

Table of Contents

Conference photo	xii
Preface	xiii
Organising committees	xv
List of participants	xvii

Introduction

Bengt Strömberg's Approach to the Galaxy	3
<i>Bengt Gustafsson</i>	

Disk Galaxies Throughout Time and Space

Simulations of Disk Galaxy Formation in their Cosmological Context	19
<i>Simon D. M. White</i>	
Disk Galaxies at High Redshift?	21
<i>Max Pettini</i>	
Spatially resolved dynamics of high- z star forming galaxies	33
<i>Reinhard Genzel</i>	
Simulating High-Redshift Disk Galaxies: Applications to Long Duration Gamma-Ray Burst Hosts	35
<i>Brant E. Robertson</i>	
Reconciling the Metallicity Distributions of Gamma-ray Burst, Damped Lyman- α , and Lyman-break Galaxies at $z \approx 3$	41
<i>Johan P. U. Fynbo, J. Xavier Prochaska, Jesper Sommer-Larsen, Miroslava Dessauges-Zavadsky, and Palle Møller</i>	
Stellar Populations and Dark Matter in the Milky Way Disk and in Local Group Galaxies	49
<i>Eva K. Grebel</i>	
The mass content of the Sculptor dwarf spheroidal galaxy	61
<i>G. Battaglia, A. Helmi, E. Tolstoy, and M. Irwin</i>	
Galaxy Interactions, Star Formation History, and Bulgeless Galaxies	67
<i>Shardha Jogee</i>	
Dark Matter Density in Disk Galaxies	73
<i>J. A. Sellwood</i>	
Mergers and Disk Survival in Λ CDM	85
<i>James S. Bullock, Kyle R. Stewart, and Chris W. Purcell</i>	
An 84- μ G Magnetic Field in a Galaxy at $Z = 0.692$?	95
<i>Arthur M. Wolfe, Regina A. Jorgenson, Timothy Robishaw, Carl Heiles, and Jason X. Prochaska</i>	

Abundance Gradient in the Disk of NGC 300	97
<i>Marija Vlajić, Joss Bland-Hawthorn, and Ken C. Freeman</i>	
The Galactic Disk-Halo Transition – Evidence from Stellar Abundances	103
<i>Poul Erik Nissen and William J. Schuster</i>	
Origin, Structure, and Chemical Evolution of Disks	
Abundance Gradients and Substructures in Disks	111
<i>K. C. Freeman</i>	
Mapping low-latitude stellar substructure with SEGUE photometry	121
<i>Jelte T. A. de Jong, Brian Yanny, Hans-Walter Rix, Eric F. Bell, and Andrew E. Dolphin</i>	
Cosmic evolution of stellar disk truncations: from $z = 1$ to the Local Universe . .	127
<i>Ignacio Trujillo, Ruyman Azzollini, Judit Bakos, John Beckman, and Michael Pohlen</i>	
Chemically tagging the Galactic disk: abundance patterns of old open clusters. .	133
<i>G. M. De Silva, K. C. Freeman, and J. Bland-Hawthorn</i>	
The Arcturus Moving Group: Its Place in the Galaxy	139
<i>Mary E. K. Williams, Ken C. Freeman, Amina Helmi, and the RAVE collaboration</i>	
The Bulge-disc connection in the Milky Way	145
<i>James Binney</i>	
Stellar abundances tracing the formation of the Galactic Bulge	153
<i>Beatriz Barbuy, Manuela Zoccali, Sergio Ortolani, Vanessa Hill, Alvio Renzini, Jorge Meléndez, Anita Gómez, Martin Asplund, Dante Minniti, Eduardo Bica, and Alan Alves-Brito</i>	
Unveiling the Secrets of the Galactic bulge through stellar abundances in the near-IR: a VLT/Crires project.	159
<i>Nils Ryde</i>	
Bars in Cuspy Dark Halos.	165
<i>John Dubinski, Ingo Berentzen, and Isaac Shlosman</i>	
Exponential bulges and antitruncated disks in lenticular galaxies.	173
<i>Olga K. Sil'chenko</i>	
Kinematical & Chemical Characteristics of the Thin and Thick Disks	179
<i>Rosemary F. G. Wyse</i>	
The chemical evolution of the Galactic thick and thin disks	191
<i>Cristina Chiappini</i>	
The chemical fingerprints of the thin and the thick disk	197
<i>Sofia Feltzing, Sally Oey, and Thomas Bensby</i>	
Beryllium and the formation of the Thick Disk and of the Halo	203
<i>Luca Pasquini, R. Smiljanic, P. Bonifacio, R. Gratton, D. Galli, and S. Randich</i>	

The influence of star clusters on galactic disks: new insights in star-formation in galaxies	209
<i>Pavel Kroupa</i>	
The initial luminosity and mass functions of Galactic open clusters	221
<i>Hans Zinnecker, Anatoly E. Piskunov, Nina V. Kharchenko, Siegfried Röser, Elena Schilbach, and Ralf-Dieter Scholz</i>	
Open Clusters as tracers of the Galactic disk: the Bologna Open Clusters Chemical Evolution project	227
<i>Angela Bragaglia, Eugenio Carretta, Raffaele Gratton, and Monica Tosi</i>	
Origin of Star-to-Star Abundance Inhomogeneities in Star Clusters	233
<i>Jan Palouš, Richard Wünsch, Guillermo Tenorio-Tagle, and Sergiy Silich</i>	

Session 3: Accretion and the Interstellar Medium

Warm gas accretion onto the Galaxy	241
<i>J. Bland-Hawthorn</i>	
New evidence for halo gas accretion onto disk galaxies.	255
<i>Filippo Fraternali</i>	
Group infall of substructures on to a Milky Way-like dark halo	263
<i>Yang-Shyang Li and Amina Helmi</i>	
Modelling the Disk (three-phase) Interstellar Medium	269
<i>Gerhard Hensler</i>	
Measuring Outer Disk Warps with Optical Spectroscopy.	283
<i>Daniel Christlein and Joss Bland-Hawthorn</i>	
Star Formation in Disks: Spiral Arms, Turbulence, and Triggering Mechanisms .	289
<i>Bruce G. Elmegreen</i>	
HI in Galactic Disks	301
<i>Elias Brinks, Frank Bigiel, Adam Leroy, Fabian Walter, W. J. G. de Blok, Ioannis Bagetakos, Antonio Usero, and Robert C. Kennicutt, Jr.</i>	
The Molecular Gas Component of Galaxy Disks.	307
<i>Leo Blitz</i>	
Disk Stability and Turbulence Generation: Effects of the Stellar Component . .	313
<i>Woong-Tae Kim</i>	
Spiral Arm Tangencies in the Milky Way	319
<i>Robert A. Benjamin</i>	

Session 4: Stars as Drivers and Tracers of Chemical Evolution

Evolution and chemical and dynamical effects of high-mass stars	325
<i>Georges Meynet, Cristina Chiappini, Cyril Georgy, Marco Pignatari, Raphael Hirschi, Sylvia Ekström, and André Maeder</i>	
The First Galaxies	337
<i>Volker Bromm</i>	

Chemical enrichment in the early Galaxy	343
<i>Torgny Karlsson</i>	
Halo chemistry and first stars. The chemical composition of the matter in the early Galaxy, from C to Mg	349
<i>M. Spite, P. Bonifacio, R. Cayrel, F. Spite, P. Francois, H. G. Ludwig, E. Caffau, S. Andrievsky, B. Barbuy, B. Plez, P. Molaro, J. Andersen, T. Beers, E. Depagne, B. Nordström, and F. Primas</i>	
Chemical Yields from Supernovae and Hypernovae	355
<i>Ken'ichi Nomoto, Shinya Wanajo, Yasuomi Kamiya, Nozomu Tominaga, and Hideyuki Umeda</i>	
Effects of Supernova Feedback on the Formation of Galaxies	369
<i>Cecilia Scannapieco, Patricia B. Tissera, Simon D. M. White, and Volker Springel</i>	
Chemodynamical simulations of the Milky Way Galaxy.	375
<i>Chiaki Kobayashi</i>	
On the chemical evolution of the Milky Way.	381
<i>Nikos Prantzos</i>	
Chemical evolution of the Galaxy disk in connection with large-scale winds	393
<i>Takuji Tsujimoto, Joss Bland-Hawthorn, and Kenneth C. Freeman</i>	

Session 5: Disk Galaxy Meets Λ CDM Cosmology

Formation and evolution of disk galaxies	401
<i>Joseph Silk</i>	
Disk Sizes in a Λ CDM Universe	411
<i>Qi Guo and Simon White</i>	
Cold Dark Matter Substructure and Galactic Disks	417
<i>Stelios Kazantzidis, Andrew R. Zentner, and James S. Bullock</i>	
The Galaxy and its stellar halo – insights from a hybrid cosmological approach	423
<i>Gabriella De Lucia and Amina Helmi</i>	
Numerical simulations of galaxy evolution in cosmological context	429
<i>Marie Martig, Frédéric Bournaud, and Romain Teyssier</i>	

Session 6: Surveys, Challenges and Prospects for the Future

The Challenge of Modelling Galactic Disks	437
<i>Andreas Burkert</i>	
Hydrodynamical Adaptive Mesh Refinement Simulations of Disk Galaxies	445
<i>Brad K. Gibson, Stéphanie Courty, Patricia Sánchez-Blázquez, Romain Teyssier, Elisa L. House, Chris B. Brook, and Daisuke Kawata</i>	

Present state and promises to unravel the structure and kinematics of the Milky Way with the RAVE survey	453
<i>M. Steinmetz, A. Siebert, T. Zwitter, and the RAVE collaboration</i>	
SEGUE, and the future of large scale surveys of the Galaxy	461
<i>Timothy C. Beers, Young Sun Lee, and Daniela Carollo</i>	
Galaxy And Mass Assembly (GAMA)	469
<i>Simon P. Driver and the GAMA team</i>	
What will Gaia tell us about the Galactic disk?	475
<i>Coryn A. L. Bailer-Jones</i>	
A Roadmap for Delivering the Promise of Gaia	483
<i>T. Prusti, C. Aerts, E. K. Grebel, C. Jordi, S. A. Klioner, L. Lindegren, F. Mignard, S. Randich, and N. A. Walton</i>	
The Science of Galaxy Formation	487
<i>Gerard Gilmore</i>	
New mechanisms for international coordination of large observing projects	497
<i>Johannes Andersen</i>	
Summary, Conclusions and Recommendations	501
<i>Rosemary F. G. Wyse</i>	
Poster papers	505
Author index	509

Three other papers presented at the conference but were not submitted for publication in this volume:

Disk chemical evolution with flows	<i>J. Dalcanton</i>
Stellar abundance data for other galaxies	<i>V. Hill</i>
The promise of radial-velocity surveys	<i>C. Rockosi</i>