SUBURB

EVENTS

Anyone for… astronomy

JUDY MARCUS

With a nod to my school days' love of physics and armed with my physics O level A grade training, one wintry evening I went to join the friendly HGS Astronomical Society, a well-established Suburb group who meet monthly in the Oriel Room, upstairs at the Free Church Hall Building in Northway. It's not in the Free Church itself, (a mistake I first made on arriving). Here, invited lecturers give illustrated talks about deep space.

I received a warm welcome by the group's administrator Andrew Glendinning. The group consisting of about 15 people of mixed ages who were expectantly and excitedly waiting for the talk to be given by Roger O'Brien, lecturer in astrophysics at several institutions including the Open University and City Lit.

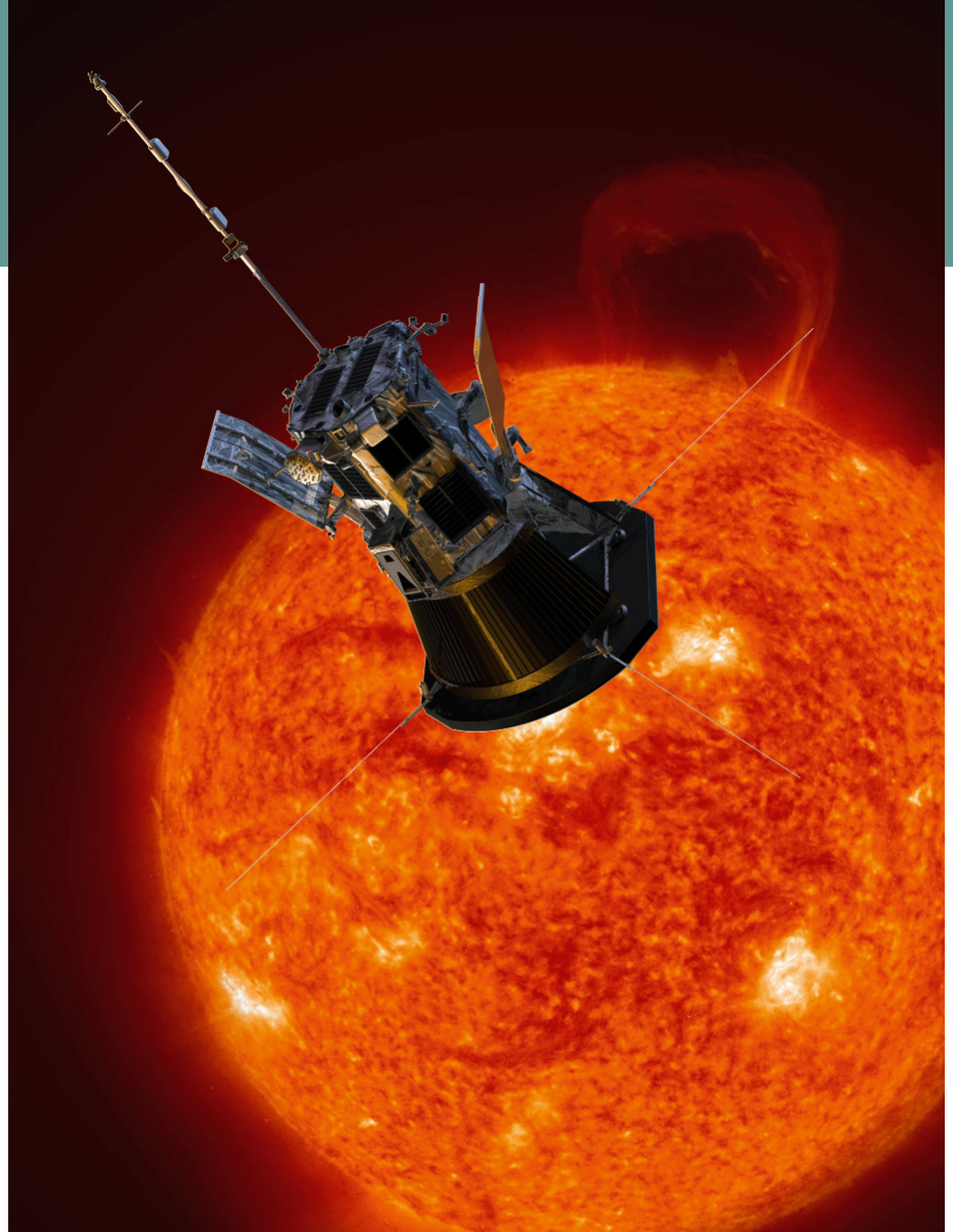
Roger's lecture on 'Solar Orbiters' was delivered with a passion for all things astrophysics. Admittedly, as a complete novice, I found some of the space engineering descriptions difficult; however I could appreciate the joy Roger took in his subject.

It's difficult to share the contents of an astrophysics lecture without it sounding like a list from the Guinness Book of Records and, I feel that since the first moon landing, cosmic scientific developments have rather taken a bit of a back seat. People seem more interested in science in medical and surgical improvements, robotic surgery and transport engineering (such as self-drive cars).

The Parker Solar Probe is an unmanned spaceship, travelling around the sun and sending back data. This NASA funded project is advertised as 'A mission to touch the sun'. Roger wryly dismissed this 'Nasa Hype'. He made it clear how the spacecraft could never reach the sun as "the dynamic field generated by the dynamo within the sun's Corona (the outer part of the sun's atmosphere) is immensely hot – 1 to 2 million degrees C…" However, the Parker Solar Probe has managed to travel just within the sun's Corona and is the spacecraft that came closest to the Sun.

Data sent back by the Parker Solar Probe enables scientists to predict solar wind patterns, thus decreasing risk to our communications satellites and to our electric grid. The payload onboard is kept free from solar radiation and near to room temperature with a heat shield covered with a thin black layer of calcium phosphate; a charcoal-like powder much like pigments used in cave paintings thousands of years ago. A case of the ancient meeting the cutting edge.

To achieve speed and direction the spaceship goes around Venus which changes the plane of the spacecraft's orbit using a technique called gravity assist or 'gravitational slingshot'. 'Slingshot' uses a spaceship's movement (here it orbits around the Sun), and the gravity of a planet (in this case Venus) to alter the path of a spacecraft: it's an elegant way to tweak a spacecraft's orbit into a direction you could never reach any other way. The Probe 'falls' further towards the Sun each time it goes round Venus, reaching 101 miles per second.



The Parker Solar Probe (*Photo*: NASA)

The Solar Probe has taken the nearest ever image of the sun's corona using doppler tetroscopy – showing newly discovered details like holes in the corona and bright features likely to be flares, also amazing shots of multiple planets including earth from the sun's aspect.

I admit a lot of the lecture was challenging: I had to simplify the data/engineering details, for this article. I also used Google to help me interpret Roger's data and complete my understanding. Despite its complexities, the lecture was definitely a spring-board to stimulate my interest in Astronomy generally. Roger wanted us to leave the lecture "bowled over by the fun of astronomy", and that he wanted his lecture to leave us "suitably boggled". I was "suitably boggled" and definitely bowled over. Mission accomplished.

To visit The HGS *Astronomical Society contact Andrew Glendinning on* 07751 305056 *or go to hgsas.co.uk.*

HGS U3A Topical Talks

JUDI JOHN

Our first live Topical Talk of 2023 took place, on 19th January. Stephen Kon, an experienced EU lawyer, gave a fascinating and stimulating talk entitled "The UK's place in Europe: Fantasies, Nightmares and Uncertainties". It was very well attended with a very interesting Q & A session.

On Thursday 16th February, the second Topical Talk of this year was given by Author and Artist Linda Nissen Samuels, who divides her time between writing and painting. Her first book for adults, The Man Under the Radar is a biography of Linda's father, war hero Jack Nissenthall, a Radar engineer who volunteered for a suicidal mission on the Dieppe raid. In November last year, Linda was honoured to lay a wreath in tribute to her father, at the Cenotaph.

The next Topical Talk will be held on 16th March. Maurice Collins is a collector of weird and wonderful objects and in his own words says "I don't think anyone else loves collecting 'thingy-me-bobs' from the past as much as me."

Topical Talks take place at the Free Church, North Square (unless notified otherwise). Doors open at 2.30pm. Our Topical Talks are open to members of HGSU3A (free) who register on the Meetings page of our website: hgsu3a.uk/events. If you are not a member and would like to join go to: hgsu3a.uk/join.

Members may bring a friend.

Linda Nissen Samuels