An Open Letter to the International Mathematics Union on the Errors in the 1982 and 1990 Fields Medal Awards

By C. Y. Lo

Applied and Pure Research Institute, United States

Abstract- Since Einstein’s theory is proven to be not self-consistent and incomplete, the positive mass theorem of S. T. Yau, which implied Einstein’s theory would be consistent and stable is clearly incorrect. Apparently, Yau did not know that the Einstein equation does not have any bounded dynamic solution because he has never attempted to obtain one. Consequently, Yau was not aware that his assumption has already excluded the dynamic solutions. This error of Yau is due to that he does not understand physics. This error in the Fields Medal Awards is due to that those mathematicians responsible for the awards do not understand physics, and have a blind faith on Einstein. Thus, to remove the erroneous influence of Yau, it is desirable for the International Mathematics Union to correct her mistakes.

Keywords: stable solution; dynamic solution, E = mc², Repulsive gravitation.

GJSFR-F Classification: MSC 2010: 00A05

© 2016. C. Y. Lo. This is a research/review paper, distributed under the terms of the Creative Commons Attribution-Noncommercial 3.0 Unported License http://creativecommons.org/licenses/by-nc/3.0/), permitting all non commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.
An Open Letter to the International Mathematics Union on the Errors in the 1982 and 1990 Fields Medal Awards

C. Y. Lo

Abstract: Since Einstein's theory is proven to be not self-consistent and incomplete, the positive mass theorem of S. T. Yau, which implied Einstein's theory would be consistent and stable is clearly incorrect. Apparently, Yau did not know that the Einstein equation does not have any bounded dynamic solution because he has never attempted to obtain one. Consequently, Yau was not aware that his assumption has already excluded the dynamic solutions. This error of Yau is due to that he does not understand physics. This error in the Fields Medal Awards is due to that those mathematicians responsible for the awards do not understand physics, and have a blind faith on Einstein. Thus, to remove the erroneous influence of Yau, it is desirable for the International Mathematics Union to correct her mistakes.

Keywords: stable solution; dynamic solution, $E = mc^2$, Repulsive gravitation.

Dear Dr. Holden:

I am writing to the International Mathematics Union because I have found some errors in the 1982 and 1990 awards to S. T. Yau and E. Witten.

Because of these, I went to Toronto to participate in the Fields Medal Symposium, November 1-5, 2016. I met Dr. Ian Hambleton, Director of the Fields Institute for Research in Mathematical Sciences at Toronto, Canada. He recommends that I should discuss the errors in the Fields Medal award with the International Mathematical Union. He also provides the information with the names that I should talk to on such a subject matter. This is why I write this email to you.

I went to participate in the Fields Medal Symposium because they claim that they will carry out research and formulate problems of mutual interest. They also claim that their mission is to provide a supportive and stimulating environment for mathematics innovation and education. In their registration form, there are spaces for "Comments or Other Special Needs". It is there that I have written down my needs as follows:

"I have concern about the 1982 and 1990 awards for the fields Medal to S. T. Yau and E. Witten. The reason is that the positive mass theorem or positive energy theorem is actually invalid and misleading. The mistake is due to that they implicitly used an invalid assumption because they do not understand general relativity. I have published papers on this issue. This theorem has a wide spread erroneous influence in physics and thus stops progress of general relativity for at least 13 years. It is time for the fields Medal Institute to rectify this error without further delay."

It turns out their position is that since they did not give the awards, it is better for the International Mathematical Union, who actually gave the awards, to rectify the errors. Prof. Peter C. Sarnak also confirms this.

Author: Applied and Pure Research Institute, 15 Walnut Hill Rd., Amherst, NH 03031.
Helge Holden, Secretary, The International Mathematical Union, Secretariat, Markgrafestr. 32, D-10117 Berlin, Germany.
e-mail: secretary@mathunion.org
Therefore, I bring the issue to you. As the IMU Secretary, your duty is to handle suggestions and corrections. On the errors of Yau and Witten in the Fields Medal, I have written two papers. They are:


These two papers are attached herewith for your perusal.

Their major error is due to inadequate understanding of physics, in particular general relativity. As A. Gullstrand, the Chairman of the Nobel Committee for Physics (1922-1929) suspected, the Einstein equation actually has no bounded dynamic solutions. Yau apparently did not know this since he has never tried to obtain a dynamic solution, and thus he failed to see that his assumption in his theorem implies the exclusion of dynamic solutions. Consequently, he erroneously claimed that the Einstein equation has bounded physical solutions. Such a claim has misled the physicists for at least 13 years and thus also prevented the rectification of general relativity and the progress of physics.

In fact, many incorrectly believed that the positive mass theorem demonstrates that Einstein’s theory is consistent and stable. However, now we know that Einstein’s theory is not self-consistent and also incomplete [1, 2]. This error in the Fields Medal award is due to that those mathematicians responsible do not understand physics, and have a blind faith on Einstein.

It was not until in 1995 that I proved that there is no dynamic solution for the Einstein equation and published it in Astrophysical Journal [3]. Meanwhile, Christodoulou and Klainerman wrote a book [4] that invalidly claimed they have constructed dynamic solutions for the Einstein equation. Their mistake is actually very elementary; they simply did not proved the existence of a dynamic solution [5, 6] although they claimed they have.

One might wonder how such an elementary mistake in mathematics can happen to a professor of mathematics of the Princeton University. One can simply note that Christodoulou obtained his Ph. D. Degree under Professor John A. Wheeler. Wheeler et al. wrote a book, “Gravitation” [7] with many mistakes in mathematics and physics, including their misinterpretation of Einstein’s equivalence principle. Their errors, which remain in their book unchanged since its publication, show that they are actually incompetent even in calculus since they invalidly claimed that their eq. (35.44) has bounded dynamic solutions [8]. Wald [9] also claimed that the Einstein equation has dynamic solutions to the second order but failed to provide one. It seems that they have drawn their false confidence from the invalid positive mass theorem.

Consequently, the 1993 Nobel Committee for Physics believed these errors and thus made erroneous claim in general relativity [10]. However, when Professor P. Morrison of MIT went to Princeton and questioned J. A. Taylor for the justification of their calculation on gravitational radiation, Taylor could not give an answer to Morrison [10]. Note that Yum=Tong Siu of Harvard University agreed to award Christodoulou the 2011 Shaw Prize in mathematics although he does not understand general relativity and nonlinear mathematics. A problem is that physicists are generally not very competent in pure mathematics, 2) and most pure mathematicians also do not understand physics.

For instance, Ludwig D. Faddeev, the Chairman of Fields Medal Committee has mistaken the misleading theorem of Witten as “another beautiful result of Witten – proof of the positive energy in Einstein’s theory of gravitation”. Michael Atiyah believed
that the positive mass theorem solved a formidable problem, 'leading in part to Yau's Fields Medal at the Warsaw Congress'. Note also that some famous mathematicians did not treat an award seriously. For instance, Yum-Tong Siu of Harvard University agreed to award Christodoulou the 2011 Shaw Prize in mathematics although he does not understand non-linear mathematics. Moreover, applied mathematician, 't Hooft, a Nobel Laureate actually did not understand physics such as Newtonian Mechanics and special relativity as shown in his Nobel speech because he considered the inertial mass of an electron includes also its electric energy [11-13].

Moreover, E. Witten was inappropriately awarded the 2016 APS Medal for exceptional Achievements in Research for mathematical physics without the necessary experiment supports. APS also failed to see his errors in general relativity [14]. The fact is, however, that his mathematics is at most half-braked since his undergraduate degree is in history. This is evident since in addition to his errors on the Einstein equation, he does not understand even Einstein’s equivalence principle because it requires adequate understanding of mathematical analysis. Moreover, since the current string theory has derived the invalid dynamic Einstein equation, it is clearly invalid.

In short, because of the errors in the Fields Medal, many errors in physics are mistaken as valid. Historically, even D. Hilbert had made errors in general relativity [15], but he did not continue his error. Moreover, Einstein’s formula \( E = mc^2 \) is actually in conflict with the Einstein equation [1] and has been proven invalid for the electromagnetic energy by three experiments. Einstein also over-looked the repulsive gravitation [16]. Thus, in fact, errors in general relativity is rather common. However, we still consider Einstein a genius because he opened three important theories with accurate predictions.

I believe that your institute is a responsible one and thus you will take the information provided seriously and rectify the errors accordingly. Otherwise, the reputation of the Fields Medal would be known as questionable. Thank you for your kind attention. I am looking forward to hearing from you.

Sincerely yours,

C. Y. Lo

ACKNOWLEDGMENTS

The author appreciates valuable comments from the S. Holcombe. This work is supported in part by Innotec Design, Inc., U. S. A. and the Chan Foundation, Hong Kong.

ENDNOTES

1. Einstein equation does not have any dynamic solution because it violates the principle of causality [17].
2. For instance, according to APS Editorial Director, Daniel Kulp, none of the editors of APS has a degree in pure mathematics. In particular, Dr. Eric J. Weinberg, Editor of Physical Review D, did not understand even Einstein’s equivalence principle as Pauli [18, 19] because of their inadequacy in pure mathematics [8].

REFERENCES Références Referencias

2. C. Y. Lo, Undergraduate Research that shows Einstein incorrect, presented in October 2016 APS meeting.