where he studied and worked in China

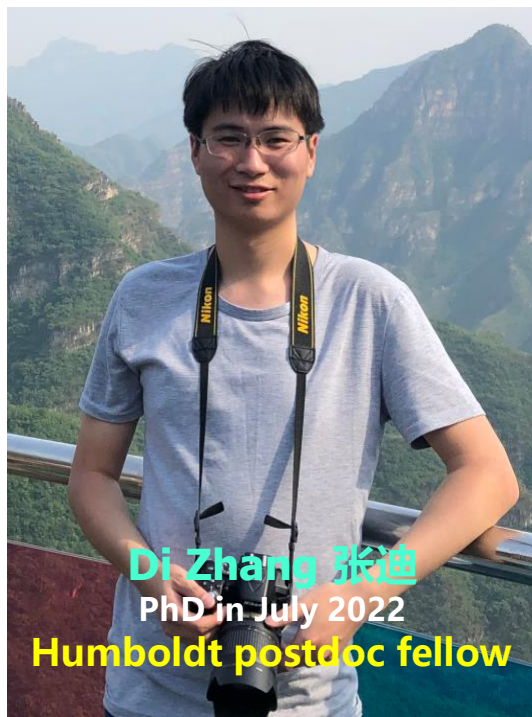
Cen's dad Y.N. Gao Cen's mom

27 May 2022: Presentation ceremony of **Cen Zhang Scholarship for Scientific Research Excellence** at the theoretical physics division of IHEP (online).

The first scholarship was granted to **Di Zhang**:
For his pioneering formulation of one-loop matching of seesaw mechanisms to the SMEFT—**seesaw EFT**.

Current status of Cen's three students:

- ① **Yi-Ming Liu**, postdoc under **Si-Chun Sun** at BIT
- ② **Cheng-Jie Yang**, PhD under **Jiang-Hao Yu** at ITP
- ③ **Xu Li**, PhD under **Shun Zhou** at IHEP



Keeping childlike innocence



and pursuing excellence

May **Cen** rest in peace

We do not get to see all the snow that falls in one's life. Everyone spends the winters alone throughout his own life — [Liang-Cheng Liu](#).



Photo from **Shuang-Yong Zhou's** talk (2022)