

**NADIA MAÏZI**  
**Born on 02/19/1965**  
**Algerian and French**

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## EDUCATION

Université Nice Sophia Antipolis (UNS), France	Optimisation, Prospective	<i>Habilitation</i> 2012
Stanford University, USA	Robotics, Computer Science	Post Doc 1994
MINES ParisTech, France	Control Science	Ph.D. 1992
MINES ParisTech, France	Civil Engineering	M.Eng. 1988
Aix-Marseille University, France	Pure Mathematics	M.Sc. 1986

## CURRENT POSITIONS

2018-present	Intergovernmental Panel on Climate Change (IPCC) member. <i>Lead Author for the Sixth Assessment Report AR6</i>
2000-present	<i>Director of the Center for Applied Mathematics of MINES ParisTech, PSL Research University. Professor in Applied Mathematics.</i> Promoted to <i>First Class</i> in 2006, to <i>Classe Exceptionnelle</i> in 2015
2009-present	<i>Head, ParisTech Delegation for the United Nations Framework Convention on Climate Change (UNFCCC)</i>
2008-present	<i>Founder and Director, ParisTech Chair ‘Modeling for Sustainable Development’</i>
2005-present	<i>Scientific advisor, Program TOSCA, Inria</i>
1999-present	<i>Founder and co-Director, Master of Advanced Studies (MAS) in Energy Optimization, MINES ParisTech</i>

## PREVIOUS POSITIONS

1997-2000	<i>Associate Professor in Computer Science and Control, MINES ParisTech</i>
1997-2000	<i>Deputy Director, Institute for Research in Computer Science and Control, MINES ParisTech</i>
1995-1997	<i>Research Associate and Senior Lecturer, Applied Mathematics, MINES ParisTech</i>

## AWARDS (HONOURS)

Chevalier de la Légion d'honneur (2015). Chevalier de l'Ordre National du Mérite (2009).  
Chevalier des Palmes Académiques (2006).

## SUPERVISION OF GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS

1995-present:

- Advisor for 2 **postdoctoral** students at MINES ParisTech: 1 assistant professor, 1 researcher at IIASA (International Institute for Applied Systems Analysis), Austria. Currently advising for 2 postdoctoral students.
- Advisor for 22 **Ph.D.s** (8 as co-advisor) at MINES ParisTech (one with Universidad de Chile): 10 have careers in R&D (including 4 assistant professors) and 5 are expert scientists at IEA (International Energy Agency), IFPEN (IFP énergies nouvelles). Currently advising for 4 Ph.D.s at MINES ParisTech (2 as co-advisor) and 3 Ph.D.s with Algeria (CREAD, Ecole Polytechnique d'Alger) (3 as co-advisor).
- Advisor or co-advisors 300 **advanced Master** students from Master of Advanced Studies (MAS) in Energy Optimization, MINES ParisTech and Master of Advanced Studies in Control Science. Most of them are in Energy Companies and International Organizations and Engineering Companies.
- Advisor of 10 **Master** international students from MIT (US), Ecole Polytechnique de Tunis (Tunisia), Université de l'Aquila (Italy), Université Libre de Bruxelles (Belgium), Université Catholique de Louvain (Belgium), Université d'Oran (Algeria), Universität of Munchen (Germany).
- Member of 25 Ph.D. thesis committees and habilitation committees at MINES ParisTech, Mines d'Albi, Institut Polytechnique de Grenoble, Université de Tours, Université Joseph Fourier Université Paris Saclay, EHESS in France, and Université Catholique de Louvain (Belgium), NTNU (Norway), University of Bergen (Norway).

## TEACHING ACTIVITIES

*N.B:* I created all my lectures.

2018-present	: Modeling the energy and climate transitions. Master level. Ecole Polytechnique. France
2015-2016	: lecturer co-organizer MOOC Causes and Challenges of Climate Change (UVED) (more than 7500 attendees) and in Energy transition MOOC (in preparation) from IMT (FUN)
2008-present	: Prospective Modeling and Climate Change. Master level at MINES ParisTech, Ecole des Mines de Nancy, Ecole Centrale Lille, Université Paris Saclay.

- 1999-2019 : Optimization, Operational Research and Prospective. Master of Advanced Studies level (in Energy Optimization) MINES ParisTech
- 1995-2003 : Control and System Theory. Master level. MINES ParisTech, Ecole des Mines de St-Etienne, Université de Nice Sophia-Antipolis.

### **INSTITUTIONAL RESPONSIBILITIES**

- 2020-present : Member of advisory committee of the CEA (French Commissariat aux Energies Alternatives) (nominated by the French Ministry of Ecology, Sustainable Development and Energy)
- 2020-present : Member of the scientific committee PHC-Tassili (French cooperation with Algeria) nominated by the French Ministry of Foreign Affairs.
- 2018-present : IPCC member (nominated by the French government)
- 2015-2018 : Member of the Energy Transition Expert Committee (nominated by the French Ministry of Ecology, Sustainable Development and Energy) working on the Energy Transition for Green Growth Act.
- 2016-2018 : Coordinator for the collaboration between PSL Research University (to which MINES ParisTech belongs) and University of California, Berkeley.
- 2005-present : French Delegate, member of the executive committee, Energy Technology Systems Analysis Program (ETSAP), IEA (International Energy Agency).
- 2015-2018 : Member of the Board of Directors of the Smart Grids France association.
- 2015-2018 : Member of the Scientific Committee of the Ministry of Ecology, Sustainable Development and Energy's program, Climate Change Management and Impacts (GICC).
- 2013-2015 : Member of the smart grid plan (Reseaux Electriques Intelligents - REI), representing the French Ministry of Higher Education and Research and the Carnot Institutes. Leader of the REI plan projects "Smart Grid Academy" and "Research & Development".
- 2013-2017 : Elected member representing Professors at the Scientific committee for the Institut MINES-Telecom.
- 2010-2011 : Member of the advisory committee of the Commissariat-General for Investment (Prime Minister) for the ad hoc committee on the program "Future investment, the circular economy and decarbonized energy".
- 2008-present : Chair and Committee member of the annual scientific workshops of the Chair Modelling for sustainable development.

### **REVIEWING ACTIVITIES**

- 2019-present : Editorial board member, Sustainability, MDPI : <https://www.mdpi.com/journal/sustainability>
- 2018-present : Member of the scientific committee of the 3IA Institute in Artificial Intelligence. Sophia-Antipolis. Fr.
- 2018-2019 : Member of the Panel for the Scientific Evaluation (HCERES) for IFSTAR and CEATech institutes .
- 2018-present : Expert for the scientific advisory board for IFPen (IFP Energies nouvelles).
- 2018-present : Member of the Panel for the Scientific Evaluation of the Helmholtz Association of German Research Centers Forschungszentrum Jülich(FZJ).
- 2015-2019 : Member of the Sustainable Development Researchers Review Committee for the French Ministry of Ecology, Sustainable Development and Energy.
- 2017-2020 : Member of a nomination committee for an associate or assistant professor tenure track position (University of Genève, Switzerland) and for researchers (Inria, France).
- 2014-2016 : Member of the Appellation Committee, Telecom ParisTech..
- 2014 : Member of the Energy Scientific Review Committee for the French national research agency (ANR).

**Expert and committee member for research agencies:** ANR (France), ECOS-Nord (Evaluation for scientific collaboration program), the European Commission (Cooperation Program of the 7th Research Framework Program), NSERC (Natural Sciences and Engineering Research Council of Canada), FNRS (Belgium).

**Referee:** Energy Policy, Applied Energy, Energy Economics, Energy journals, Renewable and Sustainable Energy Reviews, IFAC and IEEE Conferences.

### **MEMBERSHIP IN PROFESSIONAL ASSOCIATIONS, SOCIETIES**

Member SMF, SIAM, IEEE, IAEE

### **MAJOR COLLABORATIONS**

B. SHEN, Smart grids, Lawrence Berkeley National Laboratory (Berkeley Lab), UC Berkeley  
 F. TENG, Modeling, Institute of Energy, Environment and Economy, Tsinghua University, China  
 J.-C. HOURCADE, Economics, CIRED, CNRS, France  
 M. BOSSY, Stochastics and game theory, INRIA, France  
 V. MAZAUIC, Physics. Innovation and Research department, Schneider Electric

### **MAJOR CONTRIBUTIONS TO THE EARLY CAREERS OF EXCELLENT RESEARCHERS**

*Past PhD students:* E. Assoumou (2006), now Assistant. Pr. at MINES ParisTech, Jan Neering (2009), now at the European Patent Office, J.-M. Cayla (2011), now at EDF R&D, M. Drouineau (2011), now at ERDF, G. Seck (2012), now at IFPen, S. Postic (2015) now at I4CE, S. Kang (2017) now at IRENA, G. Bonvin (2018) now in an R&D company in Switzerland, T. Le Gallic (2017) now at CIRED/CNRS, S. Bouckaert (2013) and P. Hugues (2014) and F. Briens (2015) and A. Millot (2019) now at the International Energy Agency.

## TOP TEN PUBLICATIONS DURING THE LAST DECADE

*N.B.*: The leading and most prestigious journals in the energy field are: *Applied Energy* and *Energy Economics*, followed by *Energy Policy* and *Energy*, which are in the top six. As team leader, and most senior researcher, my name usually features last in the list of authors (PhD students and/or researchers colleagues). I only sign papers for which I have substantially contributed to both the work and the writing.

1. Millot, A., Krook-Riekkola, A., Maïzi, N. 2020. Guiding the future energy transition to net-zero emissions: Lessons from exploring the differences between France and Sweden. *Energy Policy*. Vol 139. 11358.
2. Sokhna Seck, G., Krakowski, V., Assoumou, E., Maïzi, N., Mazauric, V. 2020. Embedding power system's reliability within a long-term Energy System Optimization Model: Linking high renewable energy integration and future grid stability for France by 2050. *Applied Energy* 257, 114037.
3. Boubault, A., Maïzi, N., 2019. Devising Mineral Resource Supply Pathways to a Low-Carbon Electricity Generation by 2100. *Resources* 8(1), 33; doi:10.3390/resources8010033. Citations 8
4. Selosse, S., Garabedian, S., Ricci, O., Maïzi, N., 2018. The renewable energy revolution of reunion island, *Renewable and Sustainable Energy Reviews*. Volume 89. 99-105. Citations 32
5. Krakowski, V., Assoumou, E., Mazauric, V., Maïzi, N., 2016. Feasible path toward 40% - 100% renewable energy shares for power supply in France by 2050: A prospective analysis. *Applied Energy* 171. 501-522. Citations 93
6. Bonvin G., Demasse S., Le Pape C., Mazauric V., Maïzi N., 2015. A convex mathematical program for pump scheduling in a class of branched water networks, *Applied Energy* 185, pp.1702-1711. Citations 51
7. Drouineau, M., Maïzi, N., Mazauric, V., 2014. Impacts of intermittent sources on the quality of power supply: The key role of reliability indicators. *Applied Energy* 116 pp 333-43. Citations 51
8. Maïzi, N., Assoumou, E., 2014. Future prospects for nuclear power in France, *Applied Energy*, Volume 136, Pages 849-859. Citations 33
9. Dubreuil, A., Assoumou, E., Bouckaert, S., Selosse, S., Maïzi, N., 2013. Water modeling in an energy optimization framework - The water-scarce middle east context, *Applied Energy* 101, pp 268-279. Citations 118.
10. Cayla, J.-M., Maïzi, N., Marchand, C, 2011. The Role of Income in Energy Consumption Behaviour: Evidence from French Households data, *Energy Policy*, 39, Issue 12, Pages 7874-7883. Citation 161

## RESEARCH MONOGRAPHS AND ANY TRANSLATIONS THEREOF

11. Millot, A., Doudard, R., Le Gallic, T., Briens, F. Assoumou E. and Maïzi, N. 2018. France 2072: Lifestyles at the core of carbon neutrality challenges, In: Giannakidis G., Karlsson K., Labriet M., Gallachoir B. (eds) *Limiting Global Warming to Well Below 2 C: Energy System Modelling and Policy Development*. Lecture Notes in Energy, vol 64. Springer.
12. Maïzi, N., Bouckaert, S., Assoumou, E., 2016. Long term water and energy issues in european power systems in J.R. Ziolkowska, J.M. Peterson, editors. *Competition for Water Resources: Experiences and Management Approaches in the US and Europe*. Elsevier: Cambridge, MA. (ISBN: 9780128032374)
13. Maïzi, N. (Dir.). 2015. *Changing the scale for climate negotiations: Eight initiatives centered on regions, sectors and citizens*, Presses de l'Ecole des Mines Ed. (ISBN: 978-2-35671-238-7).
14. Bossy, M., Maïzi, N., Pourtallier, O., 2015. Game theory analysis for carbon auction market through electricity market coupling, Ludkovski, M; Sircar, R; Aid, R (Ed). *Commodities, Energy and Environmental Finance*, 74, Springer, pp.335-370, Fields Institute Communications, (ISBN 978-1-4939-2732-6).

## PATENTS GRANTED

1. Maïzi, N., Drouineau, M., Mazauric, V. (inventors) Procédé d'estimation de la stabilité d'un système électrique. FR20110061087 20111202 Schneider Electric Industries SAS/ARMINES. 11-30-2012.
2. Maïzi, N., Drouineau, M., Mazauric, V., Bouckaert, S. (inventors) Method of estimating the stability of an electrical system WO2012EP74161 20121130 Schneider Electric Industries SAS/ARMINES. 07-10-2015.

## ORGANIZATION OF INTERNATIONAL CONFERENCES

- 2018-present : Member of the scientific committee for the SOPH.I.A Summit Springboard for AI.
- 2016-present : Stream organizer for the INFORM conference.
- 2015 : Stream organizer, Our Common Future Conference, Paris.
- 2013 : Chair of the mini-symposium SMAI (French applied mathematics and industrial society).
- 2010-present : Member of the scientific committee for the ParisTech side event at UNFCCC (United Nation Framework Convention on Climate Change Conference) COP15 to COP25 Madrid.
- 2010 and 2015 : Chair & co-organizer ETSAP (Energy Technology Systems Analysis Program) workshops.
- 2010-present : Member of the International Scientific Committee for the Engineering Optimization Conf.
- 2010-present : Stream organizer for the European Conference on Operational Research.
- 2010 : Chair of a symposium in International Engineering Optimization Conference, Lisboa.