



# *The AGB-Supernovae Mass Transition*

*JNAF-OAR Monteporzio Catone, March 27-31, 2017*

## *PROGRAM*

*MONDAY, MARCH 27*

09:00 Registration & welcome address

**Session I: AGB and SAGB modelling**  
**(chair: O. POLS)**

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| 09:30 | <i>Cosmic chemistry from AGB stars and its dependence on the initial stellar mass</i>                  | M. Lugaro    |
| 10:00 | <i>The effect of the initial helium abundance on the AGB-supernova transition mass</i>                 | A. Karakas   |
| 10:20 | <i>Overshoot below the intershell convective zone</i>  | J. Lattanzio |
| 10:40 | <i>Application of a theory and simulation-based convective boundary mixing model for AGB evolution</i> | U. Battino   |

11:00-11:40 - Coffee break & Poster viewing

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| 11:40 | <i>Lives and deaths of super- and massive AGB stars</i>  | C. Doherty    |
| 12:10 | <i>Dynamical mass loss in late-stage AGB stars</i>   | M. Clayton    |
| 12:30 | <i>Calibrating the TP-AGB phase through resolved stellar populations in the Small Magellanic Cloud</i> | G. Pastorelli |

12:50-14:20 - Lunch & Poster viewing

## Session II: EC/CC supernovae

**(chair: I.DE LOOZE)**

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| <b>14:20</b>   | <i>Presupernova Evolution of Massive Stars close to the AGB-Core Collapse Supernova transition</i> | <b>M. Limongi</b>    |
| <b>14:50</b>   | <i>The final fate of the 8 – 10 solar mass stars: Collapse into neutron stars or explosions?</i>   | <b>S.C. Leung</b>    |
| <b>15:10</b>   | <i>The Evolution of ONe White Dwarfs towards accretion-induced collapse</i>                        | <b>J. Schwab</b>     |
| <b>15:30</b>   | <i>On the influence of axion like particles on the AGB-SN mass transition</i>                      | <b>I. Dominguez</b>  |
| <b>15:50-16:30 - Coffee break &amp; Poster viewing</b> |  |                      |
| <b>16:30</b>   | <i>Calculating the average opacity for core-collapse SNe</i>                                       | <b>A. Nagy</b>       |
| <b>16:50</b>   | <i>Supernovae from the 8-10 Msun range: the first spectral models for the emission- line phase</i> | <b>A. Jerkstrand</b> |
| <b>17:10</b>   | <i>The role of nuclear physics on the final evolution of degenerate cores</i>                      | <b>T. Suzuki</b>     |

**TUESDAY, MARCH 28**

**(chair: A.NANNI)**

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| <b>09:00</b> | <i>Simulating electron-capture supernovae and their cousins</i>                          | <b>B. Mueller</b>  |
| <b>09:30</b> | <i>The binary channels to electron capture supernovae</i>                                | <b>L. Siess</b>    |
| <b>09:50</b> | <i>Supernova explosions of 8-12 solar mass stars: multicolor light curve simulations</i> | <b>A. Tolstov</b>  |
| <b>10:10</b> | <i>The occurrence of electron-capture supernovae in binary systems</i>                   | <b>O. Pols</b>     |
| <b>10:30</b> | <i>Late core-collapse supernovae from intermediate mass binaries</i>                     | <b>E. Zapartas</b> |

**10:50-11:30 - Coffee break & Poster viewing**

**Session III: Type Ia supernovae**  
**(chair: L.SIESS)**

11:30 *Progenitors of Type Ia Supernovae* P. Hoeflich

12:00 *What is the role of wind mass transfer in the progenitor evolution of type Ia supernovae?* C. Abate

12:20 *Progenitors of SNe Iax* Z. Han

12:40 *Progenitors of Type Ia Supernovae* S. Toonen

13:10-14:40 - Lunch & Poster viewing

14:40 *Type Ia supernovae* M. Kromer

15:10 *Two-Dimensional Stellar Evolution: 2DStars* G. Halabi

15:30 *Binary population synthesis for the core-degenerate channel of type Ia supernova progenitors* B. Wang

15:50-16:30 - Coffee break & Poster viewing

16:30-17:30 Round table: AGB, SNIa, CC and EC SNe modelling

**WEDNESDAY, MARCH 29**

**Session IV: Observations of AGB stars and supernovae**  
**(chair: C.ABIA)**

09:00 *Observations of AGB and Super-AGB Stars* M. Boyer

09:30 *Disentangling massive AGB stars and red supergiants* R. Dorda

09:50 *Near-infrared stellar populations in the Dwarf-irregular galaxies Sextans A and Leo A* O. Jones

10:10 *Surveys of massive AGB and super-AGB stars* D. A. Garcia-Hernandez

10:40-11:20 - Coffee break & Poster viewing

11:20 *Mass loss from intermediate-mass AGB stars* K. Justannont

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| <b>11:40</b> | <i>Observationally decoding the mechanism driving mass loss from AGB stars</i>  | <b>I. Mc Donald</b>   |
| <b>12:00</b> | <i>Mass loss and luminosities of AGB stars and RSG in the Magellanic Clouds</i> | <b>M. Groenewegen</b> |

Free afternoon: “Discovering Rome”

THURSDAY, MARCH 30

**(chair: O.JONES)**

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| <b>09:00</b> | <i>Observed properties of red supergiant and massive AGB star populations</i>                                   | <b>J. Van Loon</b> |
| <b>09:30</b> | <i>Isotopic ratios of C, O and light elements abundances in AGB stars undergoing hot bottom burning</i>         | <b>C. Abia</b>     |
| <b>09:50</b> | <i>Nitrogen rich stars towards the Galactic Bulge: the most metal-poor massive AGB candidates in our Galaxy</i> | <b>O. Zamora</b>   |
| <b>10:10</b> | <i>Progeny of super-AGB stars in open clusters in the era of Gaia</i>   | <b>R. Raddi</b>    |

**10:30-11:10** Coffee break & Poster viewing

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| <b>11:10</b> | <i>Open clusters as laboratories for the AGB/supernova mass transition</i>                       | <b>I. Neguerela</b>  |
| <b>11:30</b> | <i>Massive White Dwarfs &amp; the Initial-Final Mass Relation</i>                                | <b>J. Cummings</b>   |
| <b>11:50</b> | <i>The 17th century eruption of CK Vul – was it a massive AGB star?</i>                          | <b>T. Kaminski</b>   |
| <b>12:10</b> | <i>Dust Formation in the R Coronae Borealis Stars</i>  | <b>G. Clayton</b>    |
| <b>12:30</b> | <i>VLTI spectro-interferometry and aperture synthesis imaging of cool giants and supergiants</i> | <b>M. Wittkowski</b> |

**12:50-14:20** Lunch & Poster viewing

**(chair: K. JUSTTANONT)**

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| <b>14:20</b> | <i>Type Ia Supernova Archaeology: Searching for the relics of progenitors past</i> | <b>T. Woods</b> |
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| <b>14:40</b> | <i>SN 2008S-like events: electron-capture SNe from a super-AGB progenitor?</i>                | <b>M. T. Botticella</b> |
| <b>15:00</b> | <i>The host environments of Type IIP SNe</i>  | <b>J. Maund</b>         |
| <b>15:20</b> | <i>Supernova rate from the SUDARE survey</i>  | <b>G. Pignata</b>       |
| <b>15:40</b> | <i>Supernova rates from a re-analysis of the Lick Observatory Supernova search</i>            | <b>O. Graur</b>         |
| <b>16:00</b> | <i>Mission and ground based facilities for the observations of AGB-SAGB and massive stars</i> | <b>E. Lagadec</b>       |

16:30-17:00 Coffee break & Poster viewing

**17:00-18:00 Round table: The synergy between observations and theory**

Social dinner

**FRIDAY, MARCH 31**

**(chair: I. MCDONALD)**

**Session V: Dust from AGB stars and supernovae**

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| <b>09:00</b> | <i>Modelling dust production from AGB stars: open challenges, uncertainties and new discoveries</i>  | <b>F. Dell’Agli</b> |
| <b>09:30</b> | <i>Improved implementation of dust-driven winds and dust formation in models of AGB evolution</i>  | <b>L. Mattsson</b>  |
| <b>09:50</b> | <i>Constraining dust properties in circumstellar envelopes of C-stars in the Small Magellanic Cloud: optical constants and grain size of carbon dust</i> | <b>A. Nanni</b>     |
| <b>10:10</b> | <i>The dust mass in Cassiopeia A from a spatially resolved Herschel analysis</i>   | <b>I. De Looze</b>  |

10:30-11:10 Coffee break & Poster viewing

**(chair: T. NOZAWA)**

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| <b>11:10</b> | <i>Dust masses in the ejecta of SN 1993J, SN 1987A, SN 1980K and Cas A from modelling their red-blue optical line profile asymmetries</i> | <b>A. Bevan</b>    |
| <b>11:30</b> | <i>CSM Interaction and Dust Formation in SN2010jl</i>   | <b>K. Krafton</b>  |
| <b>11:50</b> | <i>Dust from supernovae</i>   | <b>S. Marassi</b>  |
| <b>12:10</b> | <i>The relative role of AGBs and SNe as the first cosmic dust polluters</i>   | <b>R. Valiante</b> |
| <b>12:30</b> | <i>When does dust form in supernova remnants?</i>   | <b>R. Wesson</b>   |

### **Session VI: The role AGB stars and supernovae on the host system**

**(chair: G. HALABI)**

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| <b>12:50</b> | <i>The chemical enrichment in the early Galaxy</i> | <b>D. Yong</b> |
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**13:20-14:50** Lunch & Poster viewing

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| <b>14:50</b> | <i>The role of Super AGB and supernovae in the formation</i>             | <b>F. D'Antona</b> |
| <b>15:20</b> | <i>Chemical evolution of galaxies: the role of AGB and massive stars</i> | <b>N. Prantzos</b> |
| <b>15:50</b> | <i>The chemical signature of SNIax in the stars of Ursa minor</i>        | <b>G. Cescutti</b> |