

**Curriculum Vitae of Claude MOOG**  
**Director of Research at CNRS**  
**Fellow of the IEEE**  
**Corresponding Member of the Mexican Academy of Sciences**  
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# I. SUMMARY

## **Current Position**

2000 – present: Director of Research at CNRS.

## **Education**

Doctorat d’Etat (Nantes- France), 1987,  
Ph.D in Automatic Control (Nantes-France), 1981,  
M.Sc Automatic Control (Besançon - France), 1978

## **Teaching activities**

Nonlinear control systems. For engineering students and international M.Sc students.  
Teaching in France, USA, Italy and Poland.

## **Research interest**

- Theory of nonlinear systems,
- control of walking robots
- applications to biologic systems.

## **Career**

Directeur de Recherche CNRS/ Chargé de recherche CNRS, since 1983,  
Assistant professor at Ecole Centrale de Lyon 1981-1983.  
Invited professor at the University of Michigan (Ann Arbor), CINVESTAV (Mexico)

## **Professional activities:**

Head of the “nonlinear systems” rsearch team of IRCCyN (1992 -1999), head of the  
“conrol” group at IRCCyN, from 2006 to 2013.  
2002 – 2016: In charge of the “doctoral studies” at IRCCyN.

## **Supervision of thesis:**

1 Doctorat d’Etat,  
22 PhD students  
17 Masters students

## **Summary of Publications:**

International Journals 93  
Books 4  
International conferences: over 150

### Awards:

Fellow member of the IEEE

Corresponding Member of the Mexican Academy of Sciences

**Impact factor** (evaluated in June 2020 from [ISI Web of Science](#)) :

Total number of papers, ref. Web of Science, Np	Total number of citations Nc,tot	Number of citations per paper Nc,tot/Np	H factor
150	1785	11.9	21

### Other relevant informations

- Member of the 2016 CDC Best Student Paper Award (BSPA) committee
- Associate Editor for "IEEE Transactions on Automatic Control" November 2006 – Dec. 2016.
- Associate Editor for "Systems and Control Letters" from January 2004 to 2014.
- Associate Editor for "IMA Journal of Mathematical Control and Information" from January 2008 to 2015.
- Member of the editorial committee of the Estonian Academy of Science
- President of an IEEE co-sponsored Conference, Conférence International Francophone d'Automatique 2002, <http://www.irccyn.ec-nantes.fr/cifa/>

Member of several International Program Committees of international conferences:

- IFAC World Congress à Toulouse, France. <https://www.ifac2017.org/IPC>
- IEEE MED 2016 , Athens, Greece. [http://med2016.org/?page\\_id=2](http://med2016.org/?page_id=2)
- IFAC ROCOND'15 , Bratislava, Slovakia. <http://www.rocond15.sk/>
- IEEE MED 2014 , Palermo, Italy. <http://www.unipa.it/med14/organization.php>
- IEEE CCCA'12 , Marseille. <http://nkms.free.fr/WebCCCA/ccca12/international%20committee.html>
- IFAC SSSC'10 , Ancona, <http://leibniz.diiga.univpm.it/SSSC10/>
- IFAC NOLCOS 2010 à Bologne, <http://www.nolcos2010.unibo.it/ipc.html>
- 14<sup>th</sup> Mediterranean Conference on Control and Automation MED06
- 9<sup>th</sup> Int. Conf. on Mechatronics Technology, Kuala Lumpur, Malaysia, 2005 <http://www.jfps.jp/ICMT2005.pdf>
- 3<sup>rd</sup> International Conference on control theory and applications, Pretoria, South Africa, 2001.
- IEEE congress "Control Systems and Applications", Trieste, 1998
- 7<sup>th</sup> IFAC Symposium on Nonlinear Control Systems, Pretoria, South Africa, 2007,
- IFAC, 2nd African Control Conference, Durban, South Africa, 2006,
- 6<sup>th</sup> Workshop on Time Delay Systems, L'Aquila, Italy, 2006.
- IFAC Congress "Systems Structure and Control", Prague, 2001
- 3<sup>rd</sup> IFAC Workshop "Linear Time Delay Systems", Ancona, Italy, 2000
- IFAC Conf. "Control Systems Design", Bratislava, 2000
- IFAC congress "New Trends in Design of Control Systems", Bratislava, 1997.

- 3<sup>rd</sup> International Workshop, NEW COMPUTER TECHNOLOGIES IN CONTROL SYSTEMS, 1996, Pereslavl-Zalessky, Russia

International responsibilities:

- Head of several cooperation programs with the USA, Mexico, South Africa, China, UK, Italy...
- Member of the International Program Committee for several leading conferences (IFAC, ...)
- International Expert for research programs or teaching staff (for Canada, Turkey, South Africa, Mexico, Belgium)

## II. SELECTED PUBLICATIONS (Most cited)

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### A : International journals

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- [1] E. Aranda-Bricaire, U. Kotta et C.H. Moog. Linearization of discrete-time systems. SIAM Journal of Control and Optimization, 1996, 34, (6). Pages:1999--2023. <http://dx.doi.org/10.1137/S0363012994267315>
- [2] X. Xia et C. Moog. Identifiability of nonlinear systems with application to HIV/AIDS models. IEEE Transactions on Automatic Control, Fevrier, 2003, 48, (2). Pages:330-336. <http://dx.doi.org/10.1109/TAC.2002.808494>
- [3] J.W. Grizzle, C.H. Moog et C. Chevallereau. Nonlinear Control of Mechanical Systems with an Unactuated Cyclic Variable. IEEE Transactions on Automatic Control, May 2005, Pages:559 - 576. Vol. 50. <http://dx.doi.org/10.1109/TAC.2005.847057>
- [4] J. Descusse et C. Moog. Decoupling with Dynamic Compensation for Strong Invertible Affine Non Linear Systems. International Journal of Control, 1985, 42, (6). Pages:1387--1398. <http://dx.doi.org/10.1080/00207178508933432>
- [5] E. Aranda-Bricaire, C.H. Moog et J.B. Pomet. A Linear Algebraic Framework for Dynamic Feedback Linearization. IEEE Transactions on Automatic Control, Janvier, 1995, 40, (1). Pages:127--132. <http://dx.doi.org/10.1109/9.362886>
- [6] A. Glumineau, C.H. Moog et F. Plestan. New algebro-geometric conditions for the linearization by input-output injection. IEEE Transactions on Automatic Control, Avril, 1996, 41, (4). Pages:598--603. <http://dx.doi.org/10.1109/9.489283>
- [7] M.D. Di Benedetto, J.W. Grizzle et C. Moog. Rank Invariants for Nonlinear Systems. SIAM Journal of Control and Optimization, 1989, 27, (3). Pages:658-672. <http://dx.doi.org/10.1137/0327035>
- [8] C.H. Moog, R. Castro-Linares, M. Velasco-Villa et L.A. Marquez-Martinez. The Disturbance Decoupling Problem for Time-Delay Nonlinear Systems. IEEE Transactions on Automatic Control, 2000, 45, (2). Pages:305-309. <http://dx.doi.org/10.1109/9.839954>
- [9] L.A. Marquez-Martinez et C. Moog. Input-output feedback linearization of Time-Delay Systems. IEEE Transactions on Automatic Control, 2004, Pages:781-786. vol. 49, no. 5, May 2004. <http://dx.doi.org/10.1109/TAC.2004.825978>
- [10] M.T. Angulo, C.H. Moog and Y.Y. Liu, A theoretical framework for controlling complex microbial communities, Nature Communications, 2019, 10, Article number: 1045. <https://doi.org/10.1038/s41467-019-08890-y>

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## B : Books

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- [1] G. Conte, C. Moog et A.M. Perdon. Nonlinear Control Systems: An Algebraic Setting. Springer Verlag, 1999, Londres, Grande-Bretagne, 242, Lecture Notes in Control and Information Sciences.
- [2] G. Conte, C. Moog et A.M. Perdon. Riadenie nelinearnych systemov : algebricky pristup. Slovenska teknik univerzita v Bratislave, 2001, Bratislava, Slovaquie, ISBN 80-227-1490-9.
- [3] G. Conte, C.H. Moog et A.M. Perdon. Algebraic Methods for Nonlinear Control Systems. Springer, 2<sup>nd</sup> edition, 2007, Londres, Grande-Bretagne, Communications and Control Engineering, <http://www.springer.com/1-84628-594-1>
- [4] G. Conte, C.H. Moog et A.M. Perdon. 非线性控制系统的代数方法, Algebraic Methods for Nonlinear Control Systems. Science Press, 2013, Beijing, China, ISBN 978-7-03-038121-7, [http://www.sciencep.com/t\\_single.php?id=34212](http://www.sciencep.com/t_single.php?id=34212)

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## Br : Patents

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- [1] N. Magdelaine, C.H. Moog, P.S. Rivadeneira, L. Chaillous, M. Krempf, Artificial Pancreas, US Provisional, N° **US 62/407,723**, 13 octobre 2016, PCT/EP2017/076209.
- [2] N. Magdelaine, C.H. Moog, L. Chaillous, M. Aït-Ahmed, Method for estimating glycemia and/or controlling an insulin injection device, dépôt européen, N° 18 306 812.1, 21 décembre 2018.