# **Explosive Ideas about Massive Stars - from Observations to Modeling**

Wednesday 10 August 2011 - Saturday 13 August 2011

AlbaNova University Center

# Programme

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## Wednesday 10 August 2011

#### Start of on-site registration - Oskar Klein (12:30-13:40)

### P. Lundqvist, Welcome - Oskar Klein (13:45-14:00)

#### Supernova Progenitors - Oskar Klein (14:00-17:30)

- Conveners: KIRSHNER, Robert

# <u>Supernova Progenitors: E. Berger, "Variety of end points of massive stars"</u> - Oskar Klein (14:00-14:30)

time	[id] title	presenter
14:00	[373] Variety of End Points of Massive Stars	Prof. BERGER, Edo

# <u>Supernova Progenitors: M. Fraser, "Core-collapse supernova progenitors"</u> - Oskar Klein (14:30-15:00)

time	[id] title	presenter
14:30	[384] Core-collapse supernova progenitors	Mr. FRASER, Morgan

# <u>Supernova Progenitors: A. Pastorello, "Peculiar supernovae and their progenitors"</u> - Oskar Klein (15:00-15:30)

time	[id] title	presenter
15:00	[317] Peculiar supernovae and their progenitors	Dr. PASTORELLO, Andrea

#### Supernova Progenitors: J. Sollerman, "The supernova/GRB connection" - Oskar Klein (16:00-16:30)

time	[id] title	presenter
16:00	[382] The supernova/GRB connection	SOLLERMAN, Jesper

# <u>Supernova Progenitors: A. Heger, "Theoretical paths leading to supernovae"</u> - Oskar Klein (16:30-17:00)

time	[id] title	presenter
16:30	[371] Theoretical Paths Leading to Supernovae	Prof. HEGER, Alexander

# <u>Supernova Progenitors: A. Gal-Yam, "Do Pair-Production Supernovae exist in nature?"</u> - Oskar Klein (17:00-17:30)

time	[id] title	presenter
17:00	[332] Do Pair-Production Supernovae exist in nature?	Dr. GAL-YAM, Avishay

### Posters and refreshments - Oskar Klein (17:30-21:30)

#### poster session + beer/refreshment

time [id] title

17:30	[289] A shallow water analog for asymmetric core-collapse, and neutron star kick/spin	Dr. FOGLIZZO, Thierry
17:35	[294] Early UV emission from SNe	Mr. RABINAK, itay
17:40	[357] Supernova signatures in the early X-ray emission from GRBs?	Dr. STARLING, Rhaana
17:45	[296] Understanding Neutrino-Driven Supernova Explosions: the Antesonic Condition	Mr. PEJCHA, Ondrej
17:50	[297] Gamma-Ray Emission from Composite Supernova Remnants	SLANE, Patrick
17:55	[300] Why you should not trust NaD absorption from low-resolution spectra to derive extinctions	Dr. POZNANSKI, Dovi
18:00	[301] Properties and Spatial Distribution of Dust Emission in the Crab Nebula	Dr. SONNEBORN, George
18:05	[303] Supernova explosions in interacting binaries	Dr. CHURCH, Ross
18:10	[304] Peculiar Type II Supernovae from Blue Supergiants	Ms. KLEISER, Io
18:15	[305] Shock Breakout in Dense Wind and Non-Steady Mass Loss	Mr. MORIYA, Takashi
18:20	[307] Role of supernova ejecta clumpiness in the evolution and morphology of the remnants	Dr. ORLANDO, Salvatore
18:25	[312] The Type II supernovae 2006V and 2006au: two SN 1987A-like objects	TADDIA, Francesco
18:30	[313] New insights on the long GRBs-SNe association	Dr. BROMBERG, Omer
18:35	[314] Impact of electro-weak processes in type II supernovae collapse	Dr. BLOTTIAU, Patrick
18:40	[315] Clumpiness and Density Diagnostics in Supernova Ejecta From Forbidden Line Profiles	Dr. HOLE, Tabetha
18:45	[372] Relativistic Explosion Models of Core-Collapse Supernovae	Dr. MUELLER, Bernhard
18:55	[318] The "Swan Song" of the Pulsar Wind Nebulae	Dr. BANDIERA, Rino
19:00	[319] Axisymmetric Supernova Simulation with Spectral Neutrino Transfer	Dr. SUWA, Yudai
19:05	[320] Locations of SNe Ib/c: comparison with locations of WR stars, local metallicities and stellar ages.	Dr. GIORGOS, Leloudas
19:10	[321] Infrared and X-ray Spectroscopy of the Kes 75 Supernova Remnant Shell: Characterizing the Dust and Gas Properties	Dr. TEMIM, Tea
19:15	[324] Intensive Follow-up of the Type Ib/c SN 2010as	Dr. FOLATELLI, Gaston
19:20	[325] Explosive nucleosynthesis in neutrino-driven, zero-metal supernovae	Dr. FUJIMOTO, Shin-ichiro
19:25	[363] Lines and Loops: Polarized Spectra Reveal Three-Dimensional Supernova Structure	Dr. HOFFMAN, Jennifer
19:30	[329] A double-peaked 56Ni distribution for SN 2008D	Dr. BERSTEN, Melina
19:35	[330] RCW 86 as cosmic-ray accelerator	Ms. HELDER, Eveline
19:40	[331] The high pre-explosion mass loss rate of SN 2004C	Mr. DITTMANN, Jason
19:45	[334] Radio Observations Reveal the Mass Loss Histories of Type Ibc Supernova Progenitor Stars	Ms. WELLONS, Sarah
19:50	[367] A Blind Search for Radio Transients in M51 and Associated Radio Observations of SN 1994I	Ms. ALEXANDER, Kate

## Thursday 11 August 2011

#### Explosion mechanism - Oskar Klein (08:30-13:30)

- Conveners: CHEVALIER, Roger

### Explosion mechanism: A. Burrows, "On the Mechanism of Core-Collapse Supernova Explosions" -Oskar Klein (08:30-09:00)

time	[id] title	presenter
08:30	[298] On the Mechanism of Core-Collapse Supernova Explosions	Prof. BURROWS, Adam
Explo	osion mechanism: J. Blondin, "Hydrodynamics of core collapse" - Osk	ar Klein (09:00-09:30)
09:00	[326] Hydrodynamics of Core Collapse	BLONDIN, John
Explosion mechanism: HT. Janka, "Modeling core-collapse explosions" - Oskar Klein (09:30-10:00)		

time		presenter
09:30	[381] Modeling core-collapse explosions	Dr. JANKA, HT.

### Explosion mechanism: F. Thielemann, "Radioactivity and nucleosynthesis as probes of explosion models" - Oskar Klein (10:30-11:00)

time	[id] title	presenter
10:30	[383] Radioactivity and nucleosynthesis as probes of explosion models	THIELEMANN, F.

### Explosion mechanism: K. Nomoto, "The hypernova-GRB connection" - Oskar Klein (11:00-11:30)

time	[id] title	presenter
11:00	[376] The hypernova-GRB connection	Prof. NOMOTO, Ken

### Explosion mechanism: E. Nakar, "Newtonian and Relativistic Shock Breakouts" - Oskar Klein (13:00-13:30)

time	[id] title	presenter
13:00	[309] Newtonian and Relativistic Shock Breakouts	Dr. NAKAR, Ehud

### What we can learn from SN spectra and light curves - Oskar Klein (13:30-17:30)

- Conveners: SCHMIDT, Brian

### What we can learn from SN spectra and light curves: M. Modjaz, "Stripped core collapse supernovae" - Oskar Klein (13:30-14:00)

time	[id] title	presenter
13:30	[375] Stripped core collapse supernovae	Dr. MODJAZ, Maryam

### What we can learn from SN spectra and light curves: M. Stritzinger, "Carnegie Supernova Project **Observations of Stripped Core-Collapse Supernovae** - Oskar Klein (14:00-14:30)

time	[id] title	presenter

14:00 [362] Carnegie Supernova Project Observations of Stripped Core-Collapse Supernovae Mrs. STRITZINGER, Maximilian

# <u>What we can learn from SN spectra and light curves: N. Chugai, "Type IIn supernovae"</u> - Oskar Klein (14:30-15:00)

time	[id] title	presenter
14:30	[310] Type IIn supernovae: What can we learn from spectra and light curves	Dr. CHUGAI, Nikolai

# <u>What we can learn from SN spectra and light curves: O. Fox, "Dust in core-collapse supernovae"</u> - Oskar Klein (15:30-16:00)

time	[id] title	presenter
15:30	[387] Dust in Core-Collapse Supernovae	Dr. FOX, Ori

# <u>What we can learn from SN spectra and light curves: I. Cherchneff, "Theory of dust formation in core-collapse supernovae"</u> - Oskar Klein (16:00-16:30)

time	[id] title	presenter
16:00	[365] Theory of dust formation in core-collapse supernovae	Dr. CHERCHNEFF, Isabelle

### <u>What we can learn from SN spectra and light curves: O. Krause, "Light echoes of core collapse</u> <u>supernovae"</u> - Oskar Klein (16:30-17:00)

time	[id] title	presenter
16:30	[374] Light echoes of core collapse supernovae	Dr. KRAUSE, Oliver

### <u>What we can learn from SN spectra and light curves: L. Dessart, "Spectroscopic Modeling of</u> <u>Core-Collapse Supernovae"</u> - Oskar Klein (17:00-17:30)

time	[id] title	presenter
17:00	[369] Spectroscopic Modeling of Core-Collapse Supernovae	Dr. DESSART, Luc

### Posters and refreshments - Oskar Klein (17:30-19:00)

poster session + beer/refreshment

## Friday 12 August 2011

### Circumstellar interaction - Oskar Klein (08:30-10:00)

- Conveners: LEIBUNDGUT, Bruno

# <u>Circumstellar interaction: R. Chevalier, "Theory of circumstellar interaction"</u> - Oskar Klein (08:30-09:00)

time	[id] title	presenter
08:30	[322] Theory of Circumstellar Interaction	CHEVALIER, Roger

### <u>Circumstellar interaction: V. Dwarkadas, "Hydrodynamic Interaction and the X-ray emission from</u> <u>Supernovae arising from Massive Stars"</u> - Oskar Klein (09:00-09:30)

time	[id] title	presenter
09:00	[358] Hydrodynamic Interaction and the X-ray emission from Supernovae arising from Massive Stars	Dr. DWARKADAS, Vikram

## <u>Circumstellar interaction: A. Soderberg, "Unique Progenitor Diagnostics from Radio and X-ray</u> <u>Observations of Supernovae"</u> - Oskar Klein (09:30-10:00)

time	[id] title	presenter
09:30	[388] Unique Progenitor Diagnostics from Radio and X-ray Observations of Supernovae	Prof. SODERBERG, Alicia

### <u>SN 1987A</u> - Oskar Klein (10:30-11:30)

- Conveners: LEIBUNDGUT, Bruno

### SN 1987A: R. Kirshner, "SINS and SAINTS: 1987A and other Blasts" - Oskar Klein (10:30-11:00)

time	[id] title	presenter
10:30	[392] SINS and SAINTS: 1987A and other Blasts	Prof. KIRSHNER, Robert

### SN 1987A: P. Lundqvist, "Circumstellar gas around SN 1987A" - Oskar Klein (11:00-11:30)

time	[id] title	presenter
11:00	[293] Circumstellar gas around SN 1987A	Prof. LUNDQVIST, Peter

### SN 1987A, cont'd - Oskar Klein (13:00-16:25)

- Conveners: SODERBERG, Alicia M.

### SN 1987A, cont'd: S. Park, "X-ray emission from SN 1987A" - Oskar Klein (13:00-13:25)

time	[id] title	presenter
13:00	[360] X-Ray Emission from SNR 1987A	Prof. PARK, Sangwook

### <u>SN 1987A, cont'd: S. Ng, "Supernova 1987A in Radio"</u> - Oskar Klein (13:25-13:50)

time	[id] title	presenter
13:25	[308] Supernova 1987A in Radio	Dr. NG, Stephen CY.

# <u>SN 1987A, cont'd: K. Kjaer, "The structure of the inner ejecta of SN 1987A"</u> - Oskar Klein (13:50-14:15)

time	[id] title	presenter
13:50	[370] The structure of the inner ejecta of SN 1987A	Dr. KJAER, Karina

# <u>SN 1987A, cont'd: J. Larsson, "X-ray illumination of the ejecta of SN1987A"</u> - Oskar Klein (14:15-14:40)

time	[id] title	presenter
14:15	[366] X-ray illumination of the ejecta of SN1987A	LARSSON, Josefin

### <u>SN 1987A, cont'd: K. France, "Hydrogen, Helium, Carbon, and Nitrogen Emission from the SN 1987A</u> <u>Reverse Shock"</u> - Oskar Klein (15:10-15:35)

time	[id] title	presenter
15:10	[368] Hydrogen, Helium, Carbon, and Nitrogen Emission from the SN 1987A Reverse Shock	Dr. FRANCE, Kevin

# <u>SN 1987A, cont'd: A. Jerkstrand, "Spectroscopic modeling of SN 1987A and other Type II SNe"</u> - Oskar Klein (15:35-16:00)

time	[id] title	presenter
15:35	[299] Spectroscopic modeling of SN 1987A and other Type II SNe	Mr. JERKSTRAND, Anders

# <u>SN 1987A, cont'd: M. Matsuura, "Herschel Detects a Massive Dust Reservoir in Supernova 1987A"</u> - Oskar Klein (16:00-16:25)

time	[id] title	presenter
16:00	[306] Herschel Detects a Massive Dust Reservoir in Supernova 1987A	Dr. MATSUURA, Mikako

### Boat tour + dinner - The Boat (18:30-22:30)

## Saturday 13 August 2011

#### <u>The supernova - remnant connection</u> - Oskar Klein (09:00-10:30)

- Conveners: LUNDQVIST, Peter

### <u>The supernova - remnant connection: N. Bucciantini, "Pulsar Wind Nebulae: what we think and hope</u> <u>to know"</u> - Oskar Klein (09:00-09:30)

time	[id] title	presenter
09:00	[359] Pulsar Wind Nebulae: what we think and hope to know.	Dr. BUCCIANTINI, Niccolo

### <u>The supernova - remnant connection: R. Fesen, "The SN - SNR Connection: Young Galactic CCSN</u> <u>Remnants"</u> - Oskar Klein (09:30-10:00)

time	[id] title	presenter
09:30	[328] The SN - SNR Connection: Young Galactic CCSN Remnants	Prof. FESEN, Robert

# <u>The supernova - remnant connection: K. Heng, "Balmer-Dominated Shocks: A 3D View"</u> - Oskar Klein (10:00-10:30)

time	[id] title	presenter
10:00	[361] Balmer-Dominated Shocks: A 3D View	Dr. HENG, Kevin

#### Surveys now and in future - Oskar Klein (11:00-12:00)

- Conveners: LUNDQVIST, Peter

# <u>Surveys now and in future: S. Kulkarni, "PTF results on core collapse SNe"</u> - Oskar Klein (11:00-11:30)

# <u>Surveys now and in future: S. Smartt, "Supernovae and Transients with the Pan-STARRS survey"</u> - Oskar Klein (11:30-12:00)

time	[id] title	presenter
11:30	[333] Supernovae and Transients with the Pan-STARRS survey	Prof. SMARTT, Stephen

#### Surveys now and in future, cont'd - Oskar Klein (13:30-16:30)

- Conveners: LUNDQVIST, Peter

### <u>Surveys now and in future, cont'd: E. Müller, "Gravitational radiation from core-collapse</u> <u>supernovae"</u> - Oskar Klein (13:30-14:00)

time	[id] title	presenter
13:30	[323] Gravitational Radiation from Core Collapse Supernovae	Dr. MUELLER, Ewald

### <u>Surveys now and in future, cont'd: B. Schmidt, "Surveying The Southern Sky with SkyMapper:</u> <u>Learning about Core Collapse Supernovae"</u> - Oskar Klein (14:00-14:30)

time [id] title

presenter

14:00	[364] Surveying The Southern Sky with SkyMapper: Learning about Core Collapse	Prof. SCHMIDT, Brian
	Supernovae	

## <u>Surveys now and in future, cont'd: B. Leibundgut, "Supernova studies in the era of extremely large</u> <u>telescopes"</u> - Oskar Klein (14:30-15:00)

time	[id] title	presenter
14:30	[391] B. Leibundgut, "Supernova studies in the era of extremely large telescopes"	Dr. LEIBUNDGUT, Bruno

# <u>Surveys now and in future, cont'd: T. Dahlen, "Supernovae in the universe"</u> - Oskar Klein (15:30-16:00)

time	[id] title	presenter
15:30	[302] Supernovae in the universe	Dr. DAHLEN, Tomas

### Surveys now and in future, cont'd: C. Fransson, "Progress and prospects" - Oskar Klein (16:00-16:30)