

# HDEF4 Draft Science Programme

VERSION 11.08.18

## 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**

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

**Pamela Martin:** Kinematics of hydrogen-deficient populations in the Galaxy:

10:50 Tea/Coffee + Registration

*11:20 (contd)*

**Session 2 1x35 + 1x18**

**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**

**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**

*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 Binaries (contd).*

**Session 5 1x35 + 2x18 + sparklers x 18**

**Stephen Justham: Double subdwarf binaries and other oddities**

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

**SPARKLERS**

10:30 Tea/Coffee

*11:00 Low-Mass Stars*

**Session 6 2x35 + 1x18**

**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 + 3x18**

**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

**Amanda Karakas:** Very metal-rich hydrogen deficient stars

14:30 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 ??**

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**

**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**

**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 + 3x18**

*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

10:30 Tea/Coffee

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

**Session 12: 1x35 + 2x18 + sparklers**

**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**

**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**

**David Kilkeny:** 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 +**

**Hideyuki Saio:** Pulsations in H-deficient stars:

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

*Summary*

**TBD**

15:00 CLOSE of CONFERENCE

Tea/Coffee

## SATURDAY

08:30 OPTIONAL EXCURSION TO GIANTS CAUSEWAY AND BUSHMILLS DISTILLERY