

HDEF4 Draft Science Programme

VERSION 20.08.18

SUNDAY

19:00 – 21:00 WELCOME RECEPTION AT ARMAGH CITY HOTEL

MONDAY

08:30 Registration

09:30 Welcome - Introduction

Michael Burton: Welcome (10)

Simon Jeffery: Introduction (20)

10:00 Surveys and Statistics

Session 1 1x35 + 1x18 (chair: Geoff Clayton)

Patrick Tisserand: Results from a first dedicated spectroscopic search for new RCB stars over the entire sky,

Pamela Martin: Distances and luminosities of hydrogen-deficient stars in the Galaxy

10:50 Tea/Coffee + Registration

11:20 (contd)

Session 2 1x35 + 1x18 (chair: Geoff Clayton)

Stephan Geier: High-velocity stars

Ulrich Heber: He sdO stars in the Gaia era

12:20 Lunch + Registration

13:20 High-Mass Stars

Session 3 1x35 + 3x18 (chair: Nicole Reindl)

Ylva Götberg: Stripped Massive stars

Andreas Sander: Spectral modelling and analyses of high- and low-mass Wolf-Rayet stars

Joseph Callingham: Anisotropic wind in a new massive system: a window onto critical rotation and gamma-ray bursts

Eliceth Rojas Montes: Testing how massive stars evolve, lose mass, and collapse at low metal content

14:50 Tea/Coffee

Session 4 1x35 + 3x18 (chair: Nicole Reindl)

15:10 (contd)

Jorick Vink: Mass-loss predictions for Hydrogen deficient stars

Avishai Gilkis: Angular momentum evolution in progenitors of hydrogen-deficient core-collapse supernovae (late talk)

15:30 Binaries

Thomas Kupfer: AM CVn stars: an overview

Matthew Green: Gaia14aae: An eclipsing AM CVn that challenges formation models

16:40 BREAK

18:00 RECEPTION AT PLANETARIUM AND TOURS OF THE OBSERVATORY

19:00 CONFERENCE PHOTOGRAPH

20:00 END

TUESDAY

09:00 Low-Mass Stars

Session 5 1x35 + 2x18 + sparklers x 18 (chair: Veronika Schaffenroth)

Stephen Justham: Double subdwarf binaries and other oddities

Joris Vos: Using wide sdB+MS binaries to constrain RLOF models

Amanda Karakas: Very metal-rich hydrogen deficient stars

SPARKLERS

10:30 Tea/Coffee

11:00 (contd).

Session 6 2x35 + 1x18 (chair: Veronika Schaffenroth)

Peter Nemeth: He-sdB and He-sdO stars

JJ Hermes: The menagerie of hydrogen-deficient white dwarfs

Alina Istrate: Extremely low-mass white dwarfs: the story so far

12:30 Lunch

13:30 (contd)

Session 7 1x35 + 2x18 (chair: Thomas Kupfer)

Nicole Reindl: Recent Progress on our Understanding of PG1159 and O(He) stars

Thomas Rauch: DO white dwarfs

Marylin Latour: The extreme horizontal branch population of Omega Centauri

14:40 Tea/Coffee

Session 8 Discussion x 90

15:00 Connections I -- H-deficient stars from and in binaries

DISCUSSION I - THE ROLE OF BINARY STARS – LED BY ROBERT IZZARD

16:30 TOUR OF NAVAN FORT

18.30 RECEPTION WITH THE LORD MAYOR OF ARMAGH

19:30 DINNER

20:30 BUS

WEDNESDAY

09:00 *R CrB Stars*

Session 9 1x35 + 3x18 (chair: Amanda Karakas)

Geoff Clayton: R Coronae Borealis Stars, Products of Stellar Mergers

Gajendra Pandey: Abundances in Extreme Helium and R CrB Stars

Anirban Bhowmick: Detection of fluorine in hot Extreme Helium Stars

Hema B. P.: Discovery of the Relatively H-poor metal rich Giants in the Globular Cluster omega Centauri

10:30 Tea/Coffee

11:00 *Ejecta*

Session 10 1x35 + 3x18 (chair: Amanda Karakas)

Edward Montiel: Circumstellar Dust Shells: Clues to the Evolution of R Coronae Borealis Stars:

Kameswara Rao: RCrB minima and dust ejection

Anibal Garcia-Hernandez: Dust and Fullerenes in RCrB ejecta:

Mark Walker: Hydrogen-deficient stellar surfaces via accretion from hydrogen snow clouds

12.30 EXCURSION

13:00 ARGORY HOUSE (+LUNCH)

15:30 ARMAGH CIDER COMPANY

18:00 RETURN TO CITY HOTEL

19:00 PUBLIC LECTURE @ PLANETARIUM

THURSDAY

Session 11: 1x35 + 2x18 (chair: Patirck Tisserand)

09:00 Transients

Peter van Hoof: Observations of born-again stars

Marcelo M. Miller Bertolami: An inside-out planetary nebula around a [WC] star in the making

Stefan Kimeswenger: New spectroscopy of V605 Aql and IRAS 15154-5258 - what can we learn from the older twins of Sakurai's star

+1: ...

10:30 Tea/Coffee

11:00 Connections II -- H-deficient stars from birth to death

Session 12: 1x35 + 2x18 + sparklers (chair: Patirck Tisserand)

Ashley Ruiter: CO+He white dwarf merger channels

Josiah Schwab: Double White Dwarf Mergers and the Formation of R Coronae Borealis Stars

Falk Herwig: The very-late thermal pulse and similar events in rapidly accreting white dwarfs: 3D hydrodynamic simulations and the i process nucleosynthesis

SPARKLERS

12:30 Lunch

Session 13 Discussion x 90

13:30 Connections II -- H-deficient stars from birth to death

DISCUSSION II - DOUBLE WHITE DWARF MERGERS AND THE RCrB CHANNELS - LED BY FALK HERWIG

15:00 Tea/Coffee

15:30 WALKING TOUR OF ARMAGH (inc ROBINSON LIBRARY, CATHEDRALS, ...)

19:00 CONFERENCE DINNER

19:30 DINNER

FRIDAY

09:30 *Explosions*

Session 14 1x35 + 2x18 (chair: Ashley Ruiter)

Danny Steeghs: Hydrogen-deficient novae:

Patrick Neunteufel: Hydrogen-deficient single degenerate binaries as progenitors of astrophysical transients

Mridweeka Singh: Peculiar Supernovae of type Iax: The case study of SN 2014dt

10:40 Tea/Coffee

11:10 *Pulsation*

Session 15 1x35 +2x18 (chair: Ashley Ruiter)

David Kilkenny: TBD ...,

Pawel Pietrukowicz: Hydrogen-deficient stars in the OGLE data

Conor Byrne: Post-common-envelope binary stars: Radiative levitation and blue large-amplitude pulsators

12:30 Lunch

13:30 *(contd)*

Session 16 2x18 + (chair: Anthony Lynas-Gray)

Hideyuki Saio: Pulsations in H-deficient stars:

Simon Jeffery: V652 Herculis: The born-again rocket star

Summary

Robert Izzard

15:00 CLOSE of CONFERENCE

Tea/Coffee

SATURDAY

08:30 OPTIONAL EXCURSION TO GIANTS CAUSEWAY AND BUSHMILLS DISTILLERY