Topology and Geometry: Commemorating SISTAG

Singapore International Symposium in Topology and Geometry (SISTAG)
July 2–6, 2001
National University of Singapore, Singapore

A. J. Berrick
Man Chun Leung
Xingwang Xu
Editors
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This is a commemorative volume of SISTAG, the Singapore International Symposium in Topology and Geometry, held from July 2–6, 2001, at the National University of Singapore.

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Preface

SISTAG, the Singapore International Symposium in Topology and Geometry, was held in the Department of Mathematics at the National University of Singapore (NUS) from 2 to 6 July, 2001. Its origin was an agreement nearly two years previously, between NUS and the University of Warwick, to establish SWIMS, the Singapore-Warwick Initiative in Mathematical Sciences. An early activity of SWIMS was a visit by a team from Singapore to attend Warwick’s September 1999 Workshop on Geometry and Topology. In order to provide an opportunity for a return visit, also within the context of an international conference, SISTAG was conceived. In fact, it was the third conference held in Singapore within this broad subject area, the predecessors being: (i) Singapore Topology Conference, June 1985—see Topology and Its Applications, vol 25 (1987), part 2; (ii) 2nd Pacific Rim Geometry Conference—see Geometry from the Pacific Rim, Walter de Gruyter & Co., Berlin, 1997.

A workshop more specifically tailored to NUS-Warwick cooperation was staged in the week (9-13 July) following SISTAG, at the same time as an NUS-JSPS (Japan Society for the Promotion of Science) Workshop in Algebra, enabling enhanced interaction.

SISTAG and its subsequent SWIMS Workshop in Geometry and Topology were attended by more than 70 participants from numerous countries, especially, but by no means exclusively, around the Pacific Rim, as well as of course from the UK. A list of participants appears on page xiii and a list of talks appears on page ix or they can be found at http://ww1.math.nus.edu.sg/SWworkshop/sistag.htm.

The conference organizers are hugely grateful to all participants for making SISTAG such a lively meeting. We also thank: AsiaCrypt’99, the Lee Foundation and the Singapore Mathematical Society for financial support; Professors Gang Tian and S-T Yau for assistance at early planning stages, and Professor Miles Reid, FRS, for vigorous organizational and promotional help; and numerous colleagues for organizational help both large and small. This last category includes (in alphabetical order) Helmer Aslaksen, Fred Leung, Bonaventure Loo, Brett McInnes, Tze-Beng Ng, Peter Pang, Geok-Choo Tan, Ser-Peow Tan, Wing-Keung To, Hong-Yu Wang, Yan-Loi Wong, Jie Wu and De-Qi Zhang; as well as the very supportive Heads of Mathematics at NUS, currently S L Lee, and his predecessor, Louis Chen; and (a sentiment shared by all participants!) Stella Pang, whose energy never flagged (even when her health did).

Such a memorable meeting deserves tangible commemoration, and that is the purpose of this volume. Each of its articles has a SISTAG speaker as author. The articles reflect both the diversity and depth of mathematical talent on display at the meeting, although they do not form a record of the talks themselves, with a number
of the papers presenting results obtained subsequent to SISTAG. Accordingly, this book should be considered as a commemorative volume rather than a conference proceedings.

We are grateful to all who offered articles for publication, and regret that in some cases tight deadlines prevented inclusion. As all articles were refereed, we also wish to record our gratitude to the anonymous referees, especially for working so agreeably within a strict timetable.

Jon Berrick (Director of SWIMS, Chair of Organizing Committee),
Man Chun Leung, Xingwang Xu, Editors
Singapore
July 2002.
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1. Alejandro Adem
   *Periodic complexes and group actions*

2. A G Aleksandrov
   *Moduli of logarithmic connections along a free divisor*

3. Denis Auroux
   *Symplectic manifolds, maps to projective spaces, and monodromy invariants*

4. I Bokor
   *A notion of connected sum for certain CW-complexes*

5. Philip Candelas
   *Calabi-Yau manifolds over finite fields*

6. Y S Cho
   *Splitting of cohomology ring of $S^2$-fibre bundle*

7. B Dai
   *Three integrable systems and their relations*

8. A A Davydov
   *K-theory of braided monoidal categories. Gerstenhaber and Batalin-Vilkoviski algebras*

9. Cameron McA Gordon
   *Exceptional Dehn surgeries on knots*

10. J A Hillman
    *On 4-dimensional mapping tori*

11. Y Hong
    *The spectra of Grassmannian manifolds*
12. KY Hu  
*On differential forms on a Hilbert manifold*

13. Dominic Joyce  
*Singularities of generic special Lagrangian fibrations and the SYZ conjecture*

14. S M B Kashani  
*Topological properties of some cohomogeneity one Riemannian manifolds of nonpositive curvature*

15. A Kilicman / A J Fawakhreh  
*Mappings and decompositions of continuity on weakly Lindelöf and weakly regular-Lindelöf spaces*

16. W M Lawton  
*The inverse problem for Euler's equation on Lie groups*

17. Man Chun Leung  
*Combining solutions of Semilinear partial differential equations in \( \mathbb{R}^n \) with critical exponent*

18. Bong H Lian  
*Large radius limits and Calabi-Yau manifolds*

19. Adrian Lim  
*Vassiliev invariants of periodic knots*

20. I Major  
*On presentations of 3-manifold groups*

21. P Marriott  
*Uses of geometry in statistical theory*

22. Rafe R Mazzeo  
*Remarks on Poincaré-Einstein metrics*

23. Michael L McQuillan  
*Non-commutative Mori theory*

24. G Mukherjee  
*Equivariant cohomology with local coefficients*

25. A C Naolekar  
*Equivalent Euler characteristics*
26. Yong-Geun Oh
   Holomorphic volume preserving maps and special Lagrangian submanifolds

27. JZ Pan
   Rational homotopy theory and nonnegative curvature

28. SL Pan
   On a curve evolution problem in the plane

29. J Park
   SW-invariants of symplectic 4-manifolds with $b_2^+ = 1$

30. Miles Reid
   K3 surfaces, Fano varieties and graded rings

31. J Hyam Rubenstern
   A survey of algorithms for 3-manifolds

32. P Sankaran
   A coincidence theorem for holomorphic maps of generalized Calabi-Eckmann manifolds

33. CL Shen
   Some applications of theory of critical points

34. YB Shen
   On complete hypersurfaces with constant mean curvature in $\mathbb{R}^{n+1}$

35. K Shimomura / Y Kamiya
   $E^*$-homology spheres and Picard groups on E-local stable homotopy categories

36. D Y Suh
   The equivariant Whitehead group of a semialgebraic $G$-set

37. Hiromichi Takagi
   On classification of Q-Fano 3-folds

38. D Tamaki
   Higher Freudenthal suspension and homology of iterated loop spaces

39. YD Wang
   Schrödinger flows into Kähler manifolds
40. YL Wen
   \textit{Minimal }\alpha\text{-division in }n\text{-dimension Euclidean space}

41. HW Xu
   \textit{On curvature and topology in submanifold theory}

42. YL Yu
   \textit{On semi-classical asymptotic expansion}

43. De-Qi Zhang
   \textit{Finite automorphism groups on rational normal surfaces}

44. Wei-Ping Zhang
   \textit{Toeplitz operators and index theorems on odd-dimensional manifolds}

45. ZX Zhou
   \textit{Solutions of the Yang-Mills-Higgs-Bogomolny equations in }2+1\text{ dimension anti-de Sitter space-time}
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