

CURRICULUM VITAE ABREVIADO

Part A. PERSONAL INFORMATION

Name Aniceto Jesús Murillo Mas

A.1. Current position

Position	Catedrático de Universidad		
Initial date	November 19, 2007		
Institution	Universidad de Málaga		
Department/Center	Matemáticas	Facultad de Ciencias	
Country	España		
Key words	Homotopy theory, Higher algebra		

A.2. Previous positions (research activity interruptions, indicate total months)

Period	Position/Institution/Country/Interruption cause
1992-2007	Profesor Titular/ Universidad de Málaga/España/promotion

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
Licenciado	Málaga/España	1985
Ph.D.	Málaga/España, advisor S. Halperin, Univ. Toronto	1989

Part B. CV SUMMARY

With the common thread being homotopy theory in general, and rational homotopy theory in particular, I have also worked in related topics, including higher algebra, differential geometry, applied topology (algorithmic complexity, topological robotics, persistence), etc. Recently, and motivated by the Deligne Principle, we have extended in full generality the classical Quillen approach to rational homotopy theory by developing a new homotopy framework in the category of complete Lie algebras.. From this point, we have observed how this novel approach leads to fascinating applications and enables the resolution of problems that seemed previously insurmountable.

Regarding the aforementioned and throughout my career:

In terms of **generation of knowledge**:

- I have published more than seventy research articles, most of them in journals considered by the scientific community of very good level.
- I have been involved in 17 research projects funded by the Government of Spain (12), the European Community (2) and the government of Andalucía (3).

In terms of **scientific responsibility and leadership capabilities**, including **research evaluation and management**:

- I have been the Principal Investigator (PI) of 7 nationally funded projects, and of one Excellence Project funded by the Junta de Andalucía with the highest rating (100 points). I have been the coordinator of the Spanish node in 2 projects funded by the European Community.

- I have actively participated in selection, advisory, and evaluation committees at both national and international levels. This includes committees such as those for the Ministerio de Ciencia e Innovación y Ministerio de Economía y Competitividad (Spain), NSF (National Science Foundation) in USA, NSERC (Natural Sciences and Engineering Research Council of Canada), FNRS (Fonds de la Recherche Scientifique) in Belgium, European Science Foundation, Czech Academy of Sciences, FONCYT in Argentina, and others.
- I have participated in the organization of around thirty national and international scientific events, serving as President or Coordinator of Scientific and/or Organizing Committees for some of them. Examples include the International Conference in Algebraic Topology Málaga 1993, ATM-03 International Conference on Algebraic Topology Málaga 2003, II Joint Meeting RSME-SMM Málaga 2012, Rational Homotopy Workshop at the Fields Institute, Canada 2012, and four editions of the international workshop "Computer algebra in algebraic topology and its applications" (Spain 2013, Greece 2015, Germany 2016, Israel 2017), among others.

In terms of **internationalization**, in addition to my involvement as a coordinator in European projects and international committees:

- I have delivered numerous plenary talks at international R&D events. Some examples, in addition to those mentioned in section C2, include, among others, presentations at the Topology Seminar at Princeton University; Annual Meeting DGR Angers, France; EACAT4 Conference, Tokyo; ACA Houston; Algebraic Topology International Conference, Chinese Academy of Sciences, Beijing; Topologie Algebrique a Lens et Lille; Braids International Conference, NUS Singapore; Workshop on Topology and Robotics at the ETH, Zurich; Ontario Topology Workshop in Ottawa.
- I have undertaken research stays at prestigious institutions, including, among others, the Max Planck Institute in Germany; University of Maryland, Cleveland State University, Dartmouth College and IMA in USA; Universities of Ottawa and Toronto and Fields Institute in Canada; Chern Institute and Chinese Academy of Sciences in China; IMS in Singapore; Université Catholique de Louvain in Belgium; University of Lille in France; University of Tokyo in Japan; Moscow State University in Russia; Nicolaus Copernicus University and University of Warmia-Mazury in Poland. In most of these stays, I have given talks in the permanent seminars and have collaborated with researchers of the corresponding institutions.

In terms of **training of researchers**:

- I have supervised nine doctoral theses. Four of the completed PhD graduates hold positions as associate professors, one is an assistant professor, and another currently has a postdoc position at the University of Toulouse.
- In addition to graduate courses taught at the University of Malaga, I have also delivered graduate courses at other national and international institutions as the Universidad Complutense, University of Tokyo, University of Angers, University of Regensburg, etc.

In **other aspects**:

- I belong to the editorial board of the Springer journal "Applicable Algebra in Engineering, Communication and Computing."
- I hold five consecutive "sexenios de investigación".
- I possess the Certificate of Excellence in Teaching issued by the University of Malaga.
- I have been awarded (together with U. Buijs, Y. Félix, and D. Tanré) the Ferran Sunyer i Balaguer 2020 Prize for the work "Lie Models in Topology."

Part C. RELEVANT MERITS

Only five items are included for each section and within the last ten years

C.1. Publications

1) Yves Félix, Mario Fuentes y Aniceto Murillo.

Lie models of homotopy automorphisms monoids and classifying fibrations.

Advances in Math. 402, 1-64, 2022.

2) Urtzi Buijs, Yves Félix, Aniceto Murillo y Daniel Tanré.

Lie Models in Topology (libro)

Progress in Mathematics 335, Birkhäuser, 2020 (Recipient of the Ferran Sunyer I Balaguer Prize 2020)

3) Urtzi Buijs, Yves Félix, Aniceto Murillo y Daniel Tanré.

Lie models of simplicial sets and representability of the Quillen functor

Israel Journal of Math. 238(1), 313-358, 2020.

4) Urtzi Buijs, Yves Félix, Aniceto Murillo y Daniel Tanré.

Homotopy theory of complete Lie algebras and Lie models of simplicial sets.

Journal of Topology 11(3), 799-825, 2018.

5) Urtzi Buijs, Yves Félix, Sergio Huerta y Aniceto Murillo.

The homotopy fixed point set of Lie group actions on elliptic spaces.

Proceedings of the London Math. Society 110(5), 1135-1156, 2015.

C.2. Congress (All the items listed are invited plenary talks)

1) *The geometrical side of derivations of a Lie algebra,*

Workshop on categories and topology,

Université Catholique de Louvain (Belgium), 2022.

2) *Homotopy theory of complete Lie algebras,*

International Conference “*Higher Algebras in Topology*”,

Max Planck Institute for Mathematics, Bonn (Germany), 2019.

3) *A new homotopy theory for complete Lie algebras,*

International Conference “*Rational Homotopy Theory and its Applications*”,

Université de Lille (France), 2018.

4) *A new approach to rational homotopy theory,*

International conference “*Mapping spaces in algebraic topology*”,

University of Kyoto (Japan), 2018.

5) *Deformation functors and homotopy theory of DG Lie algebras,*

29th. *British Topology Meeting,*

University of Southampton (UK), 2014.

C.3. Research projects (In all the listed projects I have been PI except for the European project, where I have served as Coordinator for the Spanish Node.)

1) **TITLE AND REFERENCE:** Higher Homotopy Theory (PID2023-149804NB-I00).

FINANCING INSTITUTION: Ministerio de Ciencia e Innovación (Government of Spain) .

DURATION: September 2024-August 2027.

2) Modern homotopy theory and higher algebra: applications and interactions. (PID2020-118753GB-I00).

Ministerio de Ciencia e Innovación (Government of Spain) .

September 2021-August 2024.

3) Higher structures in differential geometry and homotopy theory (MTM-2016-78647-P). Ministerio de Economía y Competitividad (Government of Spain).

January 2017-June 2021.

4) Invariants of smooth and topological structures modulo deformation (MTM-2013-41768-P).

Ministerio de Economía y Competitividad (Government of Spain).

January 2014-December 2016.

5) Applied and Computational Algebraic Topology ACAT (European Science Foundation Project NRP-09) .

ESF (European Science Foundation), European community, by nodes of 11 participating countries.

July 2011-June 2015.