



# The NIC-IX Program

## Sunday, June 25

17:00 – 20:00 Registration

location: CERN Restaurant #1

## Monday, June 26

8:30 – Registration (continue)

9:00 Introduction & Welcome  
chair: A Mengoni

location: CERN Main Auditorium

Welcome

**J Engelen, CERN CSO**

In memory of Al Cameron

**J Cowan, U Oklahoma**

In memory of John Bahcall and Ray Davis

**P Parker, Yale U**

**1 Stars: observations, evolution & nucleosynthesis**  
chair: M Wiescher

9:30 Nuclear astrophysics with gamma-ray line observations  
**R Diehl, MPE Garching**

10:00 From massive stars to supernovae  
**A Heger, Los Alamos/UC St Cruz**

10:30 The rp-process and X-ray bursts  
**H Schatz, MSU**

11:00 break

**2 Experiments in nuclear astrophysics I**  
chair: A Shotton

11:45 Underground nuclear astrophysics  
**H Costantini, U Genova/U Notre Dame**

- 12:15 The  $^{26}\text{gAl}(p,\gamma)^{27}\text{Si}$  reaction in Novae  
**C Ruiz, TRIUMF**
- 12:35 Direct measurement of the  $^{18}\text{F}(p,\alpha)^{15}\text{O}$  reaction for application to nova gamma-ray emission  
**N de Sereville, Louvain-la-Neuve**
- 12:55 Measuring difficult reaction rates involving radioactive beams: A new approach  
**J D'Auria or TBA, CERN/Simon Fraser U**

13:15 lunch break

**3 Nuclei far from stability**  
**chair: K Langanke**

- 14:30 Nuclear-physics data for modeling of the r-process  
**KL Kratz, U Mainz**
- 15:00 Progress in nuclei approaching the r-process waiting point at A=195  
**T Kurtukian-Nieto, Santiago de Compostela/GSI**
- 15:20 Building nuclei from the ground up  
**G Hagen, ORNL**
- 15:40 Mass measurements  
**D Lunney, CSNSM Orsay**

16:10 break & poster session 18

**4 Big-Bang Nucleosynthesis**  
**chair: C Angulo**

- 17:10 Recent results in Big-Bang nucleosynthesis  
**A Coc, CSNSM Orsay**
- 17:40 Is Deuterium cosmological?  
**D Lubowich, U Hofstra New York**
- 18:00 New measurement of the cross section of the big bang nucleosynthesis reaction  $\text{D}(\alpha,\gamma)^6\text{Li}$  and its astrophysical impact  
**F Hammache, IPN Orsay**

**18:30 Conference photo**                      **location: lawn in front of Restaurant #1**

**19:00 Reception**                              **location: CERN Globe of Innovation**



## The NIC-IX Program

**Tuesday, June 27**

**5 Element production & stellar evolution: MP/UMP stars & Novae  
chair: A Maeder**

- 8:30 r-process enhanced metal-poor stars  
**J Cowan, U Oklahoma**
- 9:00 The first nova explosions  
**J José, IEEC Barcelona**
- 9:20 Mass loss at very low metallicity: impacts on nucleosynthesis and GRB progenitors  
**G Meynet, U Geneva**
- 9:40 Chemical compositions of neutron-process elements from near UV-observations of low-metallicity stars  
**I Ivans, Carnegie/Princeton**
- 10:10 The frequency of Carbon-enhanced stars in HERES and SDSS  
**T Beers, MSU**

**10:30 break & poster session 19**

**6 Evidence of nucleosynthesis in stars and presolar grains  
chair: R Gallino**

- 11:30 Heavy elements in presolar grains: constraints on conditions in asymptotic giant branch stars  
**A Davis, U Chicago**
- 12:00 On the stellar sources of presolar graphite in primitive meteorites  
**E Zinner, Washington U**
- 12:20 Isotopic composition of presolar spinel grain OC2: Constraining intermediate-mass asymptotic giant branch models  
**M Lugaro, U Utrecht**
- 12:40  $^{22}\text{Ne}$  a primary source of neutron for the s-process and a major neutron poison in CEMP AGB stars  
**R Gallino, U Torino/INFN Torino**

13:00 Accelerator mass spectrometry and nuclear astrophysics  
**G Korschinek, TU Munich**

13:30 lunch break

**7 Experiments in nuclear astrophysics: indirect methods**  
**chair: C Spitaleri**

14:30 Indirect techniques in nuclear astrophysics - ANCs and THM  
**R Tribble, Texas A&M**

15:00 Reaction rate of  $^{15}\text{O}(\alpha,\gamma)^{19}\text{Ne}$  via indirect measurements  
**W Tan, U Notre Dame**

15:20 Study of astrophysically important resonant states in  $^{26}\text{Si}$  by the  
 $^{28}\text{Si}(\alpha,\gamma)^{26}\text{Si}$  reaction  
**YK Kwon, Chung-Ang U Seoul**

15:40 Influences on the triple alpha process beyond the Hoyle state  
**C Diget, U Aarhus**

16:00 Experimental determination of reaction rates via Coulomb dissociation  
**T Motobayashi, RIKEN**

16:30 break

**8 Experiments in nuclear astrophysics II**  
**chair: Y Nagai**

17:00 Weak decay of highly charged ions  
**F Bosch, GSI Darmstadt**

17:30 Alpha-induced reactions in stellar burning  
**J Görres, U Notre Dame**

18:00 Measuring  $^{12}\text{C}(\alpha,\gamma)^{16}\text{O}$  with ERNA  
**D Schürmann, U Bochum**

Measurement of the cascade cross section to the 6.049-MeV state in  $^{16}\text{O}$  in  
 $^{12}\text{C}(\alpha,\gamma)^{16}\text{O}$   
**C Matei, U Ohio/TRIUMF**

18:30 The supernova-nucleosynthesis  $^{40}\text{Ca}(\alpha,\gamma)^{44}\text{Ti}$  reaction  
**M Paul, Hebrew U Jerusalem**

Study of the  $^{40}\text{Ca}(\alpha,\gamma)^{44}\text{Ti}$  reaction at stellar temperatures with DRAGON  
**C Vockenhuber, TRIUMF**

**19:00 Big Poster-Session & Beer [all posters]**



## The NIC-IX Program

**Wednesday, June 28**

**9 Element production, stellar evolution, and stellar explosions**  
**chair: V Smith**

- 8:30 New ideas in the theory of core-collapse supernova explosions  
**A Burrows, UA Tucson**
- 9:00 The role of neutrinos in explosive nucleosynthesis  
**C Fröhlich, U Basel**
- 9:20 Neutrinos and nucleosynthesis in gamma ray bursts  
**R Surman, Union College New York**
- 9:40 Presupernova evolution and explosive nucleosynthesis of massive stars  
**A Chieffi, INAF Rome**

**10:10 break & poster session 20**

**10 Element production & stellar evolution II**  
**chair: R Hoffman**

- 11:00 Globular clusters: Ideal laboratories to test nucleosynthesis and hydrodynamics in low- and intermediate mass stars?  
**C Charbonnel, U Geneva**
- 11:30 Neutron-capture elements in globular cluster M15  
**K Otsuki, U Chicago**
- 11:50 Chemical evolution of C-Zn and r-process elements produced by the first generation stars  
**Y Ishimaru, Kogakuin Tokyo**
- 12:10 Reaction rate uncertainties and the operation of the NeNa and MgAl chains during HBB in intermediate-mass AGB stars  
**R Izzard, U Utrecht**
- 12:30 The new solar chemical composition: does the Sun have a sub-solar metallicity?  
**M Asplund, ANU Canberra**

13:00 lunch break

14:00 Excursions

location: varii

19:30 (approx) back at CERN site



## The NIC-IX Program

### Thursday, June 29

<b>11</b>	<b>Nuclear theory in astrophysics</b> <b>chair: F-K Thielemann</b>
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- 8:30 Direct reactions in/for astrophysics  
**C Bertulani, UA Tucson**
- 9:00 Cross sections of light-ion reactions calculated from ab initio wave functions  
**C Forssén, LLNL Livermore**
- 9:20 Nuclear models for light systems  
**P Descouvemont, UL Brussels**
- 9:50 Modified nuclear lifetime in hot dense plasmas  
**G Gosselin, CEA Saclay**
- 10:10 Enhanced electron screening in nuclear reactions and radioactive decays  
**K Czerski, U Szczecin**

<b>10:30 break &amp; poster session 21</b>
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<b>12</b>	<b>Cosmology &amp; BBN</b> <b>chair: R Boyd</b>
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- 11:30 Dark matter, dark energy & particle physics  
**J Ellis, CERN**
- 12:00 Supernovae Ia as standard candles  
**P Garnavich, U Notre Dame**
- 12:30 When stars attack! Live radioactivities as signatures of nearby supernovae  
**B Fields, U Illinois**
- 12:50 Electron capture reactions in neutron star crusts: deep heating and observational constraints  
**E Brown, MSU**
- 13:10 Early star formation nucleosynthesis and chemical evolution in proto-galactic clouds  
**G Mathews, U Notre Dame**

13:30 lunch break

**13 Experiments in nuclear astrophysics III**  
**chair: B Jonson**

14:30 AMS measurements of stellar cross sections across the nuclear chart  
**A Wallner, U Vienna**

14:50 Proton resonance scattering on  $^7\text{Be}$   
**H Yamaguchi, U Tokyo**

15:10 Improving the rate of the triple alpha reaction  
**C Tur, MSU**

15:30 High-precision mass measurements for reliable nuclear astrophysics calculations  
**A Herlert, ISOLDE/CERN**

15:50  $\alpha$ -capture reactions and the  $\alpha$ -nucleus optical potential for p-process nucleosynthesis  
**S Harrisopoulos, Demokritos/Athens**

**17:45 departure to banquet**

**18:45 embarkment at «Pier Paquis», Lac Léman - Geneva**





## The NIC-IX Program

### Friday, June 30

<b>14</b>	<b>Experiments in nuclear astrophysics IV</b> <b>chair: S Kubono</b>
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- 8:30 Neutron cross sections at n\_TOF  
**M Heil, GSI Darmstadt/FZK Karlsruhe**
- 9:00 Measurements of the (n, $\gamma$ ) and (n,n') reaction cross sections on  $^{186,187,189}\text{Os}$  and  $^{187}\text{Re}$ - $^{187}\text{Os}$  cosmochronology  
**M Segawa, U Osaka**
- Experimental challenges for the Re/Os clock  
**M Mosconi, FZK Karlsruhe**
- 9:30 Electromagnetic excitations in nuclei: from photon scattering to photo dissociation  
**A Junghans, IKH Rossendorf**
- Photodissociation as a tool for nuclear astrophysics  
**S Müller, TU Darmstadt**
- Photodisintegration of  $^{181}\text{Ta}$  leading to the isomeric state  $^{180\text{m}}\text{Ta}$   
**S Goko, Konan U Kobe**
- 10:15 Neutron capture measurements on the s-process termination isotopes lead and bismuth  
**C Domingo Pardo, U Valencia/FZK Karlsruhe**

<b>10:35 break &amp; poster session 22</b>
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<b>15</b>	<b>Galactic &amp; stellar evolution</b> <b>chair: TBA</b>
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- 11:30 Early galactic chemical evolution: The Milky Way in a cosmological context  
**N Prantzos, IAP Paris**
- 12:00 Neutron-capture processes in the early Galaxy  
**W Aoki, NAO Japan**
- 12:30 AGB stars evolution and nucleosynthesis  
**F Herwig, Los Alamos**

13:00 lunch break

**16 Evolution & evidence of nucleosynthesis in stars: AGBs**  
**chair: R Azuma**

14:00 3D hydrodynamical models of the core helium flash  
**J Lattanzio, Monash U**

14:20 The s-process in massive stars: The Shell C-burning contribution  
**M Pignatari, U Torino**

14:40 Light and heavy elements nucleosynthesis in low mass AGB Stars  
**S Cristallo, INAF, Teramo**

15:00 break

**17 Experiments & theory in nuclear astrophysics**  
**chair: T Rauscher**

15:30 The role of fission in r-process nucleosynthesis  
**A Kelic, GSI Darmstadt**

16:00 Nucleosynthesis in neutrino-heated matter  
**G Martínez Pinedo, GSI Darmstadt**

16:30 Studies of radioactive nuclei and their role in the cosmos  
**J Blackmon, Oak Ridge**

**17:00 Conclusion**  
**chair: A Mengoni**

## **Saturday, July 1**

**9:00 Visits to ATLAS and ISOLDE facilities at CERN starts**



## The NIC-IX Program – Poster session 18

### Monday, June 26, 16:10-17:10

- 18.01 Abundances of Mn, Co and Eu in a sample of 20 F-G disk stars: the influence of hyperfine structure splitting  
**DEL PELOSO, Eduardo** (ID: 1)
- 18.02 Coherent effects in nuclear pasta matter  
**PEREZ GARCIA, Angeles** (ID: 5)
- 18.03 Pre-supernova models at low metallicities  
**HIRSCHI, Raphael** (ID: 7)
- 18.04 Breakup and competing processes in reactions involving weakly bound nuclei  
**SZANTO DE TOLEDO, Alejandro** (ID: 8)
- 18.05  $^{18}\text{F}(\alpha, p)^{21}\text{Ne}$  reaction: neutron source for r-process in supernovae  
**LEE, Hye Young** (ID: 10)
- 18.06 Abundance clues to the natures of the "Main" and the "Weak" r-processes  
**KRATZ, Karl-Ludwig; PFEIFFER, Bernd; FAROUQI, Khalil; COWAN, John, J.; SNEDEN, Chris; TRURAN, James, W.** (ID: 11)
- 18.08 Structure of doorway states above the  $K^\pi = (8^+)$ ,  $t_{1/2} \sim 2.0 \times 10^5$  yr isomer in  $^{186}\text{Re}$  and their impact on the accuracy of the  $^{187}\text{Re}/^{187}\text{Os}$  cosmochronometer  
**KONDEV, Filip G** (ID: 18)
- 18.09 Indirect techniques in nuclear astrophysics  
**MUKHAMEDZHANOV, Akram Zhanov** (ID: 19)
- 18.10 Measurement of the stellar  $(n, \gamma)$  cross section of  $^{54}\text{Fe}$   
**COQUARD, Laurent** (ID: 21)
- 18.11 First measurements of the total and partial stellar neutron cross sections to the s-process branching-point  $^{79}\text{Se}$   
**DILLMANN, Iris** (ID: 23)
- 18.12 Present status of the KADoNiS database  
**DILLMANN, Iris; PLAG, Ralf** (ID: 24)
- 18.13 Light from the ashes: Explosion physics and nucleosynthesis from the X-ray spectra of Type Ia supernova remnants  
**BADENES, Carlos** (ID: 25)
- 18.14 Lead abundance and the weak r-process in the metal-poor star K462 (M15)  
**HANNAWALD, Michael** (ID: 27)

- 18.15 The production of germanium in asymptotic giant branch stars  
**KARAKAS, Amanda** (ID: 40)
- 18.16 r-process nucleosynthesis in Alfvén wave-driven proto-neutron star winds  
**SUZUKI, Takeru** (ID: 41)
- 18.17 Excitation functions of (p,n)-reactions on  $^{115}\text{Sn}$ ,  $^{116}\text{Sn}$  and  $^{120}\text{Sn}$  isotopes  
**SKAKUN, Yevgen** (ID: 42)
- 18.18 Experimental determination of the  $^{41}\text{Ca}(n,\alpha)^{38}\text{Ar}$  reaction cross section as a function of the neutron energy  
**DE SMET, Liesbeth** (ID: 43)
- 18.19 Towards a direct measurement of the  $^{15}\text{O}(\alpha,\gamma)^{19}\text{Ne}$  cross section: a first approach using the  $^{15}\text{O}+\alpha$  elastic scattering  
**ANGULO, Carmen** (ID: 46)
- 18.20 Gravitational wave emission during the transition from rapidly differential rotating neutron stars to strange stars  
**YASUTAKE, Nobutoshi** (ID: 47)
- 18.21 Can supernova neutrino nucleosynthesis constrain neutrino oscillation parameters?  
**YOSHIDA, Takashi** (ID: 48)
- 18.22 r-process nucleosynthesis in a collapsar  
**NAGATAKI, Shigehiro** (ID: 49)



## The NIC-IX Program – Poster session 19

### Tuesday, June 27, 10:30-11:30

- 19.01 Non-extensive statistical effects on the nuclear equation of state and on nuclear astrophysical problems  
**LAVAGNO, Andrea** (ID: 52)
- 19.02 Present-day carbon abundances from early-type stars  
**NIEVA, Maria Fernanda** (ID: 53)
- 19.03 Metastability of electron-nuclear astrophysical plasmas  
**GERVINO, Gianpiero; LAVAGNO, Andrea** (ID: 54)
- 19.04 Neutron capture studies with a short flight path  
**WALTER, Stephan** (ID: 55)
- 19.05 Quantitative spectroscopy of Deneb  
**SCHILLER, Florian** (ID: 56)
- 19.06 New experiments on neutron rich r-process Ge-Br isotopes at the NSCL/MSU  
**QUINN, Matthew** (ID: 57)
- 19.07 CNO production in the first generation stars  
**EKSTRÖM, Sylvia** (ID: 61)
- 19.08 Heavy element nucleosynthesis in the MHD jet explosions of core-collapse supernovae  
**NISHIMURA, Nobuya** (ID: 63)
- 19.09 Photodisintegration of  $^{80}\text{Se}$ ,  $^{94}\text{Zr}$ , and  $^{108}\text{Pd}$  as a probe of neutron capture for radioactive nuclei  
**UTSUNOMIYA, Hiroaki** (ID: 64)
- 19.10 Observational constraints on the cosmology with a decaying cosmological term  
**NAKAMURA, Riou** (ID: 65)
- 19.11 The s-process branching at  $^{186}\text{Re}$  revised  
**MOHR, Peter** (ID: 66)
- 19.12 Measurement of the stellar  $(n,\gamma)$  cross section of  $^{182}\text{Hf}$   
**VOCKENHUBER, Christof** (ID: 67)
- 19.13 Light element production in the circumstellar matter of Type Ic supernovae at low metallicity  
**NAKAMURA, Ko** (ID: 68)
- 19.14 Exotic cooling on neutron stars with different surface compositions  
**NODA, Tsuneo** (ID: 69)

- 19.15 Phase-transition phenomenology of frustrated nuclear matter in compact stars  
**NAPOLITANI, Paolo** (ID: 71)
- 19.16 Dielectronic recombination rates in astrophysical plasmas  
**QUARATI, Piero** (ID: 72)
- 19.17 Universality of the p process  
**HAYAKAWA, Takehito** (ID: 74)
- 19.18 Cosmic clock and thermometer for neutrino process  
**HAYAKAWA, Takehito** (ID: 75)
- 19.19 The high-resolution spectroscopy of cool extremely metal-poor carbon-rich stars  
**ZACS, Laimons** (ID: 76)
- 19.20 Extraction of resonant component from spin-polarization observables  
**YAMAGUCHI, Mitsutaka** (ID: 77)
- 19.21 Equation of state and neutrino signal from collapsing stellar cores  
**YUDIN, Andrey** (ID: 78)
- 19.22 Asymmetric collapsing supernovae explosion with rotation  
**MANUKOVSKIY, Konstantin** (ID: 79)
- 19.23 Experimental studies of shell-model basis states near  $^{132}\text{Sn}$   
**WALTERS, William** (ID: 81)
- 19.24 New study of the astrophysical reaction  $^{13}\text{C}(\alpha, n)^{16}\text{O}$  via the  $^{13}\text{C}(^7\text{Li}, t)^{17}\text{O}$  transfer reaction  
**PELLEGRITI, Maria Grazia; HAMMACHE, Fairouz** (ID: 82)
- 19.25 Measurement of  $^3\text{He}(\alpha, \gamma)^7\text{Be}$  with ERNA recoil separator  
**DI LEVA, Antonino** (ID: 83)
- 19.26 First experimental constraints on the interference of  $3/2+$  resonances in the  $^{18}\text{F}(p, \alpha)^{15}\text{O}$  reaction  
**CHAE, K. Y.** (ID: 84)
- 19.27 Nuclear superfluidity and the cooling time of neutron stars  
**SANDULESCU, Nicolae** (ID: 85)
- 19.28 Low-mass AGB stars abundance predictions with improved stellar cross sections  
**BISTERZO, Sara** (ID: 86)
- 19.29 SNRs as probes of chemical composition of interstellar medium  
**TELEZHINSKY, Igor; HNATYK, Bohdan; PETRUK, Oleh** (ID: 87)
- 19.30 Nucleosynthesis of Binary low mass zero-metallicity stars  
**LAU, Ho Bun Herbert** (ID: 91)
- 19.31 Synthesis of CNO elements in standard BBN  
**IOCCO, Fabio** (ID: 93)

- 19.32 Shell model spin and parity dependent nuclear level densities for nuclear reaction rates  
**HOROI, Mihai** (ID: 94)
- 19.33 Nucleosynthesis and mixing in rotating AGB stars at low metallicity  
**DECRESSIN, Thibault** (ID: 95)
- 19.34 The  $^{25}\text{Al}(p,\gamma)^{26}\text{Si}$  reaction rate in novae  
**BARDAYAN, Dan** (ID: 96)
- 19.35 The QSE-reduced nuclear network for supernovae nucleosynthesis  
**PARETE-KOON, Suzanne** (ID: 97)
- 19.36 Investigation of nucleosynthesis capture reactions by using  $^8\text{Li}$  radioactive beam transfer reactions  
**GUIMARAES, Valdir** (ID: 100)



## The NIC-IX Program – Poster session 20

### Wednesday, June 28, 10:10-11:00

- 20.01 Level structure of  $^{19}\text{Ne}$  from studies of the  $^{17}\text{O}(^3\text{He},n)^{19}\text{Ne}$  reaction  
**HORNISH, M.; BRUNE, C.** (ID: 103)
- 20.02 The rp-process in core-collapse supernovae  
**WANAJO, Shinya** (ID: 105)
- 20.03 The weak r-process in core-collapse supernovae  
**WANAJO, Shinya** (ID: 106)
- 20.04 Elastic scattering of  $^8\text{B}$  on Pb, liquid Hydrogen and liquid Helium targets and the  $^7\text{Be}(p,\gamma)^8\text{B}$  S-factor  
**BISHOP, Shawn** (ID: 107)
- 20.05 Low energy nuclear reaction measurements using monolithic silicon telescope  
**NISHIMURA, Shunji** (ID: 109)
- 20.06 Photonuclear reactions of light nuclei studied with high-intensity real photon beams  
**SHIMA, Tatsushi** (ID: 110)
- 20.07 Supernova physics with a low-energy beta-beam  
**MCLAUGHLIN, Gail; JACHOWICZ, Natalie** (ID: 111)
- 20.08 The detailed abundance patterns of light neutron-capture elements in very metal-poor stars  
**HONDA, Satoshi** (ID: 112)
- 20.09 Neutrino opacities in a relativistic non interacting neutron gas  
**VANTOURNHOUT, Klaas** (ID: 113)
- 20.10 Mass measurement of neutron-deficient nuclei close to the  $N = Z$  line  
**HAGER, Ulrike** (ID: 114)
- 20.11 Hydrodynamic models of Type I X-ray bursts  
**JOSE, Jordi** (ID: 117)
- 20.12 Enhanced  $d(d,p)t$  cross section in metallic environments  
**RAIOLA, Francesco** (ID: 118)
- 20.13 Thermonuclear burning ignition and propagation along the surface of neutron star during X-ray bursts  
**GRYAZNYKH, Dmitry A.; SIMONENKO, Vadim A.** (ID: 119)
- 20.14 Measurement of the partial  $(n,\gamma)$  cross section to  $^{176}\text{Lu}$  at s-process temperatures  
**WINCKLER, Nicolas** (ID: 121)



- 20.15 Mapping of the  $^{12}\text{C}^*$  and  $^9\text{B}^*$  states of astrophysical interest via the  $^{10}\text{B}(^3\text{He}, p\alpha\alpha)$  reaction  
**ALCORTA, Martin** (ID: 122)
- 20.16 Fission fragments of actinide and superheavy nuclides in primordial Solar system material and problem of their origin  
**GONCHAROV, Georgy** (ID: 123)
- 20.17 A nonperturbative field-theoretical model for nuclear matter without the sigma and omega  
**JENA, Saktidhar** (ID: 124)
- 20.18 Spectroscopic analyses of subluminous B stars in binaries  
**GEIER, Stephan** (ID: 125)
- 20.19 A new approach to the solution of large thermonuclear burning networks  
**GUIDRY, Mike** (ID: 126)
- 20.20 Experiments and observations of light r-process nuclei  
**MONTES, Fernando** (ID: 127)
- 20.21 Neutrino nucleosynthesis of the exotic nuclei  $^{138}\text{La}$  and  $^{180}\text{Ta}$  by charged current reactions  
**BYELIKOV, Anatoliy** (ID: 129)
- 20.22 Measurement of the  $^{62}\text{Ni}(n,\gamma)^{63}\text{Ni}$  reaction cross section at  $3 < E_n < 100$  keV  
**NAGAI, Yasuki** (ID: 130)
- 20.23 Study of unbound  $^{19}\text{Ne}$  states via the proton transfer reaction  $^2\text{H}(^{18}\text{F}, \alpha + ^{15}\text{O})n$   
**ADEKOLA, A.; BRUNE, C. R.** (ID: 131)
- 20.24 Multiple particle break-up studies in the neutron rich Li isotopes  
**MADURGA FLORES, Miguel** (ID: 132)
- 20.25 Activation method for cross section measurements related to the p-process nucleosynthesis  
**ÖZKAN, Nalan** (ID: 133)
- 20.26 Activation measurement of the  $^{19}\text{F}(n,\gamma)^{20}\text{F}$  cross section at  $kT=25$  keV  
**UBERSEDER, Ethan** (ID: 135)
- 20.27 The late-time supernova evolution induced by anisotropic neutrino radiation and the r-process environment  
**MOTIZUKI, Yuko** (ID: 136)
- 20.28 Nucleosynthesis in AGB stars: Results from the STARS code  
**STANCLIFFE, Richard** (ID: 137)
- 20.29 E2 and E1 cross section of the  $^{12}\text{C}(\alpha,\gamma)^{16}\text{O}$  reaction obtained at  $E_{\text{cm}} = 1.6$  and  $1.4$  MeV  
**MAKII, Hiroyuki** (ID: 138)
- 20.30 Signatures of AGB nucleosynthesis in dwarf galaxies  
**FENNER, Yeshe** (ID: 140)

- 20.31 Single point off-center helium ignitions as origin of some type Ia supernovae  
**FORCADA, Ramon; GARCÍA-SENZ, Domingo; JOSÉ, Jordi** (ID: 141)
- 20.32 Fission recycling in the r-process and formation of the second peak with  $A \sim 130$   
**PANOV, Igor** (ID: 142)
- 20.33 Neutrino-induced nucleosynthesis as a probe into the mechanism of supernovae  
**NADYOZHIN, Dmitrij** (ID: 143)
- 20.34 Nuclear structure properties of neutron-rich r-process isotopes  
**WOEHR, Andreas** (ID: 145)
- 20.35 Measurement of the temperature dependence of  $^7\text{Be}$  decay in different chemical environments  
**LIMATA, Benedicta Normanna** (ID: 146)
- 20.36 Astrophysics at the future rare isotope accelerator  
**SMITH, Michael** (ID: 147)
- 20.37 Neutron capture during the freeze-out of the r-process  
**FAROUQI, Khalil** (ID: 148)
- 20.38 Astrophysical implications of the  $^{139}\text{La}(n,\gamma)$  and  $^{151}\text{Sm}(n,\gamma)$  cross sections measured at n\_TOF  
**STEFANO, Marrone** (ID: 150)



## The NIC-IX Program – Poster session 21

### Thursday, June 29, 10:30-11:30

- 21.01 New features in the computational infrastructure for nuclear astrophysics  
**SMITH, Michael S.** (ID: 151)
- 21.02 Monte Carlo simulations of Type I X-ray burst nucleosynthesis  
**ROBERTS, Luke F.** (ID: 152)
- 21.03 High precision measurements along the rp-process path  
**GALAVIZ, Daniel** (ID: 153)
- 21.04 On the contribution of classical novae to the  $^{26}\text{Al}$  content of the Galaxy  
**HERNANZ, Margarita** (ID: 155)
- 21.05 Neutrino-induced fission on nuclei near the r-process paths  
**BORZOV, Ivan** (ID: 157)
- 21.06 Study of the  $^{10}\text{B}(p,\alpha)^7\text{Be}$  reaction through the Trojan Horse Method  
**GIMENEZ DEL SANTO, Marcelo; GAMEIRO MUNHOZ, Marcelo**(ID: 160)
- 21.07 Neutrino-nucleus cross sections and their role in supernovae  
**BLACKMON, Jeff** (ID: 161)
- 21.08 Determination of the astrophysical S-factor for the  $^{12}\text{N}(p,\gamma)^{13}\text{O}$  reaction from the proton transfer reaction  $^{14}\text{N}(^{12}\text{N},^{13}\text{O})^{13}\text{C}$   
**BANU, Adriana** (ID: 163)
- 21.09 Lifetime of the 4.03 MeV state in  $^{19}\text{Ne}$  and the  $^{15}\text{O}(\alpha,\gamma)^{19}\text{Ne}$  reaction rate  
**KANUNGO, Rituparna** (ID: 164)
- 21.10 Microdynamical effects on momentum distribution in stellar plasmas  
**FERRO, Fabrizio; QUARATI, Piero** (ID: 165)
- 21.11 Quantum mechanical ab-initio simulation of the electron screening effect in metal deuteride crystals  
**HUKE, Armin** (ID: 166)
- 21.12 About possible explanations to the lines of radioactive elements in the spectrum of Przybylski's star  
**YUSHCHENKO, Alexander; GOPKA, Vera; GORIELY, Stephane** (ID: 167)
- 21.13 Heaviest s-process elements in the atmospheres of barium stars  
**GOPKA, Vera F.; YUSHCHENKO, Alexander V.; LAMBERT, David L.; DRAKE, Natalya A.** (ID: 169)

- 21.14 Evidence of Na enhancement in Hyades giants from high-resolution spectroscopy  
**SCHULER, Simon** (ID: 170)
- 21.15 Multi-channel R-matrix analysis of CNO cycle reactions  
**SIMPSON, Edward** (ID: 172)
- 21.16 Efficient approximations of neutrino physics for three-dimensional simulations of stellar core collapse  
**LIEBENDÖRFER, Matthias** (ID: 173)
- 21.17 Abundances of heavy metals and lead isotopic ratios in subluminescent B stars  
**HEBER, Ulrich** (ID: 174)
- 21.18 Direct measurement of stellar neutron capture rates of  $^{14}\text{C}$  and comparison with the Coulomb breakup method  
**REIFARTH, Rene** (ID: 176)
- 21.19 The roles of nuclear physics during stellar core collapse  
**HIX, W. Raphael** (ID: 177)
- 21.20 Neutrinos, fission cycling and the r-process  
**MCLAUGHLIN, Gail** (ID: 179)
- 21.21 Nucleosynthesis in early proton-rich supernova winds  
**PRUET, Jason; HOFFMAN, Robert; WOOSLEY, Stan; JANKA, Hans-Thomas** (ID: 180)
- 21.22 Compound-nuclear reaction cross sections via surrogate measurements  
**ESCHER, Jutta** (ID: 181)
- 21.23 Experimental nuclear astrophysics with recoil mass separators  
**GIALANELLA, Lucio** (ID: 182)
- 21.24 A high resolution spectroscopic study of seven metal-deficient stars  
**TANNER, John** (ID: 183)
- 21.25 Laminar flame acceleration by neon enrichment in white dwarf supernovae  
**CHAMULAK, David** (ID: 184)
- 21.26 Closing the cold CNO cycle: A new measurement of  $^{19}\text{F}(p,\gamma)$   
**COUTURE, Aaron** (ID: 186)
- 21.27 Precision mass measurements of neutron-rich nuclei from Ge to Pd and their r-process implications  
**JOKINEN, Ari** (ID: 188)
- 21.28 Measurement of transfer reactions on neutron-rich fission fragments in inverse kinematics  
**PAIN, Steven** (ID: 189)
- 21.29 r-process experimental campaign at the National Superconducting Cyclotron Laboratory (NSCL/MSU)  
**PEREIRA, Jorge** (ID: 190)

- 21.31 Experimental nuclear level densities and interpretation within the microcanonical ensemble  
**GUTTORMSEN, Magne** (ID: 193)
- 21.32 Determination of low  ${}^7\text{Be}$  activity as a tool to measure the  ${}^3\text{He}(\alpha,\gamma){}^7\text{Be}$  cross section  
**GYÜRKY, György** (ID: 196)
- 21.33 CARINA: a European network for nuclear astrophysics  
**ANGULO, Carmen** (ID: 198)
- 21.34 Nucleosynthesis in super AGB stars  
**DOHERTY, Carolyn** (ID: 199)
- 22.11 Nuclear reaction and structure databases of the National Nuclear Data Centre  
**PRITYCHENKO, Boris** (ID: 214)



## The NIC-IX Program – Poster session 22

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- 22.01 On the origin of the high helium sequence in Omega Centauri  
**MEYNET, Georges; MAEDER, André** (ID: 203)
- 22.02 A charge breeder for nuclear astrophysics experiments?  
**DELAHAYE, Pierre; MARIE-JEANNE, Mélanie** (ID: 204)
- 22.03 Neutron capture cross sections of the Zr isotopes: probing neutron exposure and neutron flux in Red Giants  
**TAGLIENTE, Giuseppe** (ID: 205)
- 22.04  $^{25}\text{Al}+p$  elastic scattering with CRIB  
**PEARSON, Jonty** (ID: 206)
- 22.05 Isospin symmetry in nucleon and alpha-decays of mirror nuclei and its astrophysical applications  
**TIMOFEYUK, Natalia** (ID: 207)
- 22.06 Primordial magnetic field constrained from CMB anisotropies and its generation and evolution before, during and after the BBN  
**YAMAZAKI, Dai** (ID: 208)
- 22.07 Neutrino signal of supernova shock wave propagation: MSW distortion of the spectra and nucleosynthesis  
**KAWAGOE, Shiou** (ID: 209)
- 22.08 The effective long range interaction and resonances in naa system at astrophysical energies  
**TAKIBAYEV, Nurgali** (ID: 210)
- 22.09 A case for fast stellar rotation at very low metallicities: C and N in very metal poor halo stars  
**CHIAPPINI, Cristina** (ID: 211)
- 22.10 Suppression of the neutron channel in low energy d+d reactions within metallic media  
**CZERSKI, Konrad** (ID: 212)
- 22.12 Neutrons and features of primordial nucleosynthesis  
**TAKIBAYEV, Nurgali** (ID: 215)
- 22.13 The TRIUMF annular chamber of tracking and identification of charged particles (TACTIC)  
**RUPRECHT, Götz** (ID: 216)

- 22.14 The influence of electron screening on half lives  
**RUPRECHT, Götz; BUCHMANN, Lothar** (ID: 217)
- 22.15 Beta-beam born neutrino - an alternative to double beta decay to determine the Majorana neutrino mass  
**SUJKOWSKI, Ziemowid** (ID: 219)
- 22.16 Can radiative decay of long-lived particles after the BBN solve the cosmological  ${}^6\text{Li}$  problem?  
**KUSAKABE, Motohiko** (ID: 220)
- 22.17 Dating of the  ${}^{60}\text{Fe}$ -peak in a deep sea manganese crust  
**KNIE, Klaus; WALLNER, Anton** (ID: 221)
- 22.18 Chemical mixing in galactic BA-type supergiants  
**FIRNSTEIN, Markus** (ID: 223)
- 22.19 Neutrino-nucleus inelastic scattering reactions for core-collapse supernovae  
**SAMPAIO, Jorge; JUODAGALVIS, Andrius** (ID: 224)
- 22.20 Quantitative spectroscopy of BA-type supergiants: Observational constraints on massive star evolution in the local group  
**PRZYBILLA, Norbert** (ID: 225)
- 22.21 Towards global optical alpha potentials: study of the  ${}^{89}\text{Y}(\alpha,\alpha){}^{89}\text{Y}$  elastic scattering  
**KISS, Gabor** (ID: 226)
- 22.22 Mass measurements of radionuclides near the endpoint of the rp-process at SHIPTRAP  
**VOROBYEV, Glebl** (ID: 227)
- 22.23 Mass measurements of  ${}^{22}\text{Mg}$  and  ${}^{26}\text{Si}$  via (p,t) reactions and Penning traps  
**CLARK, Jason; PARIKH, Anuj** (ID: 228)
- 22.24 On the  $\alpha$ -particle semi-microscopic optical potential at low energies  
**AVRIGEANU, Marilena** (ID: 229)
- 22.25 Time of flight mass measurements in the neutron rich Fe region  
**ESTRADE, Alfredo** (ID: 231)
- 22.26 Decay studies at the end of the rp-process  
**SMITH, Edward** (ID: 232)
- 22.27 Fragmentation spectra of strange quark matter in a type-II supernova scenario  
**PAULUCCI, Laura** (ID: 233)
- 22.28 Level structure of  ${}^{21}\text{Mg}$ : Nuclear and astrophysical implications  
**MURPHY, Alexander** (ID: 234)
- 22.29 Proton induced reaction cross sections on the Ge isotopes  
**FÜLÖP, Zsolt** (ID: 235)
- 22.30 Neutron decay array for beta-delayed neutron decay studies  
**LUROSSO, Giuseppe** (ID: 236)

- 22.31  $^{13}\text{C}(\alpha, n)^{16}\text{O}$  reaction rate at stellar temperatures  
**ROGACHEV, Grigory** (ID: 238)
- 22.32 Analysis of the  $^{16}\text{O}(d, p)^{17}\text{O}$  and  $^{16}\text{O}(d, n)^{17}\text{F}$  transfer reactions to determine astrophysical direct capture cross sections  
**ASSUNÇÃO, Marlete** (ID: 239)
- 22.33 Sensitivity of type I X-ray bursts to rp-process reaction rate  
**AMTHOR, Matthew** (ID: 241)
- 22.34 Neon abundances in B-stars of the Orion association: Solving the solar neon problem?  
**CUNHA, Katia** (ID: 243)
- Beta-decay studies of states in  $^{12}\text{C}$   
**GADEGAARD PEDERSEN, Solveig** (ID: 255)
- 22.35 Nucleosynthesis relevant conditions in neutrino-driven supernova outflows  
**ARCONES, Almudena** (ID: 256)
- 22.36 Electron capture rates for neutron star crusts  
**BECERRIL REYES, Ana Delia** (ID: 267)