

Explorer programme G7-G8, March to July 2018

8th March: Lesson by **Yarona van der Horst** on: "Live your own life".

Sometimes the hardest part of decision-making is being aware that there's a decision to be made in the first place. We can view our lives as a series of choices. being continuously mindful of the power we hold to choose our courses of action at every moment of our lives.

Ms. van der Horst is an educational counsellor. She has a master's degree in Education and she is a specialist in gifted education (ECHA - European Council for High Ability).

Ms. van der Horst has a broad experience in gifted education as a head of a school for gifted and talented students, an Educational counsellor and as a teacher in Israel.

Ms. Van der Horst is the Co-founder and organizer of TEDxYouth@ISH.

She has worked in Israel, Japan, USA, Australia, New Zealand and The Netherlands.

5th April: Lesson by **Dr. Juan Rojo** on: "*Deciphering the secret code of Nature: From the Higgs particle to gravitational waves*"

"How was matter created right after the Big Bang? What exactly is the Higgs particle and are there more elementary particles? Where has the anti-matter in our Universe gone? What does dark matter and dark consist of? What is the structure of space and time, and what do black holes and gravitational waves tell us?

Can we travel backwards in time or jump across the universe via wormholes?

In this lesson, He will introduce the fascinating world of high-energy particle physics, in particular to the recent insights provided by the experiments at the Large Hadron Collider (LHC), the gargantuan accelerator (30 km) at CERN in Geneva which represents the most powerful microscope ever built by humankind. He will also present the recent striking discovering of gravitational waves, space-time ripples arising from catastrophic collisions between massive black holes. We will also discuss the enormous societal applications that research in fundamental particle physics has generated, from the Internet and GPS to quantum computers, and present the large number of career paths that are available for physicists beyond the traditional academic environment."

Dr. Juan Rojo is since 2016 Assistant Professor at the Vrije Universiteit of Amsterdam and Staff member at the Theory group of Nikhef. He carried out his undergraduate and graduate studies at the Universitat de Barcelona, followed by postdoctoral research posts in Paris, Milan and at CERN in Geneva, and between 2014 and 2016 he held a junior faculty position at Rudolf Peierls for Theoretical Physics at the University of Oxford. He is the Principal Investigator of the European Research Council Starting Grant "PDF4BSM: Parton Distributions in the Higgs Boson Era", whose main goal is to provide next-generation sets of parton distributions functions for LHC phenomenology.



More information: <http://juanrojo.com/>

12th April: Lesson by **Dr. Talip** on: *“High Blood Pressure. The main silent killer!”*

About 30% of all death in the western countries are caused by Cardiovascular Diseases: Myocardial infarction, Stroke, Angina, Occlusion of the peripheral arteries. The main risk factor for the Cardiovascular diseases is the high Blood Pressure, the so called Hypertension. Some other risk factors are: smoking cigar, high cholesterol, wrong diet, physical inactivity, age, gender etc. High Blood pressure is an entity what you cannot feel. It does not hurt you until it is too late.

We will discuss in this programme different aspect of hypertension: the physiology how the blood pressure is build up, the consequence of high-and low blood pressure. How to measure and control the blood pressures. We will describe the change of the arterial wall from young to elderly.

Dr. Talip is a general practitioner (GP) in Maassluis with special graduate in Cardiovascular Diseases. He studied two years Technical Physics at the Technical University Delft (1984-1986). Switched to the study Medicine in 1986 at the Erasmus University and became a Medical Doctor in 2003. He Started research programme at the Immunology Department at the Erasmus University.

Dr. Talip is a board member of Dutch Hypertension Society and a member of Dutch Heart Foundation which funds the scientific research programmes on cardiovascular diseases.

He coordinates the region of Westland and NWN (Westland, Delft, Vlaardingen, Schiedam) the heart



failure programme for the General Practitioners.

19th April: Lesson *by* **Albert 't Hooft** - *“Behind the scenes! - How do you make an animated film”*.

Albert 't Hooft will take you behind the scenes and show you how an animation film gets made. From writing the story, to character development, world building, to final moving image on the silver screen. Animation film productions requires many creative talents working together to get a film made.



Albert't Hooft is a film director, and co-owner of Anikey Studios: www.anikey.nl
For the past 10 years, he has written & directed various animated films for TV & Cinema.
Currently he is developing a new feature film and directing a children's animation show for YouTube.

26th April: Study trip to **SHELL**

We are going to learn about oil and gas and their productions, having a Virtual Reality



Demonstration and technical contests.

We meet at and leave school at 11:30hr. We will be back to Riss at 15:30.

17th May: Lesson by **Ian Gilbert** on: **Think for Yourself!**

There will be two reasons your future career choice will not be taken by a robot instead - how good you are with people and how good you are at thinking. And by thinking, I don't just mean being logical. In this session I will share strategies and approaches to help you think creatively, deeply and for yourself - and make your brain hurt in the process.



Mr. Gilbert is an educational entrepreneur, innovator, award-winning writer, editor and publisher and has been described by the IB as one of their leading 'educational visionaries'.

24th May: Study tour to **Space Expo**.

We are going to have a lesson and free time for exploring the Space Expo Museum.

The lesson will be about: "To the ISS with Dutch Astronaut André Kuipers".

The lecturer will elaborate on the activities of an astronaut while residing at the International Space Station. Also, the general preparations and the trajectory of a Space Flight will be discussed. The lecturer will also provide illustrations that visualize disorientation and other odd



Circumstances one has to cope with in Space.

We will leave school at 13:00 and will come back at 17:00.

7th June: Lesson by **Yarona van der Horst: High tea and Student's presentations.**

We are honoured to have these lecturers who agreed to come to RISS and to share their knowledge and experience with our students.

Enjoy learning and exploring,

Yarona van der Horst

Coordinator Explorer programme