

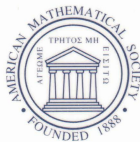
CONTEMPORARY MATHEMATICS

265

Une Dégustation Topologique: Homotopy Theory in the Swiss Alps

Proceedings of the
Arolla Conference on Algebraic Topology
August 25–September 1, 1999
Arolla, Switzerland

Dominique Arlettaz
Kathryn Hess
Editors



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Une Dégustation Topologique: Homotopy Theory in the Swiss Alps

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265

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American Mathematical Society
Providence, Rhode Island

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The Arolla Mountains

Preface

DÉGUSTER v.tr. (lat. *degustare*, goûter) Apprécier, par le goût, la saveur et les qualités d'un aliment solide ou liquide : *Déguster du vin, de l'eau-de-vie.* || Savourer, se régaler de : *Déguster son vin, son café.* || *Fig.* Savourer, apprécier : *Déguster un conte de Voltaire.* || *Pop.* Etre accablé de coups, d'injures, etc. : *Qu'est-ce qu'il a dégusté !*

–*Grand Larousse Encyclopédique*, Librairie Larousse, Paris, 1960.

As the definition above indicates, the word *déguster* is endowed with multiple meanings, all of which we feel are appropriate in characterizing the Arolla Conference on Algebraic Topology and these Proceedings.

The talks given at the conference covered a broad spectrum of current research in homotopy theory, offering participants the possibility to sample and savor selected morsels of homotopy theory, much as a participant in a wine tasting partakes of a variety of fine wines. *Dégustation* in a more literal sense was also a common occupation during the week in Arolla, as conference participants had ample opportunity to relish and regale themselves of local wines and cuisine. As for the popular, colloquial sense of the word *déguster*, it may describe the way some participants felt after the six-hour hike up to the Cabane des Aiguilles Rouges and back!

The nature of these Proceedings remains true to the figurative sense of the word *déguster*, presenting a savory sampler of homotopical delicacies. The reader will find within these pages a compilation of articles describing recent research in subjects including classical stable and unstable homotopy theory, configuration spaces, group cohomology, K-theory, localization, p -compact groups, and simplicial theory.

We would like to thank the following institutions and organizations for their generous financial support in sponsoring the Arolla Conference on Algebraic Topology.

Fonds national suisse de la recherche scientifique
Fondation Herbette de l'Université de Lausanne
Fondation du 450ème anniversaire de l'Université de Lausanne
Département de mathématiques de l'Ecole Polytechnique Fédérale
de Lausanne
Institut de mathématiques de l'Université de Lausanne
Académie suisse des sciences naturelles
Troisième cycle romand de mathématiques
Stiftung zur Förderung der mathematischen Wissenschaft
Etat du Valais

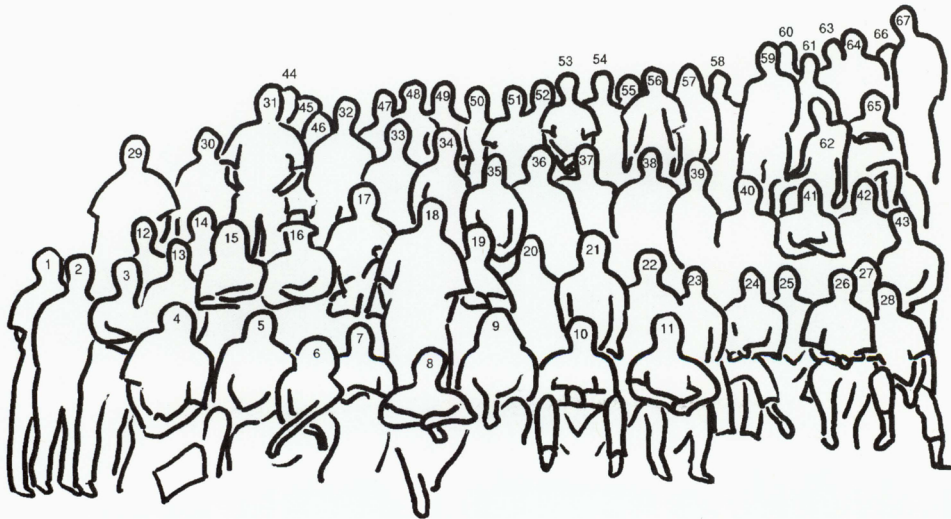
We would also like to express our appreciation to the owners and personnel of the Hôtel Mont-Collon in Arolla for their warm welcome and impeccable service during the conference.

Without the careful, thoughtful work of the referees, this Proceedings volume could never have appeared. To these colleagues who must remain anonymous, we extend our thanks. We are also grateful to Chris Thivierge at the AMS for her invaluable help and guidance.

Finally, K. Hess would like to thank Stockholm University for its generous hospitality during the editorial work on this volume.

Dominique Arlettaz
Kathryn Hess

June 1, 2000



Conference photo

1. Martin Čadek
2. Jean-Guillaume Grebet
3. Gustavo Granja
4. Joseph Neisendorfer
5. John Hubbuck
6. Cristina Costoya
7. Yuli Rudyak
8. Kasper Andersen
9. Bob Oliver
10. Jesper Møller
11. José-Luis Rodríguez
12. Stefan Schwede
13. Albert Ruiz-Cirera
14. Ian Leary
15. Hans-Werner Henn
16. Douglas Ravenel
17. Miguel Xicoténcatl
18. Jean-Claude Hausmann
19. Emmanuel Dror Farjoun
20. Jean-Louis Loday
21. William Singer
22. Antonio Viruel
23. Charles McGibbon
24. Nicholas Kuhn
25. Christian Ausoni
26. Paul Goerss
27. Bernard Badzioch
28. Steve Mitchell
29. Carles Casacuberta
30. Nobuaki Yagita
31. Ran Levi
32. Ralph Grieder
33. Régis Pellissier
34. David Chataur
35. Muriel Livernet
36. Yves Félix
37. Luc Dessauges
38. Alain Clément
39. Morten Brun
40. Bjørn Jahren
41. Dominique Arlettaz
42. Dietrich Notbohm
43. Jérôme Scherer
44. Martin Crossley
45. Jean-Paul Doerane
46. Sarah Whitehouse
47. Agnese Fassò Velenik
48. Dan Christensen
49. Pascal Lambrechts
50. Michel Matthey
51. Brooke Shipley
52. Orin Sauvageot
53. Kathryn Hess
54. Martin Jakob
55. Birgit Schmidt
56. Agnieszka Bojanowska
57. Jolanta Slominska
58. Vincent Franjou
59. William Dwyer
60. Stefan Jackowski
61. Jean-François Haemmerli
62. Alexei Davydov
63. Frederick Cohen
64. Franklin Peterson
65. Joel Segal
66. Mrs. Rudyak
67. Wojciech Chachólski

List of talks

Thursday, August 26

- | | |
|---------------------|--|
| Yves Félix | <i>On the group $Aut_1(X)$ and the set $SNT(X)$</i> |
| Paul Goerss | <i>Structured ring spectra under MU</i> |
| Jérôme Scherer | <i>Building CW-complexes with Moore spaces and cellularization of groups</i> |
| Martin Crossley | <i>Conjugation cohomology in commutative Hopf algebras</i> |
| José Luis Rodríguez | <i>Large localizations of finite simple groups</i> |

Friday, August 27

- | | |
|--------------------|---|
| Bill Dwyer | <i>Partitions and flags</i> |
| Carles Casacuberta | <i>Near-rings and localizations of wedges of circles</i> |
| Jesper Grodal | <i>Subgroup complexes, higher limits, and maps between classifying spaces</i> |
| Brooke Shipley | <i>Rational equivariant stable homotopy</i> |
| Stefan Schwede | <i>The stable homotopy category has a unique model at the prime 2</i> |

Saturday, August 28

- | | |
|------------------|---|
| Fred Cohen | <i>On combinatorial group theory in homotopy theory</i> |
| Joe Neisendorfer | <i>An unstable Kahn-Priddy theorem</i> |
| Alexei Davydov | <i>Splitting of Gysin sequences</i> |
| Ran Levi | <i>The space $Aut(BG_p)$ for a finite group G</i> |
| Ralph Grieder | <i>Equivariant bordism of finite groups: computations in dimension 2</i> |

Monday, August 30

- | | |
|--------------------|---|
| Chuck McGibbon | <i>Numerical invariants of phantom maps</i> |
| Nick Kuhn | <i>Fun and GAMESS: computing of n-fold loop spaces</i> |
| Ian Leary | <i>On universal proper G-CW-complexes</i> |
| Dan Christensen | <i>Brown representability</i> |
| Miguel Xicoténcatl | <i>The cohomology of the configuration space of $\mathbb{R}P(n)$</i> |

Tuesday, August 31

- Hans-Werner Henn *Euler characteristic of orthogonal groups over $\mathbb{Z}[\frac{1}{2}]$*
Steve Mitchell *K-theory hypercohomology spectra at the prime 2*
William Singer *On the cohomology of Hopf extensions*
Emmanuel Dror Farjoun *Some properties of polyGEMs*
Wojciech Chachólski *Homotopy meaningful constructions*

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The talks given at the Arolla Conference on Algebraic Topology covered a broad spectrum of current research in homotopy theory, offering participants the possibility to sample and relish selected morsels of homotopy theory, much as a participant in a wine tasting partakes of a variety of fine wines. True to the spirit of the conference, the proceedings included in this volume present a savory sampler of homotopical delicacies. Readers will find within these pages a compilation of articles describing current research in the area, including classical stable and unstable homotopy theory, configuration spaces, group cohomology, K-theory, localization, p -compact groups, and simplicial theory.

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