

Yudish Ramanjooloo

9 Vicarage Road
Croydon
CR0 4JS

Mobile: +44 (0)7541 969 548
Email: yudish.ramanjooloo.09@ucl.ac.uk
DOB: 20th October 1985
<http://www.bit.ly/yudish>

Education

January 2010 – April 2015 [Completion Date]

3.5 year Ph.D. studentship funded by UK Science and Technology Facilities Council

Mullard Space Science Laboratory, University College London, Holmbury St Mary, Surrey, RH5 6NT

Dept. of Space and Climate Physics, Planetary Science Group

September 2012 – November 2013

1 year – Student Support Astronomer at the Isaac Newton Telescope

Isaac Newton Group of Telescopes, E-38700 Santa Cruz de La Palma, Canary Islands, Spain

- **Research Topic: The structure of the inner heliosphere as revealed by comets**

I have developed an innovative technique to analyse the interaction between the solar wind and comets and their tails. My core aim is to characterise the speed and nature of the solar wind in an extremely cost-effective way, by identifying features in images of a comet's ion tail and understanding these features' associations with the solar wind. I have developed the software to derive several estimates of the local solar wind radial velocity from each image. This project will serve to test the reliability of comets as a diagnostic tool to monitor changes in the heliosphere during the solar activity cycle, and the occurrence of interplanetary transient disturbances such as coronal mass ejecta.

- **Research Topic: Discovering Asteroids**

Using a combination of astronomical software, such as THELI and Astrometrica, I am currently analysing WFC images taken during my studentship at the INT for new undiscovered asteroids. THELI is used within the data reduction pipeline and Astrometrica to stack and blink the reduced images.

- Have undertaken several training courses: UCL/STFC Solar Terrestrial Physics Introductory Summer School 2009, STFC Advanced Summer School in Solar Physics, 2010, International Europlanet Communication in Science, Photoshop, General language-independent programming, Python and SQLite programming course.

- Research presented at several international conferences:

- European Planetary Science Congress, Rome, Italy, 2010
- RAS Specialist Discussion meeting "Structure and physical processes in solar system magnetotails: planets, moons and comets", London, UK, 2010
- Autumn Magnetospheres Ionospheres Solar-Terrestrial (MIST) meeting, London, UK, 2010
- Autumn Magnetospheres Ionospheres Solar-Terrestrial (MIST) meeting, London, UK, 2011
- American Geophysical Union Fall meeting, San Francisco, CA, USA, 2011
- Posters at AGU Fall meeting, San Francisco, CA, USA, 2010 and EPSC-DPS, Nantes, France, 2011
- HelioCorona, Bad Honnef, Germany, 2012
- UK/Germany National Astronomy Meeting, Manchester, 2012. Awarded Rishbeth prize 2012 for best presentation. A Sky at Night web article also featured our technique after this presentation. (Link: <http://bit.ly/1vDI8w5>)
- Asteroids, Comets, Meteors 2012, Niigata, Japan, 2012
- RAS Specialist Discussion meeting, Comets' interactions with other solar system bodies, London, UK, 2013
- Asteroids, Comets, Meteors 2014, Helsinki, Finland, 2014
- 6th Alfven conference, London 2014 and member of Local Organising Committee

- Publications

- Astronomer's Telegram #4462: Discovery of two probable novae in M81
- Astronomer's Telegram, #5489: Discovery of Five Probable Novae in M81
- IAUC 9261, Nov. 2013: Imaging of comet ISON, using 2.0m Liverpool telescope.
- MPC 85173: Asteroids recovery

- A&G (2014) 55 (1): 1.32-1.35 doi:10.1093/astrogeo/atu038 (Available at <http://www.bit.ly/yudish>)
- Y. Ramanjooloo et al., Near-Sun Solar Wind Velocity Measurements from Multi-point Observations of Sun-grazing Comet C/2011 W3 (Lovejoy), (in preparation)
- G. H. Jones, Brandt J., Y. Ramanjooloo, Solar wind interaction with comet C/2004 Q2 (Machholz), (in preparation)
- Public Outreach
 - Engaged 60 primary school students at the Westminster Under school in a 'Rocket building' workshop and presented an overview of the solar system.
 - Presented the composition of comets and performed a dry ice recreation of comets multiple times throughout the day at the Intech Solar science summer fair
 - Interacted with members of the public at the MSSL Open Day and demonstrating how to make comets out of household items and dry ice.
 - Volunteer at the Royal Society 'Catch a comet' summer exhibit, engaging with the public and discussing the technological feats and scientific output of the Rosetta mission
 - Volunteer for the first MSSL work experience workshop for 16-18 year olds on the STEM career path. The students were tasked with a week-long project of designing a potential space mission with clear scientific objectives.
 - Presented my research and the solar system at multiple outreach events for the Cranleigh scouts club
 - Involved in new Careers academy mentoring scheme with Greenshaw school
- 2 successful observing proposals at the Isaac Newton Telescope
 - The observing proposals will attempt to cover the evolution of comet ISON (C/2012 S1) post-perihelion via broadband and narrowband imaging (with the Wide Field Camera) and spectroscopic measurements of the ion and sodium tail, if present (with the Intermediate Dispersion Spectrograph).

September 2004 - June 2008

University College London, Gower Street, London

MSci Astrophysics - Upper-second Honours

- Studied a broad range of modules from Mathematics for Physics and Astronomy to Quantum Mechanics, Astrobiology, Communications, Nuclear and Particle Physics as well as more esoteric modules such as Medical Imaging and History of Science
- Wide selection of modules encouraged versatility and developed an investigative nature as well as building up a vast repertoire of skills
- Undertook Masters research project and attended weekly sessions at the University of London Observatory
- Weekly session involved completing three projects which developed existing skills such as efficient and rapid research techniques, time management and solving complex analytical problems
- Projects included "Determining the mass of the first extrasolar planet, 51 Pegasi b" and "Calculating the orbital parameters of a comet"
- Projects required mastering of UNIX/Linux based software packages
- Masters project: "The detection of extrasolar planets using the transit method" – involved frequent use of telescope and CCD facilities, IRAF data reduction software, presentations and thesis of findings

September 2002 - June 2004

Wilson's Grammar School [A – Level], Mollison Drive, Wallington, Surrey, SM6 9JW

Mathematics A, Physics B, French A, General Studies A, Chemistry B (AS level)

Work Experience

Experian QAS, Clapham Common, UK

June 2009 - December 2009

Product Executive

- Junior Product management role
- Responsible for the entire lifecycle of several software packages
- Global go-to product expert (Product champion) for multiple products
- Attended training courses such as: Negotiation training, teamwork training, management training, Prince 2 project management training

August 2008 - June 2009

Product Support Analyst

- Technical approvals of complex quotes and orders. Tasked with ensuring technical compatibility of software and data with the customers' (SMB and B2B) operating systems prior to purchase
- Tech Support Liaison - Streamlining business processes between Tech Support team and my team
- Internal (international) Helpdesk - Fielding queries about every software and data Experian QAS offers
- In charge of the company's online Data storage system in terms of improving the functionality of the database and keeping it up to date with accurate legal, financial and technical information

Skills

Languages

- Fluent: English, French, Creole
- Conversational: Spanish
- Basic: Telugu, Japanese, German
- Participated in advanced 'Alliance Française' courses from France by correspondence.

IT

- Extensive knowledge of Microsoft Word, Excel, PowerPoint, Access, Open office, GIMP, LaTeX and IDL programming language. Familiar with Windows, Linux and Mac OS X operating systems
- IRAF, Xephem, Gaia, Dipso, Figaro, Skymap (Astronomy software packages provided as part of Starlink), THELI, Astrometrica, Astrometry.net
- Attended a workshop on Python and SQLite
- I have also used the web design programs Frontpage Express and Dreamweaver, and designed websites from scratch using HTML source codes

Other Activities

- Choreographed and performed as part of a dance team in four successful dance shows for charity in the UK and a solo performance for a fashion show in Mauritius. Also a music enthusiast and have trained in traditional Indian musical instruments
- Represented my college in table tennis and academic competitions (Maths and French) and participated in the technology course provided by SKY awards and in the week long higher learning course, Cracking Crime, at Brighton University
- Directory of Young Enterprise in Sixth Form

References

Prof Andrew J. Coates, Mullard Space Science Laboratory, Holmbury St Mary, RH5 6NT (a.coates@ucl.ac.uk)

Dr Geraint H. Jones, Mullard Space Science Laboratory, Holmbury St Mary, RH5 6NT (g.h.jones@ucl.ac.uk)

Dr Lilian Dominguez, Isaac Newton Group of Telescopes, E-38700 Santa Cruz de La Palma, Canary Islands, Spain (ldp@ing.iac.es)

More available on request.
