

September, 2017

#10 Kyuyo SSH Lecture for Physics

On September 1st, we invited Mr. Masahiro Maeno, who is an associate professor at the University of the Ryukyus to give a lecture at Kyuyo High School.

The topic of the lecture was "Scenery of the Black Hole: The Theory of Relativity Watching with CG." 37 students participated in it.

Before the lecture, Mr. Maeno promised all the students about the following things: he would welcome questions in the middle of his lecture. It would be too sad for him to talk by himself with students only listening to him without asking any questions. Asking questions during a lecture is necessary for mutual understanding.

There were a lot of questions during the lecture and students were able to dissect their questions.

At the beginning of the lecture, Mr. Maeno said, "I came here to overturn your conventional wisdom!" Then he started the lecture with the theory of relativity by Einstein. Students seem to gradually understand the theory through this lecture.

- Black hole has strong gravity; It isn't always strong, rather, the larger the black hole is, the weaker the gravity becomes.
- We can't see the black hole; In fact, the background is distorted because the black hole bend lights. So you can actually see the black hole.



Lessons learned from this lecture:

It is not that everything we think is all a lie but what we think as common sense may not be right in reality. Investigating firmly and thinking carefully is the way to break our common sense. You are studying now to meet new discoveries by yourselves.

Students' comments are below:

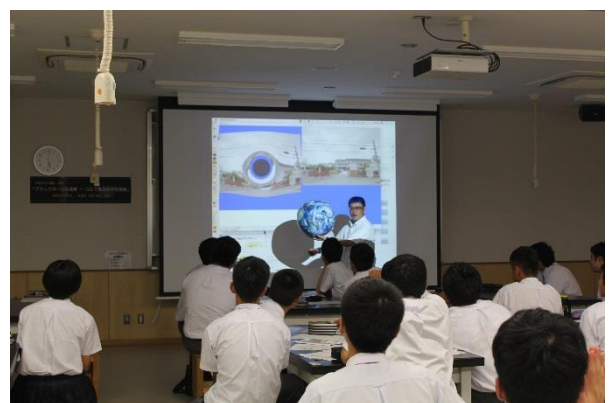
It was such an interesting lecture that I couldn't express it with words.

Black holes are still amazing.

From now on, I want to do my research regardless of common sense.

I was able to listen to stories that I had never thought of before and it was a good experience.

I got more interested in science through this story.



#11 Kyuyo SSH Lecture for Mathematics

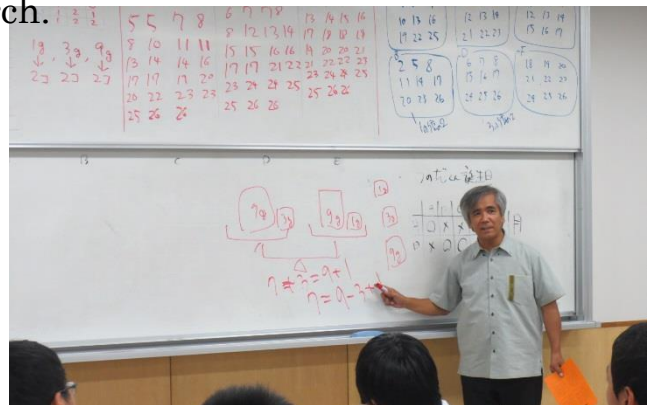
On September 13th, Mr. Mitsuyuki Irei, who is a professor of Graduate School of Education at the University of the Ryukyus, gave a lecture at Kyuyo High School for our SSH lecture.

The theme of this lecture was "Let's play the Binary Numbers! And let's imitate the researchers who are seeking for the development of it."

At the beginning of the lecture, he declared that he would guess a student's birthday. Mr. Irei called on a student in front row to write his birthday on a piece of paper. Then he told the student to show the numbers to everybody except him. Mr. Irei declared that he would guess the numbers of the student's birthday. He stood with his back toward the students. Then he showed five cards with numbers on them, and correctly guessed the student's birth month first, followed by the birth day next. He did the same thing to another student and guessed the student's birthday correctly. Students were surprised with his magic using the binary notation. Even though it seems to be a simple magic, it used to be utilized by Caesar of ancient Rome.

The discussion began to argue if we could do the same guessing with the ternary scale. Representatives of students and teachers made a presentation to each other. Students could experience how interesting an exploration activity was through this lecture.

At the end of this year, 1st year students are going to set their research themes in each SSH area. Mr. Irei taught us that our theme could be "changing a condition" or "specialization" in a research.



#12 Progress Report for SSH Research II

We invited professors from the University of the Ryukyus and teachers from the Prefectural Education Center to the class of SSH Research II on September 6th. Students held presentations with posters. Although they seemed to be nervous, they were able to report the results of their experiments so far and announce how to proceed their researches in the future. By listening to other presentations, they also learned how to make a presentation and how to make a poster.

It was a meaningful presentation and we received various advice from teachers of other high schools.

