

This Outrageous Lie Has Got to Stop!

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HIGHLIGHT

Some scientists had falsely claimed in *Science* their first discovery of bacterial aging. More significantly, they have remained defiant against a modest request for them to correct their mistake and return truth to scientific history. Their behaviors have constituted a clear scientific misconduct and raise serious question on whether they are any true scientists?

ABSTRACT

After claiming to be allegedly the first to have observed bacterial aging in 2003 in *Science* (2) Ackermann et al. once again- knowingly or unknowingly- distorted the truth stating that “until recently, aging had only been described in eukaryotes” and they just found the origin of aging “in a wide range of organisms” and realized that “aging might thus be a more fundamental aspect of cellular organisms than assumed so far” (1). However, the truth is not only more conclusive experimental studies on bacterial life had been published before their 2003 *Science* paper but also a deep understanding on the origin of biotic aging had been published years ago. Ackermann et al.’s distortion of scientific history is outrageous. How long should this misrepresentation be allowed to continue?

KEY WORDS

Discovery, Deception, Pioneer, Pretender, Bacterial aging, Bacterial life, Citation misconduct, Credit robbery, Shi V. Liu, Martin Ackermann, Urs Jenal, *Science*, *Science in China*, *Logical Biology*

Ackermann *et al.* published a research paper in *Science* in 2003 (2) in which they claimed of making the first observation on bacterial aging. However, not only such observations have been reported before in major scientific meetings (9, 26) but also a peer-reviewed experimental research paper had been published in both English and Chinese (28, 29). As a matter of fact, an invention of method and apparatus for producing age-synchronized cells was applied for a US patent in 2000 and became a world-wide accessible public record before Ackermann *et al.*’s study for their 2003 *Science* publication (15). Coincidentally, the method and apparatus used for Ackermann *et al.*’s *Science* study had already been fully described in that earlier patent application.

The ignorance, whether intentionally or unintentionally, resulted in a severe distortion of a scientific history. This distortion has not only made a much later validation of a prior discovery a “ground-break discovery” but also prevented true insight on bacterial/cell life and biotic aging from respectful appreciation.

Thus, starting from Ackermann *et al.*’s 2003 distortion of a research history in studying bacterial life and aging, the mainstream scientific journals have formed a unified opinion that there was no prior study on bacterial aging. These journals not only forgot how many times that they had rejected repeated submissions of some solid studies on bacterial aging and earlier origin of biotic aging they even rejected to publish any short coverage on

publications on bacterial aging only because they were published in journals that they despise.

The cheating therefore continued in the mainstream scientific journals.

In 2005 Stewart *et al.* published a paper in *PLoS Biology* claiming the first observation of aging in a symmetric bacterium (32). However, compared with the 1999 *Science in China* publication (28, 29) and the 2004 *Logical Biology* publications (18, 30, 31), Stewart *et al.*'s publication is at most an imperfect repetition (22). Following Ackermann *et al.*'s footsteps Stewart *et al.* also cheated on the history of research in this area by totally ignoring the key prior publications. They even insisted on that mistake by refusing to make any correction on their deception after that ignorance was pointed out (19).

In 2006 Watve *et al.* published a paper in *PNAS* (33). In that modeling study on bacterial aging, Watve did not mention any of the true pioneering publications on bacterial aging despite the fact that he knew very well of these publications because he was even personally helped by author of those publications (6). It turned out that his modeling study was also scientifically wrong (10).

Now Ackermann *et al.* just added another new cheating to the previous one.

In a publication appeared in *Aging Cell* (1) Ackermann *et al.* repeated their lie that "Until recently, aging has only been described in eukaryotes" and two recent studies [referring only their 2003 and Stewart *et al.*'s 2005 publications] reported aging in bacteria". They also stated that "it was assumed that aging evolved after the origin of eukaryotes". They claimed that "Our analysis of the evolutionary consequences of phenotypic damage complements these studies [on genetic damage] and provides a new perspective on the evolutionary origin of aging".

However, if people compare my earlier publications on bacterial life and biotic aging (28, 29) (18, 30, 31) and also on the evolution of biotic aging (3, 11-14, 20, 23-25, 27), it is very clear that Ackermann *et al.* study on bacterial aging and the origin of aging in prokaryote presented no new discovery.

Let me listed just some selected titles of my previous presentations and publications on bacterial aging and the origin of biotic aging.

Table 1. Liu's study on bacterial life and origin of biotic aging (see table at the end)

From above list- which is still far from being comprehensive- I wish people will see that it is not true that the discovery on bacterial aging was not

made until 2003 when Ackermann *et al.* made their first publication in *Science*. In addition, the identification of an earlier origin of biotic aging in prokaryotes was already made before Ackermann *et al.* 2007 modeling study published in *Aging Cell*.

How could Ackermann *et al.* not see those earlier publications when some of them were actually published in some mainstream journals? How could Ackermann *et al.* not even hear of any thing about the earlier studies on bacterial aging when these studies were already presented in several international scientific meetings? Ackermann *et al.*'s publications were peer-reviewed by the experts in their field. How could those "world-class" experts even do not know the whole world of their research field? Ackermann *et al.*'s publications appeared in some respected journals. Were the editors or the board members of these journals all lacking a knowledge that some prior publications on these very same topic exist? *Science* actually rejected a key submission entitled "Toward a New Understanding of Bacterial Life" in 1997 and has rejected many subsequent related submissions (21).

It is amazing how such an outrageous misrepresentation can be sustained in the top scientific journals for so long time despite the fact that repeated efforts have been made to expose this downright lie (4-8, 16, 17, 19). Those journals had their right to reject some breakthrough discoveries when they lacked the insight for appreciating those discoveries in the early stage of a scientific development (21). However, who give them the right to ignore the pioneering publications when their conclusions were proved to be very correct and to glorify only those later observations as the "discoveries"?

The lie has got to cease and instead the credit has to be given to a true pioneer!

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* The publication here is the same as sent to Ackermann *et al.* except for the added highlight and keywords.

Table 1. Selected presentations and publications of Liu's study on bacterial life and origin of biotic aging

Year	Title	Presented or Published
1997	Understanding microbial life cycle and cell cycle	Invited seminar given at the National Cancer Institute (NCI) of the National Institute of Health(NIH)
1997	Continuous observation of individual development and family formation of <i>Escherichia coli</i> and a proposal of universal bacterial life model	Poster presented at the 97 th General Meeting of ASM (American Society for Microbiology) *1
1998	Toward a new understanding of microbial life	Poster presented at the 150th American Association for the Advancement of Science (AAAS) Annual Meeting
1998	Living as cells: A microbial experience	Invited seminar given at the National Institute on Aging (NIA) of the National Institute of Health(NIH)
1999	Tracking bacterial growth in liquid media and a new bacterial life model	Science in China 42: 644-654
1999	The validation of microbial "resuscitation"	ASM News 65:185
2000	What is bacterial life?	Logical Biology 1: 5-16
2000	Logical fallacies and methodological mistakes in microbiology - An overview	Logical Biology 1: 25-31
2000	Revisiting the concept of microbial resuscitation	ASM News 66:123
2000	Debating controversies can enhance creativity	Nature 403: 592 *2
2000	Method and apparatus for producing age-synchronized cells	US patent US6767734B applied in 2000 and granted in 2004 *3
2004	Prokaryotic aging: Breaking through the "cell cycle" limitation	Logical Biology 4: 1-6
2004	Age synchronization of <i>Caulobacter crescentus</i> and implications for prokaryotic aging study	Logical Biology 4: 7-15
2004	Crossband in <i>Caulobacter</i> 's stalk is a cell reproduction remnant and bacterial age indicator	Logical Biology 4: 16-27
2004	Age synchronization: Retrospectives and perspectives	Logical Biology 4: 88-101
2005	Debating cell-synchronization methodologies: further points and alternative answers	Trends in Biotechnol. 23: 9-10
2005	Single-cell microbiology needs visions	ASM News 71: 157-158
2005	Right direction but backward movement: A new finding or a flawed repetition in bacterial aging study?	Logical Biology 5: 38-47*4
2005	Linking DNA aging with cell aging and combining genetics with epigenetics	Logical Biology 5: 51-55
2005	Understanding the limit of the Hayflick Limit	Logical Biology 5: 58-65
2005	A high time to unify biology under common life principles	Logical Biology 5: 66-69
2005	Searching for the deep root and fundamental mechanism of biotic aging	Logical Biology 5: 89-91
2005	A Theoretical framework for understanding biotic aging from molecule to organism in multicellular life	Logical Biology 5: 109-116
2005	Stop reinforcing misinformation in microbiology	Logical Biology 5: 289-293 *5
2005	An illogical and unscientific argument against Liu's bacterial/cell life model and its implication for cell	Logical Biology 5: 335-349 *6

	synchronization	
2005	Bacterial aging study: The pioneering works	SAGE KE (http://sageke.sciencemag.org/cgi/forum-display/short/sageke_el:307)
2006	Rectify the distorted microscopic view on life: an open letter to microbiologists	Microbe 1: 1
2006	Stewart, Nystrom, and Cooper: please behave as a corresponding author	Sci. Ethics 1: 59-63
2006	Bacterial age	Pioneer 1: 8-9
2006	Evolution: An integrated theory - Criticisms on Darwinism -Fifteen years ago	Pioneer 1: 10-28
2006	Asymmetry under symmetry	Pioneer 1: 29-30
2006	Eccentric microbes or eccentric microbiologists? – Recapturing a 15-year-long fight against dogma	Pioneer 1: 33-48
2006	An emperor with no clothes	Pioneer 1: 59-61
2006	Towards a deep understanding of the fundamental and universal mechanism of biotic aging	3rd International Conference on Functional Genomics of Ageing
2006	Put the immortality concept to death	Logical Biology 6: 52-53
2006	Revisit semi-conservative DNA replication and immortal DNA strand hypothesis	Logical Biology 6: 54-61
2006	Cell division versus cell reproduction: No evidence for cell "division"	Logical Biology 6: 62-64
2006	A deadly wrong immortalization model for bacteria and life beyond	Logical Biology 6: 84-87 *7
2006	Cell does not cycle and cannot be divided	Logical Biology 6: 103-105
2007	I am the mother, you stupid! - A correct perspective and a benign wish	Logical Biology 7: 29-33
2007	Aging mechanism fully described but not accepted	Top Watch 2: 6-7

*1 Urs Jenal, a co-author of the 2003 *Science* publication by Ackermann *et al.* attended this meeting and was in the same session that this poster was presented.

*2 This *Nature* Correspondence announced the starting of an open-access and open-review scientific journal, Logical Biology, to the world and specifically mentioned discussing the nature of bacterial life as a topic for debating controversy to enhance creativity.

*3 The US Patent and Trademark Office publishes all applications within a year of the filing of the applications. These publications are freely accessible to the whole world.

*4 This is a scientific criticism on the mistakes contained in the 2005 Stewart et al.'s PLoS Biology publication.

*5 This is a scientific criticism on the mistaken view expressed by Nystrom in his Feature article in ASM News.

*6 This is a rebuttal on Cooper's Comment on my cell life theory. Cooper's Comment was already accepted for publication in Trends in Biotechnology. However, the journal decided not to publish that Comment after receiving my rebuttal.

*7 This is a scientific criticism on Watve's 2006 PNAS publication.

Notes added in publication:

1. Summary of earlier emails with Martin Ackermann and Lin Chao.

Ackermann and Chao replied my initial inquiries on their recent publication in *Cell Aging*. Ackermann also told me that he did not get any hint of my earlier study on bacterial aging from Urs Jenal who was his co-mentor for PhD.

2. Key point of phone conversation with Urs Jenal.

Urs Jenal did not reply my repeated email asking his participation in the 1997 ASM General Meeting in which my poster on bacterial aging was in the same session of his presentation. However, upon

calling him, he admitted his presence in that meeting but denied any knowledge of my study. He also initially refused my request to make correction on citation mistake in their Science publication but asked me to send him related publications I have.

3. The first formal letter sent to Ackermann *et al.* asking them for correcting citation oversight.

August 17, 2007

From: Shi V. Liu

To: Martin Ackermann, Urs Jenal, Stephen C. Stearns, Lin Chao, Carl T. Bergstrom, Michael Doebeli

Subject: Correcting a major citation failure in your publications

Dear Scientists,

I was very upset to see the continued distortion of the history in bacterial aging study. Therefore I wrote a manuscript entitled "This outrageous lie has got to stop!" (See attached pdf). However, I did not publish it right away because I wish to give some better exits for you so that you can continue on making your discovery in this very important research area.

I have contacted Martin and Lin about their recent *Aging Cell* paper, mainly for understanding some technical questions and why it was not published in a "top" journal. I really appreciate their quick and honest responses which are very helpful for me to understand their scientific positions as well as their likely role in the citation mistakes existing in their publications.

Martin was right in his guess that I am "obviously well informed about the topic and seem very interested". However, I was a little disappointed that he quickly turned down the possibility of collaborating with a true pioneer in bacterial aging study.

I called Urs after not seeing his reply to my two emails asking his presence in the 1997 ASM General Meeting. The exact reason for me to ask about a meeting which took place ten years ago is because I was wondering how Urs could not know my work in studying bacterial aging considering the fact that I presented a poster on that topic in that meeting which was attended by him (according to the abstract book). Urs stated that he was there but he did not know my poster presentation.

Now, I wish you do yourselves a great favor and also make a solid contribution to science. You should write to the respective journals where you have published your work on bacterial aging a rectification stating that you have overlooked my previous publications in that area. I believe that this will not only return some truth to the scientific community but also save you from any potential disgrace and legal consequence.

I said that the article that I mentioned in the beginning of this letter was written immediately after I read the *Aging Cell* paper and before I contacted any of you. I hope that I will not need to publish that article as a part of the efforts to enforce the corrections to be made as to the true story of bacterial aging research and the return of some credit deserved by a true pioneer.

True pioneers often have bold dreams. As such, I am dreaming that my frank appeal to all of you can win the hearts of some true scientists and thus a united force can be formed to fight against some dogmatic views in science and transform a correct, albeit still marginalized view on bacterial/cell life into common wisdom in biology.

Please remember: united we will win divided we may lose in fighting against a multi-centuries-old dogma. It will be helpful not to reject any insight offered by a true pioneer.

Sincerely yours,

Shi V. Liu MD PhD

Director, Eagle Institute of Molecular Medicine

Editor, Logical Biology, Scientific Ethics, Top Watch, Pioneer, International Medicine

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* The mentioning of this affiliation is just for a truthful revelation of my positions and does not mean any endorsement by and entitlement to US EPA of my previous discoveries.

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PS

The following articles are attached:

1. My article denouncing a continued lie (to be used just for introducing some background information for now or forever?)
2. The abstract for my presentation at the 1997 ASM general meeting.
3. The abstract for my presentation at the 1998 AAAS annual meeting.
4. The 1999 Science in China publication (English version).
5. The US patent applied in 2000, continued in 2002 and granted in 2004.

More publications can be given upon respectful request.

4. The second letter to Ackermann *at al.* warning them of the serious consequence of doing nothing to correct their mistake.

August 24, 2007

Dear Scientists,

I sent you an email and some attached documents last week but so far I have not received any response from anyone of you.

I just wish to remind you that your missing of conducting a due responsibility – correcting your citation mistake and distortion of history – will change the nature of your previous "oversight" mistake into a genuine intentional misconduct.

I will give you one more week to do something that is correct and thus will save you from major embarrassment and severe consequence. If I still do not receive any reply from you that indicates your genuine interest in making a true correction by next Friday August 31, 2007, I will make you past and current behaviors public and start a moral and legal justification course.

Sincerely yours,

Shi V. Liu MD PhD
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