

PiBB 生物化学与生物物理进展
Progress in Biochemistry and Biophysics
2011, 38(9): 804-809
www.pibb.ac.cn

Science China Life Sciences in 2010: a New Name Marking a New Start

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Abstract The year 2010 marks the sixtieth anniversary for the publication of *Science in China* series journals, and meanwhile the *Science in China Series C: Life Sciences* took a new name as *Science China Life Sciences* (SCLS in short). Simultaneously, it has been reformed to make a new start for this journal in its long history. The journal has appeared with a new face to the readers and authors in both the novel publishing style and the highly qualified articles. An extensive review was given to the journal's specific progress in the year 2010 by highlighting some of the representative publications.

DOI: 10.3724/SP.J.1206.2011.00416

As an academic journal, *Science in China* was founded at 1950 in accompanying with the founding of The Chinese Academy of Sciences, so it is in fact the Proceeding of CAS and at the top rank among the academic journals in China. The journal is currently co-sponsored by The Chinese Academy of Sciences and the National Natural Science Foundation of China, and co-published by Science in China Press and Springer Verlag Press. The journal is now subjected to extensively reform for further promoting its scientific

level and internationalization. In the year 2010 the sixtieth anniversary of the journal was coming, and meanwhile the journal *Science in China Series C: Life Sciences*, as one of the *Science in China* Series, took a new name as *Science China Life Sciences* (SCLS in short)^[1]. Simultaneously, the journal has been reformed

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Received: September 9, 2011 Accepted: September 13, 2011



Covers of the 12 issues of SCLS published in 2010

to be appeared with a new face to the readers and authors in both the novel publishing style and the highly qualified articles, which marks a new start in its long history. Here I would like to summarize the journal's progress in the year 2010 by highlighting some of the representative publications.

1 Reviewing some of representative life science achievements in China

To celebrate the 60th anniversary for the publication of *Science China* series journals, four retrospective articles were included in the first issue of *SCLS* in 2010. The overall achievements of The Chinese Academy of Sciences (CAS) in life sciences over the past 60 years were nicely summarized by Dr. Li Jia-Yang, the Vice President of CAS^[2]. The project for the total synthesis of bovine insulin was started in 1958 and successfully ended in 1965, while that on high resolution crystal structure determination of pork insulin started in 1966 and reached its goal early 1970s, as reflected by two personal accounts of young participants of these two projects^[3-4]. Another similarly remarkable achievement was the total synthesis of yeast alanine transfer RNA, a project started in 1958 and ended in 1981, as described in another personal account^[5]. Some impressive achievements in recent years have also been reviewed in this first issue of *SCLS* in 2010. The review article "proteomics in China", written by Dr. He Fu-Chu (from the Beijing Proteome Research Center) and his colleagues, represented a series of outcomes in liver proteomics studies^[6] in recent years, which have made the Chinese research collective become one of the leading groups in the world in this field. Another interesting review by Dr. Cao Xue-Tao^[7] conducted very impressive research in the field of signaling mechanism related to innate immunity, including the most recent outcomes from the author's group. Finally, a comprehensive review on the human genome project in China by Dr. Yu Jun^[8] summarized the significant contributions in ten years to the world wide human genome programs.

2 In-Sights on life science research

Marking the new beginning of the journal, a new category of articles designated as *In-Sights* was added in *SCLS*, which is aimed to provide a forum for people to share their in-depth views on science in China and worldwide^[9]. In the year 2010, a few colleagues used

this forum to share their thoughts on a variety of topics, such as avian influenza virus, iPS cells, new ways for cessation of smoking, genome sequencing of the giant panda, epigenetics, NF- κ B in signaling, crop production^[10-17]. As a new column, more efforts will be needed to make it attractive to the readers and fulfill its original purposes. Especially desired would be discussions on scientific policies in China and worldwide.

3 The CUSBEA article series

This article series, aimed to publish review or research articles contributed by former CUSBEA (China-United States Biochemistry Examination and Application) fellows, was officially launched in the April issue of *SCLS* in 2010^[18], with the first article contributed by Prof. Luo Li-Qun (骆利群), a neuroscientist at Stanford University and investigator of Howard Hughes Medical Institute (CUSBEA Class 1987)^[19]. The CUSBEA Program was masterminded and organized by Prof. Wu Ray of Cornell University and operated by the Ministry of Education in China, with a total of 422 Chinese fellows selected to study for Ph.D. degrees in the US over the 8 years (1982~1989) of its implementation^[20-21]. In retrospective, articles that were not marked but should be counted into this series might include those contributed by Prof. Zhao Guo-Ping(赵国屏) of Shanghai Institutes of Biological Sciences, CAS (CUSBEA Class 1983)^[22], Prof. Shi Yang(施扬) at Harvard Medical School (CUSBEA Class 1983)^[23], Prof. Yu Jun(于军) at Beijing Institute of Genomics, CAS (CUSBEA Class 1984)^[24-26], Prof. Cheng Gen-Hong(程根红) at University of California, Los Angeles (CUSBEA Class 1985)^[27-28], and myself (CUSBEA Class 1985)^[29-30]. There is no question that many more of articles in this series will intermittently appear in the future issues of *SCLS*.

4 Special topics in some hot research areas

4.1 Neuroscience in China 2000~2009

The March issue of *SCLS* in 2010 was published in focusing on Neuroscience in China 2000~2009. A comprehensive review of neuroscience development in China since the 1930s was nicely written by Prof. Poo Mu-Ming at the Institute of Neuroscience (ION), CAS (formerly a professor of UC-Berkeley) in the editorial introduction of this issue^[31]. The year 2009 marks the

tenth anniversary of the foundation of ION in the Shanghai campus of CAS, with Prof. Poo serving as the director since its foundation. Included in this special issue were a collection of 12 articles contributed by scientists of this institute covering four areas of research corresponding to the four divisions of ION^[32-42]: cellular and molecular neuroscience, developmental neuroscience, systems and computational neuroscience, and mechanisms of neural disorders.

4.2 Animal reproduction and physiology

Reproduction and development have been chosen as one of the four focusing areas in basic research in China for the 15 years between 2006 and 2020. Fish is undoubtedly a popular model organism for conducting such research and has been particularly chosen in China for both basic and application reproduction studies^[43]. Published in the April issue of *SCLS* were a series of review articles^[44-51], touching on such topics as growth hormone transgenic fish, polyploidy in fishes, fish stem cells, fish germ cells, meiotic recombination repair in fish, liver organogenesis in zebra fish, and signal integration in somatotropes in fish.

4.3 Carbon budget in East Asia ecosystem

The debating increased level of CO₂ in the air has been worrisome to the whole human kind and the source and effect of this molecule has thus been subject to extensive investigation. In the July issue of *SCLS*, the carbon budget in East Asia ecosystem was chosen as the focusing area^[52]. This collection of articles concern such areas as carbon stocks and their regional variations^[53-56], changes in carbon sources and sinks for different forest ecosystems^[57-60], carbon stocks and changes in grasslands and farmland ecosystem^[61-64], new approaches to carbon cycle research^[65-66].

4.4 Other frontier areas reviewed in *SCLS* 2010

Through the year, there were a series of excellent review articles covering the following frontier research areas: photosensitive retinal ganglion cells in mammals^[67]; Smad signaling pathway in angiogenesis and hematopoiesis^[68]; TGF- β signaling in coordinating embryonic stem cell fate determination^[69]; effects of estrogen on stem cells^[70]; computational prediction of non-coding RNAs^[71]; molecular pharmacognosy^[72]; light signaling in seedling^[73]; transcript profiling of gamete specialization and fertilization in plants^[74]; metabolic characteristics of cancer cells^[75]; plant

species formation^[76]; historical summary of mycorrhizal research in China^[77].

5 Highlights of research articles published in *SCLS* 2010

The publication of high level research papers is critical for a scientific journal to gain high recognition in the international scientific community. The journal *SCLS* has published many breakthrough life science discoveries made in China in its early days of publication^[3-5]. The opening of China to the outside world allow many Chinese scientists to publish their papers in more recognized international journals published mainly in such English-speaking countries like the US and UK.

Research articles published in *SCLS* in 2010 covers a wide range of areas in life sciences (including biological sciences, medical sciences, agriculture and ecology in general). For instance, representative research articles cover the following research aspects: ways and mechanisms for treating leukemia with arsenic trioxide^[78], suppressing asthma with IL-4 receptor antagonist^[79], and tobacco addiction using tea filters^[80] (for a comment on this revolutionary approach, see ref. [13]); properties of stem cells from mouse^[81], human^[82], monkeys^[83-84], and chicken^[85]; genome sequencing for giant panda^[86]; production of transgenic pig *via* somatic cell nuclear transfer^[87]; identification of the cocoon sex in silkworms^[88]; episodic evolution^[89]; quantitative assessment of toxic and nontoxic cyanobacteria^[90]; Bt cotton adoption^[91]; identification of genes contributing to the quantitative disease resistance in rice^[92]; negative regulation of flowering time in plants^[93]; effects of static vector-directional gravity on osteoblasts^[94]; detection of the binding force between proteins using atomic force microscopy^[95]; visual pathways in chunk composition^[96].

At this stage, the *Science China Life Sciences* are still far behind those well recognized journals in life science in terms of publishing high level research articles. There is no doubt that *SCLS* will have to make a great effort to attract life scientists first in China and then all over the world to publish their outstanding scientific discoveries in this journal. The *SCLS* has taken the solid first step from the new start, from where it will not take too long to reach this goal.

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