#### PERSONAL INFORMATION

# Rachid MRABET *PhD*Research Director (INRA, Rabat)

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Date & Place of Birth: July 22<sup>nd</sup>, 1964, Oujda, Morocco

Nationality: Moroccan

Marital Status: Married (Mustapha, Sami & Ghita)

**Professional Address**: Institut National de la Recherche Agronomique (INRA).

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https://scholar.google.fr/citations?user=RZyhrbUAAAAJ&hl=fr

### **EDUCATION - DIPLOMA**

**1993-1997 - PhD** in Agronomy - Department of Soil & Crop Sciences, Colorado State University, Fort Collins, CO. USA.

**1986-1989 - MSc** in Soil Physics - Institut Agronomique et Vétérinaire Hassan II (IAV Hassan II), Rabat, Morocco.

**July 1986 - February 1988 - Adult Special in Soil Physics -** Department of Soil, Water, and Climate, University of Minnesota, Saint Paul, MN, USA.

**1982-1986 - BSc** in Agricultural Engineering – IAV Hassan II, Rabat, Morocco (July 1986).

1982 – High School Diploma, Lycée Omar Ibn Abdelaziz, Oujda, Morocco.

### **THESIS**

- ✓ **Mrabet, R.** (1997). Crop residue management and tillage systems for water conservation in a semiarid area of Morocco. *PhD* Dissertation. Colorado State University, Fort Collins, CO, USA, 220p. <a href="https://colostate-primo.hosted.exlibrisgroup.com/primo-explore/fulldisplay?docid=01COLSU\_ALMA21149392690003361&context=L&vid=01COLSU&lang=en\_US&search\_scope=Everything&adaptor=Local%20Search\_%20Engine&tab=default\_tab&query=any,contains,Rachid%20Mrabet\_
- ✓ **Mrabet, R**. (1989). Contribution à l'étude du processus d'infiltration d'eau dans deux vertisols. Mémoire d'Ingénieur Agronome (MSc), Institut Agronomique et Vétérinaire Hassan II, Rabat, Morocco, 200p (with English and Arabic abstracts).

### **RESEARCH POSITION**

- A. August 2003 to present: **Research Director** (Institut National de la Recherche Agronomique (INRA-Morocco)).
- B. March 1998 July 2003: **Associate Researcher** (INRA Dryland Research Center, Settat Morocco).
- C. January 1990 February 1998: **Research Engineer** (INRA Dryland Research Center, Settat Morocco).

#### PROFESSIONAL/EMPLOYMENT POSITION

- 1) **Since October 14<sup>th</sup>, 2020: President**: Consultative Ethics and Scientific Integrity Committee, INRA Morocco
- 2) 2012-2019: **Head of Scientific Division** of INRA Morocco with duties of leadership, knowledge management, innovative scientific thinking, research priority setting, designing, coordinating, institutional budget overview, funding quality and supervising research program as well as augmenting science quality and performance and scope of impact and guiding and implementing cooperation strategy at INRA. Develop teamwork, empowerment, collaboration, and targeting for results, Declining aricultural policies into long-term scientific policy of the institution <a href="https://www.inra.org.ma/fr/content/division-scientifique-8">https://www.inra.org.ma/fr/content/division-scientifique-8</a>
- 3) 2007-2012: **Head** of Regional Center of Agricultural Research of Tangier (INRA Tangiers): Regional representative of INRA Director vis-à-vis adiminitration and institutions at regional and local levels. I had also duties to develop a culture of teamwork, mobilize and manage human resources, financial, logistics and infrastructure as well as allocated funds from cooperation projects both national and international and coordinate research teams through fostering interdisciplinary approaches and development plans in order to secure scientific excellence and technological watch. I was also respossible for career development, empowerment, performance appraisal and safety of all personel.
- 4) 2003-2007: **Head** of Regional Center of Agricultural Research of Meknes (INRA Meknes). Idem as above.
- 5) 2000-2003: Head of Soil Physics Laboratory, INRA Dryland Research Center of Settat.
- 6) 1992-1993: Head of Soil Management Unit, INRA Dryland Research Center of Settat.

### RESEARCH & EXPERTISE DOMAINS

- Agro-Ecology Conservation
   Agriculture Climate Smart
   Agriculture Circular economy –
   Nature based solutions Carbon farming.
- o Climate change and vulnerability.
- Soil Quality and Carbon Modeling & Sequestration.
- o Drought and Climate Change Adaptation.
- Food Systems, Security and Governance.
- o Natural Resources Management.

- Cropping System Modeling and Yield Forecasting.
- Hydrology & Soil Physics
- o Soil contamination
- Soil fertility and Fertilizers
- o Desertification & Soil Erosion
- o Irrigation & Salinity Cereal-Legume-
- Oasis & Rangeland Management and Rehabilitation
- o Project Development & Evaluation
- o Agricultural Research Design & Management.

## **EMERGING RESEARCH INTERESTS**

- ✓ WEFE nexus and approach
- ✓ Soil Security and Policy
- ✓ Integrated Land Use Planning
- ✓ Smart Farming & Artificial Intelligence
- ✓ Environmental Ethics

## COOPERATION & PARTNERSHIP (1990-2023)

	Number of Projects	Partners/Countries
National Cooperation	16	Ministries, Universities,
		Development Agencies,
		Extension direcorate
Bilateral Cooperation	14	Canada, France, Spain,
		Belguim, Hungary, USA,
		Netherlands <sup>1</sup> , Germany
International	31	CWANA, Latin America
Cooperation		and Caraibes,
		Mediterreanean
		Countries & Sub-Saharan
		Africa

**Total Value** # 8.5 Millions Dollars

<sup>&</sup>lt;sup>1</sup> As independent Expert

# AWARDS & HONORS

- 2022 Gulbenkian Prize for Humanity. The Intergovernmental Panel on Climate Change (IPCC) is a co-laureate of the 2022 Gulbenkian Prize for Humanity, together with the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES). <a href="https://www.ipcc.ch/2022/10/13/ipcc-2022-gulbenkian-prize-for-humanity/">https://www.ipcc.ch/2022/10/13/ipcc-2022-gulbenkian-prize-for-humanity/</a>
- 2) The Network of Mediterranean Experts on Climate and Environmental Change (MedECC) of the Union for the Mediterranean has received 2020 North South Prize of the Council of Europe. that elaborated MAR1 the first-ever scientific assessment on climate and environmental change impact in the Mediterranean basin. https://www.coe.int/en/web/north-south-centre/-/the-international-commissionagainst-the-death-penalty-and-the-network-of-mediterranean-experts-on-climateand-environmental-change-medecc-of-the-unio: As CLA for this MAR1, I am MedECC 13<sup>th</sup>, member of network well. November 2020. as https://rm.coe.int/decision-jury-nsp2020/1680a0b27f
- 3) Distinguished Research Award 2019 World Association of Soil and Water Conservation (WASWAC) November 6<sup>th</sup>, 2019 New Delhi (India). <a href="http://www.waswac.org.cn/waswac/Awards/draward/A590502index\_1.htm">http://www.waswac.org.cn/waswac/Awards/draward/A590502index\_1.htm</a>
- 4) With my PhD student Dr. Hamza Briak:
  - November 10 11, 2018: Best Project for Young Researcher on « Multi-variable calibration and validation of SWAT model for simulation of water balance and sediment yield of a watershed in Northern Morocco » Young Researchers Days, Polytechnic University Mohammed VI, Benguerir, Morocco.
  - August 27 31 2018: Best Research Paper for Young Researcher (Datum 2018) « Use of a calibrated SWAT model to evaluate the effects of agricultural BMPs on sediments of the Kalaya River basin (North of Morocco) » WASWAC 2<sup>nd</sup> International Youth Forum on Soil and Water Conservation, University of Moscow, Russia.
    - http://www.waswac.org.cn/waswac/Awards/oypaward/A590505index\_1.htm
- 5) Hassan II Grand Prize for innovation and research in agriculture, Ministry of Agriculture and Marine Fisheries, Rabat, Moro co 2009. <a href="http://www.libe.ma/Agriculture-Le-Grand-Prix-Hassan-II-pour-l-invention-et-la-recher\_a6139.html">http://www.libe.ma/Agriculture-Le-Grand-Prix-Hassan-II-pour-l-invention-et-la-recher\_a6139.html</a>
- 6) Best Lecturer for Soil & Tillage Research in 2009.
- 7) Van Ouwerkerk Memorial Award, Brisbane, Australia, 2003.
- 8) International Soil Tillage Research Organisation (ISTRO) Award, Fort Worth, USA, 2000.
- 9) International Erosion Control Association (IECA) Award, 1994, Reno, Nevada, USA.

## **EXPERT: IPCC, MEDECC, UNEP-GEO**

Coordinating Lead Author: UNEP – Global Environment Outlook (GEO-7)

https://www.unep.org/global-environment-outlook/geo-7

Lead Author (Chapter 6): MedECC Special Report on the WEFE Nexus.

Coordinating Lead Author (WGIII - Chapter 7: Agriculture, Forestry and Other Land Uses - AFOLU), IPCC – Sixth Assessment Report (AR6)

https://apps.ipcc.ch/report/authors/report.authors.php?q=37&p=

Coordinating Lead Author MedECC (Chapter 3: Resources): MedECC First Assessment Report (MAR1). <a href="http://www.medecc.org/?p=1774">http://www.medecc.org/?p=1818</a>

https://www.medecc.org/first-mediterranean-assessment-report-mar1/

Expert for Inter-Governmental Panel for Climate Change (IPCC) <a href="https://www.ipcc.ch/report/sr15/pdf/sr15">https://www.ipcc.ch/report/sr15/pdf/sr15</a> scoping final\_list.pdf.

Review Editor (Chapter 2), IPCC - Special Report on Global warming of 1.5°C (SR15) <a href="http://www.ipcc.ch/report/authors/report.authors.php?q=32&p="http://www.ipcc.ch/report/authors/report.authors.php?q=32&p="http://www.ipcc.ch/report/authors/report.authors.php?q=32&p="http://www.ipcc.ch/report/authors/report.authors.php?q=32&p="http://www.ipcc.ch/report/authors/report.authors.php?q=32&p="http://www.ipcc.ch/report/authors/report.authors.php?q=32&p="http://www.ipcc.ch/report/authors/report.authors.php?q=32&p="http://www.ipcc.ch/report/authors/report.authors.php?q=32&p="http://www.ipcc.ch/report/authors/report.authors.php?q=32&p="http://www.ipcc.ch/report/authors/report.authors.php?q=32&p="http://www.ipcc.ch/report.authors/report.authors.php?q=32&p="http://www.ipcc.ch/report.authors/report.authors.php?q=32&p="http://www.ipcc.ch/report.authors/rep

https://www.ipcc.ch/site/assets/uploads/sites/2/2019/02/SR15\_Chapter2\_Low\_Res.pdf

# PUBLICATION METRICS

<b>Publication Type</b>	Number
Books	21
Peer-reviewed Papers	91
Book Chapters	31
Conference papers	44
Conference abstracts	223

### **BOOKS**

- 1. IPCC, 2022: Summary for Policymakers. In: Climate Change 2022: Mitigation of Climate Change. Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [P.R. Shukla, J. Skea, R. Slade, A. Al Khourdajie, R. van Diemen, D. McCollum, M. Pathak, S. Some, P. Vyas, R. Fradera, M. Belkacemi, A. Hasija, G. Lisboa, S. Luz, J. Malley, (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA. doi: 10.1017/9781009157926.001.
- Pathak, M., R. Slade, P.R. Shukla, J. Skea, R. Pichs-Madruga, D. Ürge-Vorsatz, 2022. Technical Summary. In: Climate Change 2022: Mitigation of Climate Change. Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [P.R. Shukla, J. Skea, R. Slade, A. Al Khourdajie, R. van Diemen, D. McCollum, M. Pathak, S. Some, P. Vyas, R. Fradera, M. Belkacemi, A. Hasija, G. Lisboa, S. Luz, J. Malley, (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA. doi: 10.1017/9781009157926.002.
- 3. Apreda, R., L. Baltina, R. Campolmi, C. Fratalia, T. Hogarth and **R. Mrabet**. 2021. The future of skills: A case study of the agri-food sector in Morocco. European Training Foundation. 87p. <a href="https://www.etf.europa.eu/en/publications-and-resources/publications/future-skills-case-study-agri-food-sector-morocco">https://www.etf.europa.eu/en/publications-and-resources/publications/future-skills-case-study-agri-food-sector-morocco</a>
- 4. MedECC, 2020. Summary for Policymakers. In: Climate and Environmental Change in the Mediterranean Basin Current Situation and Risks for the Future. First Mediterranean Assessment Report [Cramer W, Guiot J, Marini K (eds.)] Union for the Mediterranean, Plan Bleu, UNEP/MAP, Marseille, France, pp 11-40, doi:10.5281/zenodo.5513887.
- 5. Al-Faiz, C., Amamou, A., Bennani, S., El Yousfi, B., Gaboun, F., Iaaich, H., Ibn Ali El Alaoui, M., Jilal, A., Mouaaid, A., Moussadek, R., **Mrabet, R.,** Nasrallah, N., Ramdani, A., Salih, G., Taghouti, M., Tirazi, R. & Zirari, A. 2017. Guide pour le choix des variétés INRA de Blé dur, Blé tendre et Orge. INRA Publications, Rabat. 62 pages.
- 6. **Mrabet, R.**, Moussadek, R. & P.C. Wall. 2016. Guide Pratique d'Agriculture de Conservation en Asie de l'Ouest et Afrique du Nord. ICARDA Publication. 51p.
- 7. Moussadek, R., **Mrabet, R.** & P.C. Wall. 2016. Guide de gestion intégrée de l'agriculture de conservation dans la région de l'Afrique du Nord et l'Asie de l'Ouest. ICARDA Publication, 59p. (in arabic).
- 8. Moussadek, R., Chati, M.T., **Mrabet, R.** et al. 2016. Atlas de la qualité des sols et des eaux du périmètre d'Issen. 39p. ISBN: 978-9954-39-214-0.
- 9. Moussadek, R., Chati, M.T., **Mrabet, R**. et al. 2016. Atlas de la qualité des sols et des eaux du périmètre d'El Guerdane. 36p. ISBN: 978-9954-39-215-7.
- 10. **Mrabet**, R. & P. Wall. 2015. Practical guide for conservation agriculture in West Asia & North Africa. International Center for Agricultural Research in the Dry Areas (ICARDA), PO Box 114/5055, Beirut, Lebanon. 40p. http://repo.mel.cgiar.org/handle/20.500.11766/7531
- 11. Naimi, M., Chikhaoui, M., Sabir, **M., Mrabet**, R., Moussadek, R. & Loukili, M. (2015). Guide de conservation des eaux et des sols. Actes-éditions IAV Hassan II, Rabat.

- Dahan, R., Boughlala, M., Mrabet, R., Laamari, A., Balaghi, R. & L. Lajouad. 2012. A review of Available Knowledge on land Degradation in Morocco. ISBN: 92-9127-265-5. ICARDA publication. 38p.
- 13. Moussadek, R & Mrabet, R. 2012. Guides sur les techniques de gestion des sols pour l'adaptation aux changements climatiques au Maroc. GIZ-Rabat. 42p.
- 14. Mrabet, R., A. Bentaibi, N. Bahri, R. Balaghi, A. Chergaoui, M. Ferrahi, A. Kajji, K. Saffou, F. Nassif, M. Fagouri, O. El Arbi, Z. Said, M. Moussaoui & M. El Mourid. 2011. Amélioration des conditions d'existence des communautés rurales et gestion des ressources naturelles dans le Moyen Atlas Oriental : Cas de la Commune Rurale d'Ait Bazza. 100pp. INRA SDC ICARDA. ISBN: 978-9973-9992-6-9.
- 15. **Mrabet**, R. 2011. L'agriculture de conservation : Guide pour les décideurs. FAO Tunis. 21p. (English & French version).
- 16. **Mrabet**, R. 2011. L'agriculture de conservation : Guide pour les agriculteurs de l'Afrique du Nord. FAO Tunis. 33p. (English & French version)
- 17. **Mrabet**, R. 2008. No-Tillage systems for sustainable dryland agriculture in Morocco. INRA Publication. Fanigraph Edition. 153p.
- 18. Saidi, S., **R. Mrabet** et al. 2007. Deuxième rapport National sur l'état des ressources phytogénétiques pour l'alimentation et l'agriculture (RPGAA). Saidi, S. (Ed). FAO Publication. 58p.
- 19. **Mrabet**, R. 2003. La lutte contre la désertification et la sécheresse en Afrique du Nord. Centre de développement sous-régional pour l'Afrique du Nord de la Commission économique des Nations Unies pour l'Afrique (CDSR-AN/CEA). 36p. http://repository.uneca.org/bitstream/handle/10855/5126/Bib-33658.pdf?sequence=1
- 20. **Mrabet**, R. 2001. Le semis direct : potentiel et limites pour une agriculture durable en Afrique du Nord. CDSR-AN/CEA. 30p. http://www.uneca.org
- 21. Beqqali, M., **Mrabet, R.,** I. Thami Alami, M. El Gharrous et al. 1998. Vocation Agricole des terres dans les zones d'agriculture pluviale (rapport et cartes). INRA Publication. 131p.

### **PUBLICATIONS IN REFERRED JOURNALS**

- 1. Beroho, M., K. Aboumaria, Y. El Hamdouni, I. Boulahfa, A. Ouallali, **R. Mrabet**, F. Kebede, & H. Briak. Modelling the impacts of future LULC and climate changes on the hydrological components and sediment yield of a Mediterranean watershed in Morocco (North Africa). Science of the Total Environment. *Submitted*.
- 2. Omari, F.E., L. Beniken, A. Zouahri, **R. Mrabet**, H. Benaouda, R. Benkirane and H. Benyahia. 2023. Optimization of NPK levels of Clementine Sidi Aissa (Citrus reticulata Blanco) trees grafted on different citrus rootstocks. Agronomy Research 21(X), xxx–ccc, 2023. https://doi.org/10.15159/AR.23.099.
- 3. Taleb, A., K. Arsalan, N. Benaouda Tlemçani & **R. Mrabet**. 2023. Inventaire de la flore du Jardin d'Essais Botaniques de Rabat. Afrimed AJ –Al Awamia. 139:151-173. https://doi.org/10.34874/IMIST.PRSM/afrimed-i139.41339.
- 4. **Mrabet, R**. & R. Moussadek 2023. Climate Smart Agriculture with Conservation Agriculture for Development. 46: 40-42.
- 5. El Mekkaoui, A., Moussadek, R., **Mrabet, R.**, Douaik, A., El Haddadi, R., Bouhlal, O., Elomari, M., Ganoudi, M., Zouahri, A. & Chakiri, S. 2023. Effects of Tillage Systems on the Physical Properties of Soils in a Semi-Arid Region of Morocco. Agriculture. *Agriculture*. 13(3), 683. https://doi.org/10.3390/agriculture13030683
- 6. Iaach, H., Moussadek, R., **Mrabet, R.,** Douaik A., Baghdad, B., Benmansour, M., Zouagui, A., Asserar, N. & Bouabdli, A. 2023. Evaluation of the Impact of No-Till on Soil Erosion using Soil Aggregate Stability and Fallout Radionuclides in Northern Morocco. Ecological Engineering & Environmental Technology. 24(3):241-248. <a href="https://doi.org/10.12912/27197050/159433">https://doi.org/10.12912/27197050/159433</a>
- 7. Moussadek, R., Laghrour, M., **Mrabet, R**. & Van Ranst, E. 2023. Crop Yields under Climate Variability and No-Tillage System in Dry Areas of Morocco. Ecological Engineering & Environmental Technology. 24(1):221-232. <a href="https://doi.org/10.12912/27197050/155024">https://doi.org/10.12912/27197050/155024</a>
- 8. Beroho, M., Briak, H., Cherif, E.K., Boulahfa, I., Ouallali, A., **Mrabet, R**., Kebede, F., Bernardino, A. & Aboumaria, K. 2023. Future Scenarios of Land Use/Land Cover (LULC) Based on a CA-Markov Simulation Model: Case of a Mediterranean Watershed in Morocco. *Remote Sensing*. 15(4):1162. https://doi.org/10.3390/rs15041162
- 9. Benicha, A. & **R. Mrabet**. 2022. R'mel groundwater quality as influenced by agricultural activities. Afrimed AJ. 137:123-138. https://doi.org/10.34874/IMIST.PRSM/afrimed-i137.36810
- 10. **Mrabet, R.** 2022. Advanced and emerging agricultural innovations for securing food, climate and ecosystems in Moroccan oasis. Journal of Oasis Agriculture and Sustainable Development. Special Issue (June): 6-15. https://doi.org/10.56027/JOASD.spiss022022
- 11. Lembaid, I., Moussadek, R., **Mrabet, R**. & Bouhaouss, A. 2022. Modeling Soil Organic Carbon Changes under Alternative Climatic Scenarios and Soil Properties Using DNDC Model at a Semi-Arid Mediterranean Environment. *Climate*. 10(2):23. https://doi.org/10.3390/cli10020023
- 12. Benicha, M., **Mrabet, R.**, Moussadek, R. & Azmani, A. 2022. Study on Degradation Processes of 14C-Carbofuran in Soil from Northwest Morocco as Influenced by Soil Water Content, Temperature and Microbial Activity. Current Topics on Chemistry and Biochemistry. 4(23): 17-39. https://doi.org/10.9734/bpi/ctcb/v4/2273B

- 13. Benicha, M., Ayadi, M., Zantar, S. & **Mrabet, R**. 2022. Sorption–desorption equilibria of Deltamethrin in two contrasting agricultural soils of Loukkos North-west of Morocco. Afrimed AJ. 135:16-36.
- 14. Devkota, M., Yadvinder-Singh, Y. A. Yigezu, I. Bashour, R. Moussadek & **R. Mrabet**. 2021. Conservation agriculture in the drylands of the Middle East and North Africa (MENA) region: Past trend, current opportunities, challenges, and future outlook. Advances in Agronomy. https://doi.org/10.1016/bs.agron.2021.11.001.
- 15. Iaaich, H., O. Iben Halima, A. Mamassi, A. Douaik, **R. Mrabet** & R. Moussadek. 2021. Digital soil mapping: case study from the Khouribga Kasbat Tadla zone in Central Morocco. African Mediterranean Agricultural Journal (Afrimed AJ– Al Awamia). Special Issue on Digital Agriculture. 132:91-104.
- 16. Yigezu, Y.A., T. El-Shater, M. Boughlala, M., Devkota, **R. Mrabet** & R. Moussadek. 2021. Can an incremental approach be a better option in the dissemination of conservation agriculture? Some socioeconomic justifications from the drylands of Morocco. Soil and Tillage Research Volume 212, 2021, 105067. https://doi.org/10.1016/j.still.2021.105067
- 17. Benicha, M., **R. Mrabet** and A. Azmani. 2021. Study on Biodegradation and Dissipation of 14C-Carbofuran in Clay Soil from Loukkos Perimeter, Northwestern Morocco. New Ideas Concerning Science and Technology. 7:92-103. https://doi.org/10.9734/bpi/nicst/v7/2709D
- 18. El Mekkaoui, A., R. Moussadek, R. Mrabet, S. Chakiri, A. Douaik, A. Ghanimi & A. Zouahri. 2021. The conservation agriculture in northwest of Morocco (Merchouch area): The Impact of no-till systems on physical properties of soils in semi-arid climate. E3S Web of conferences. 234 (2021) 00037 https://doi.org/10.1051/e3sconf/202123400037
- 19. Lembaid, I., R. Moussadek, **R. Mrabet**, A. Douaik & A. Bouhaouss. 2021. Modeling the effects of farming management practices on soil organic carbon stock under two tillage practices in a semi-arid region, Morocco. Heliyon 7(1). <a href="https://doi.org/10.1016/j.heliyon.2020.e05889">https://doi.org/10.1016/j.heliyon.2020.e05889</a>
- 20. Beroho, M., Briak, H., El Halimi, R., Ouallali, A., Boulahfa, I., **Mrabet, R.**, Kebede, F. and Aboumaria, K. 2020. Analysis and prediction of climate forecasts in Northern Morocco: application of multilevel linear mixed effects models using R software. Heliyon 6 (10). https://doi.org/10.1016/j.heliyon.2020.e05094
- 21. Omari, F.E., Beniken, L., Zouahri, A., Douaik, A., **Mrabet, R.,** Benkirane, R. & Benyahia, H. 2020. Effet de la fertilization N, P et K sur la production et la qualité des fruits de la clémentine Sidi Aissa. African Mediterranean Agricultural Journal (Afrimed AJ– Al Awamia). 129:76-91.
- 22. Homrani Bakali, A., **R. Mrabet**, Acherckouk M. & Maatougui A. 2020. Salsola vermiculata espèce prometteuse pour la réhabilitation des paturages présahariens du Maroc. African Mediterranean Agricultural Journal (Afrimed AJ– Al Awamia). 128:143-157.
- 23. Homrani Bakali, A., **R. Mrabet**, Acherckouk M. & Maatougui A. 2020. La fertilisation ameliore la production des prairies humides naturelles dans la montagne du Haut Atlas Oriental du Maroc : cas de la region d'imilchil. African Mediterranean Agricultural Journal (Afrimed AJ Al Awamia). 128:93-124.

- 24. Hamim, A., A. Boukeskasse, L. Miche, **R. Mrabet**, R. Duponnois, M. Hafidi, S. Barrijal, Y. Ouhdouch & A. Farouki. 2019. Phosphorus solubilizing and PGR activities of ericaceous shrubs microorganisms isolated from Mediterranean forest soil. Biocatalysis and Agricultural Biotechnology. Volume 19, May 2019, 101128. https://doi.org/10.1016/j.bcab.2019.101128
- 25. Laghrour, M., R. Moussadek, **R. Mrabet** & M. Mekkaoui. 2019. Effet à moyen et à long terme du semis direct sur la matière organique, la stabilité structurale et la compaction des sols argileux au Maroc. Rev. Mar. Sci. Agron. Vét. 7(2):356-362.
- 26. Briak, H., **Mrabet, R.,** Moussadek, R. & Aboumaria, K. 2019. Use of a calibrated SWAT model to evaluate the effects of agricultural BMPs on sediments of the Kalaya River basin (North of Morocco). International Soil and Water Conservation Research. 7(2): 176-183. https://doi.org/10.1016/j.iswcr.2019.02.002
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- 2. Shideed, K., A. Laamari, M. Boughla, H. Benaouda, H. Mahyou, **R. Mrabet**, M. El Mourid, A. Aw-Hassan, M. Hammudi, M. Rahmi, H. El Mzouri & R. Thomas. 2005. Documenting the impact: How effective is Atriplex Alley Cropping? ICARDA Caravan 22:34-36.
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- Mrabet, R. & R. Moussadek. 2012. Apport du semis direct pour la préservation du sol et la production agricole dans les périmètres du PAF-MCA: cas de la région du nord. Revue annuelle des activités de recherche l'axe conservation des sols. Projet Arboriculture Fruitière Programme Financé par les Etats Unis d'Amérique par le biais de la Millénium Challenge Corporation (MCC). <a href="http://mca-recherche.net/docs/livrables/RevueAnnuelle2012Axe1.pdf">http://mca-recherche.net/docs/livrables/RevueAnnuelle2012Axe1.pdf</a>
- **Mrabet, R**. & Moussadek, R. 2013. Rapport de mission de consultants à Roseau (Dominique) 18-31/12/2013 : Projet d'élaboration des Cartes de Fertilité des Sols Cultivés aux Pays des Caraïbes. Fondation OCP-INRA-AMCI. 9p.
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- Moussadek, R., R. Mrabet et al. 2015. Etude de la contribution du partenariat public-privé dans la gestion durable et la valorisation de l'eau d'irrigation dans le périmètre d'El Guerdane. Rapport technique. Projet CRDI MAPM N° 106 544 DIAEA INRA-ORMVA Souss Massa Amensouss. 31p. <a href="https://idl-bnc-idrc.dspacedirect.org/bitstream/handle/10625/54811/IDL-54811.pdf">https://idl-bnc-idrc.dspacedirect.org/bitstream/handle/10625/54811/IDL-54811.pdf</a>
- **Mrabet, R.**, Moussadek, R., My H. Sedra, Zirari, A. & Iaaich, H. 2015. Palmeraies de Tarnata, Aoufous et Erfoud. Convention de partenariat pour le recensement, la caractérisation et la cartographie des palmeraies. 52p.
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### **ADVISING**

### Adviser

Diploma	Number	University	
PhD	9	Belgium:  ✓ Univ. Liege; Gent University.  Morocco:  ✓ Abdelmalek Essaadi Univ. (Tangiers); Ibn Zohr Univ. (Agadir); Univ. Chouaib Doukkali (El Jadida); Univ. Mohamed V (Rabat); Univ. Cadi Ayyad (Marrakech); IAV Hassan II (Rabat).	
M Sc	19	Greece: IAM – Chania; France: Univ. Orleans; Belgium: Univ. Liege; Univ. Gembloux; Morocco: ENA-Meknes; IAV Hassan II; ENFI-Salé; Univ. Abdelmalek Essaadi; Univ. Hassan 1 <sup>er</sup> ; Univ. Chouaib Doukkali; Univ. Ibn Toufail.	
BSc	3	Univ. Abdelmalek Essaadi, CIRAD	

### **Committee Member**

Title/Diploma	Number	University	
HDR	1	Univ. Cadi Ayyad (Marrakech)	
		Belguim : Univ. Catholique de Louvain	
	12	France : INP Toulouse	
PhD		Morocco: Univ. Moulay Ismail (Meknes), Univ.	
		Mohamed V Agdal (Rabat); Université Cadi Ayyad	
		(Marrakech), IAV Hassan II (Rabat).	
		Ecole Mohammadia des Ingénieurs, Univ. Moulay	
MSc	14	Ismail, Univ. Hassan 1er, IAV Hassan II, ENA-	
		Meknes, ENFI Salé.	

### PHD STUDENTS (COMPLETED)

- 1. Lembaid, I. (2022). Modélisation de la sequestration du carbone organique du sol sous différents scénarios climatiques, pratiques agricoles alternatives, et propriétés du sol par le modèle DNDC dans une région semi-aride du Maroc. Faculty of Science, University Mohammed V, Rabat. 152p.
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- 4. Hamim, Ahlam (2017). Valorisation de la microflore fongique symbiotique pour l'optimisation durable de la domestication de la myrtille au Maroc. PhD thesis. University Cadi Ayyad, Faculty of Science Semlalia. Marrakech. 237p.
- 5. Mimouni, Abdelaziz (2015). Evaluation participative de l'effet de l'introduction des légumineuses dans les systèmes de productions vivriers de la région du Souss-Massa. PhD Thesis. University Ibn Zohr. Agadir, Morocco. 117p.
- 6. Moussadek, Rachid (2012). Impacts de l'agriculture de conservation sur les propriétés et la productivité des vertisols du Maroc Central. *PhD* Thesis. Ghent University, Belgium. 206p. <a href="https://biblio.ugent.be/publication/2964213/file/2971314">https://biblio.ugent.be/publication/2964213/file/2971314</a> <a href="https://pdfs.semanticscholar.org/6372/dc13ef4d1ab13656ff88d6f98e908e7a4f7e.pdf">https://pdfs.semanticscholar.org/6372/dc13ef4d1ab13656ff88d6f98e908e7a4f7e.pdf</a>
- 7. Balaghi, Riad (2006). Wheat grain yield forecasting models for food security in Morocco. PhD Thesis. University of Liege, Belgium. 103p. http://riad.balaghi.googlepages.com/thesisbalaghi.pdf
- 8. Ibno Namr, Khalid (2005). Effet à moyen terme du travail du sol de la gestion des résidus de récolte et de la rotation céréalière sur la qualité chimique d'un sol calcimagnésique à caractère vertique dans le semi-aride marocain. PhD Thesis. University Chouaib Doukkali, El Jadida (Morocco). 143p.
- 9. Saber, Najib. (2001). Qualité du sol sous semis direct en milieu semi-aride Marocain. PhD Thesis. University Chouaib Doukkali, El Jadida (Morocco).150p.

#### **TEACHING**

- ➤ Soil Physics (Faculty of Sciences, Meknes)
- ➤ Instrumentation in Soil Physics (Faculty of Science, El Jadida)
- Soil Contamination (Faculty of Science, Fes)
- Geographic Information Systems & Remote Sensing (Ecole Mohammadia des Ingénieurs EMI-Rabat, Ecole Nationale Supérieure d'Informatique et d'Analyse des Systèmes, ENSIAS-Rabat)
- > Irrigation and Drainage (EMI, Rabat & Faculty of Science and Technology, Settat)
- Erosion process and soil protection (EMI, Rabat)
- ➤ Les défis de l'agriculture en Afrique. Module Initiation au Management Industriel IMI Cycle Ingénieur 1A, du 6 janvier 2015 au 28 Janvier 2015 Université Polytechnique Mohammed VI, Ben Guérir, Maroc.
- ➤ Conservation Agriculture & Agroecology: Merging Science and Practice. University of Basrah, Iraq.

#### TRAINING COURSES/CONTINUING EDUCATION

- Crop residue management in conservation agriculture (CIHEAM-ICARDA)
- Integrating livestock in Conservation agriculture (CIHEAM-ICARDA)
- Water & Soil Conservation (ICARDA)
- Water Conservation & Tillage (FAO)
- Conservation Production Systems (CIHEAM)
- Erosion process and soil protection (DREF Rif ONF International)
- Healthy Watershed: Concept and Applications (IAEA/RAF5063 Project)
- Tillage system effects on soil water evaporation process: Experimental research from semiarid Morocco (Regional (AFRA) Training Course on: The Use of Oxygen-18 for Separation of Evapotranspiration into Soil Evaporation and Crop Transpiration, and AquaCrop simulation modelling)
- Geographic Information Systems & Remote Sensing (INRA Meknes)
- Overview of Radiation processing in Morocco & Food irradiation applications: INRA experiences (IAEA & AFRA)
- Soil, Water and Plant Analysis (Technicians and Engineers: INRA AMCI Caribe's Project)
- Soil test calibration and fertilizer recommendations (Technicians and Engineers: INRA

   AMCI Caribe's Project)
- Intergrated plant nutrition (Technicians and Engineers: INRA AMCI Caribe's Project)
- Soil quality assessement and monitoring. (Technicians, agronomists and research from Ministry of Agriculture of Jamaica (INRA-AMCI). December 13-17, 2021.
- Fertilization of crops (cereals, fruit trees and vegetables) (SONACOS: Technicians and Engineers).
- Introduction à l'agriculture de conservation : concept, principes, avantages et défis.
   Formation de Formateurs en Ligne (ToTs), Prestation de services de location des machines (pays francophones : Bénin, Burkina Faso, Congo Brazzaville, Côte d'Ivoire, Mali et Sénégal). ACT Network et FAO. <a href="www.AfricaMechanize.org">www.AfricaMechanize.org</a> . Formation à distance. 15 décembre 2021.
- Bonnes pratiques d'utilisation durable des eaux et des terres respectueuses des ecosystemes et de la biodiversité de la réserve de la biosphère de la Cédraie de l'Atlas. University Al Akhawayn (Ifrane) 12-16 septembre 2022. Formation de Formateurs. Living Planet Maroc.
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  - o December 6-8, 2021: https://www.youtube.com/watch?v=yhRyX8nICvA
    - Soil quality: from concept to security
    - Agriculture de conservation: séquestration du carbone et services écosystémiques.
  - December 12-14th 2022
    - Sols et attenuation du changement climatique.
- MSc Health in Urban Development: University College London (May 9-10, 2023. High Atlas Foundation, Marrakech, Morocco).
  - Nexus Approach : Complexity, trade-offs and synergies
  - o Water resources, uses and vulnerabilities in Morocco.

#### SERVICE TO PROFESSIONAL ORGANIZATIONS

Deputy President (2017-2022), Co-chair of International Cooperation and Development Committee (ICDC) and Board Member of World Association of Soil and Water Conservation (WASWAC) (2008-2022). <a href="http://www.waswac.org/waswac/Introduction/A5901index 1.htm">http://www.waswac.org/waswac/Introduction/A5901index 1.htm</a>

Panelist for the International Conservation Agriculture Advisory Panel for Africa (icaapafrica): <a href="http://icaap.act-africa.org">http://icaap.act-africa.org</a>

Member of Best Paper Award Committee: Journal of Soil and Water Conservation (2020, 2021, 2022)

Coordinator: Water Use Efficiency Network – AARINENA

Member of Global Conservation Agriculture Network (GCAN).

General Secretary: Moroccan Society of Agronomy and Horticulture (SMAHo, 2015-18)

Member of Moroccan Association of Conservation Agriculture (AMAC) since 2016

Member of Moroccan Association of Soil Sciences (AMSSOL) since 1988

Future Africa (University of Pretoria, South Africa) <a href="https://www.futureafrica.science/index.php/profile/rachid%20-mrabet%20-766">https://www.futureafrica.science/index.php/profile/rachid%20-mrabet%20-766</a>

#### EDITORIAL BOARD MEMBER & REVIEWER

#### Editor in Chief:

• Afrimed AJ (African & Mediterreanean Agricultural Journal) https://revues.imist.ma/index.php/Afrimed

#### Associate Editor:

- International Soil and Water Conservation Research (ISWCR) <a href="http://www.journals.elsevier.com/international-soil-and-water-conservation-research/editorial-board">http://www.journals.elsevier.com/international-soil-and-water-conservation-research/editorial-board</a>
- Journal of Soil and Water Conservation http://www.jswconline.org/site/misc/edboard.xhtml

#### Editorial Advisory Board Member:

- Soil & Tillage Research : <a href="https://www.journals.elsevier.com/soil-and-tillage-research/editorial-board">https://www.journals.elsevier.com/soil-and-tillage-research/editorial-board</a>
- Étude et Gestion des Sols : <a href="http://www.afes.fr/publications/revue-etude-et-gestion-des-sols/introduction-a-la-revue-egs-et-comite-editorial/">http://www.afes.fr/publications/revue-etude-et-gestion-des-sols/introduction-a-la-revue-egs-et-comite-editorial/</a>
- International Journal of Forest, Soil and Erosion: http://www.ijfse.com/index.php/editorial-team
- Current Agricultural Research Journal: https://www.agriculturejournal.org/about/editorial-board/

#### Reviewer Board Member

• Land: <a href="https://www.mdpi.com/journal/land/submission\_reviewers">https://www.mdpi.com/journal/land/submission\_reviewers</a>

#### Guest Editor: Special Issue

- https://www.mdpi.com/journal/land/special issues/sustainable agriculture innovation
- <a href="https://www.frontiersin.org/research-topics/39126/carbon-sequestration-and-soil-microbiome-under-climate-change">https://www.frontiersin.org/research-topics/39126/carbon-sequestration-and-soil-microbiome-under-climate-change</a>

#### Technical editor

• International Journal of Agricultural Research: https://scialert.net/eboard.php?issn=1816-4897

#### Reviewing Committee Member

• Nature & Technology Journal https://www.univ-chlef.dz/RevueNatec/Lecture\_Committee.html

#### Journal & Book Reviewer

	Nombre of
Journal Title or Editor or Scientific Society	Manuscripts
Soil & Tillage Research	7
Al Awamia (Moroccan Journal of Agricultural Research)	10
International Soil and Water Conservation Research (ISWCR)	11
Journal of Soil and Water Conservation (JSWC)	13
Agronomy Journal	5
Agronomy for sustainable development, Soil Use & Management	3
Journal of Environmental Management; Environmental Monitoring and Assessment; International Journal of Agricultural Research; Field Crops Research; Journal of Plant Sciences; <i>ScienceAsia</i> - Journal of the	2
Science Society of Thailand, Land Degradation & Development; Annales de l'INRAT; European Journal of Soil Science.	
Archives of Agronomy and Soil Science, Frontiers in Agronomy, Geomorphology, Journal of Agricultural Sciences; Applied Soil Ecology; European Journal of Soil Biology; Journal of African Earth Sciences; African Journal of Environmental Science and Technology; Philippine Agricultural Scientist; Journal of Geography and Regional Planning; Agricultural Science Research Journal; Etudes et Gestion des sols; Plant and Soil; Cogent Food and Agriculture; Journal of Sedimentary Environments, Archives of Agronomy and Soil Science, Lebanese Science Journal, Sustainability, Energies.	1
FAO http://www.fao.org/3/a-a0100e.pdf	1 book
Rethinking Food and Agriculture: New Ways Forward (Oct. 2020) Amir Kassam and Laila Kassam, Eds. Elsevier and Woodhead Publishing.	1 book
WASWAC Conference – Youth program	3 papers
International Soil Conservation Organisation (ISCO - 2006) & (ISCO 2015)	40 abstracts
CABI/African Conservation Tillage Network (ACT)	2 Chapters
International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD) Report: Agriculture at a crossroads (2009). http://www.agassessment.org	2 Chapters
Springer publication: Sustainable food security in the Era of local and global environmental change.	chapter 4
Burleigh Dodds, Cambridge, UK	1 chapter
2 <sup>nd</sup> African Congress of Conservation Agriculture	
8 <sup>th</sup> World Congress of Conservation Agriculture 3 <sup>rd</sup> African Congress of Conservation Agriculture	10 papers

#### **Proceedings Editor**

o Bouaziz, A., Choukr-Allah, R., Mrabet, R. et Falisse, A. (Edts). 2009. Actes du symposium international AGDUMED. Durabilité des systèmes de culture en zone Méditerranéenne: Gestion des ressources en eau et en sol. IAV Hassan II, INRA, Fac.

- Agronomique de Gembloux et Association Marocaine d'Agronomie. Rabat, 14-16 mai 2009. 410p.
- Oukabli, A., **R. Mrabet,** A. Mamouni & N. Bahri. (Edts) 2004. Actes du séminaire L'amandier : une culture alternative pour faire face aux aléas climatiques. 25 mars 2004, INRA CRRA Meknès. 90p.
- o **Mrabet, R.,** B. Vadon & A. Ait Lhaj. (Edts). 2001. Actes des 1ères journées de rencontres sur : Le semis direct en Méditerranée. INRA Fert RCM AFD UNCAM et Ambassade de France 22-23 octobre 2001, INRA CRRA Meknès. 31p

# GRANTS, COORDINATION & SUPERVISION - PROJECTS (RESEARCH - RESEARCH-DEVELOPMENT)

#### **International Projects**

#### **USAID**

• MIAC Dryland Research Project: Soil Management – Water conservation Subproject 1990-1994

#### **International Foundation for Science**

• Mrabet, R. 1999-2002. Long-term soil quality and organic matter changes associated with tillage and cropping systems in semiarid Morocco. International Foundation for Science (IFS), Sweden.

## Consultative Group for International Agricultural Research - CGIAR (ICARDA/CIMMYT)

- CGIAR Research Program: <a href="http://www.cgiar.org/our-research/cgiar-research-programs/">http://www.cgiar.org/our-research/cgiar-research-programs/</a>
  - o CRP 1.1 "Dryland Systems" for North Africa and West Asia. 2012-15. (coordinator) http://drylandsystems.cgiar.org/node/432
  - CRP 3.1: National adoption and ex-post impact assessment of improved wheat technologies and ex-ante impacts of climate change. 2012-15.
- ICARDA Australian Centre for International Agricultural Research: CSE-2011-025:
   Adapting conservation agriculture for rapid adoption by smallholder farmers in North Africa. 2012-16. CANA Project (Consultant). <a href="http://www.cana-project.org/medias/files/CSE-2011-025-Full-proposal.pdf">http://www.cana-project.org/medias/files/CSE-2011-025-Full-proposal.pdf</a>
- Vulnerability and valuation of conservation agriculture and drought tolerance technologies among farmers in rainfed regions of Morocco. (CIMMYT, ICARDA, Univ. Davis, California) (2006-08). (Coordinator).
- Improving the livelihoods of rural communities and natural resource management in the mountains of the Maghreb (2004-07), SDC Funds. (Coordinator).
- Amélioration du revenu des éleveurs caprin à travers la valorisation du lait de chèvre pour la production du formage : cas du Nord et du Sud du Maroc (MCGP Project, 2007-11)
- Framework for "Ex post impact assessment of NRM research in the arid and semiarid areas: The case of The Mashreq/Maghreb Project experience".

- Development of an Integrated Natural Resources Management (INRM) Framework for Durable Agriculture in Central Morocco (MCGP Project, 2004-07).
- Water harvesting (1996-98).
- Package for agro-ecological characterization. (ICARDA/IDRC) (1996-98).

#### PRIMA: 2022-2025 https://prima-med.org/what-we-do/years/funded-projects-2021/

- Empowering women associations as drivers for agroecological transformation to generate income for Mountain farming communities. MOUNTAINHER. Lead by INRA Morocco with partners from Morocco, Algeria, Croatia, Spain, Italy, Lebanon and Tunisia. (Principal Investigator). <a href="https://mel.cgiar.org/projects/mountainher">https://mel.cgiar.org/projects/mountainher</a>
- Ensure fair nexus transition for climate change adaptation and sustainable development. SURE\_NEXUS. Lead by Universitat Politècnica de Catalunya (Spain) with partners from Spain, Egypt, France, Greece, Israel, Italy, Morocco (INRA) and Tunisia. Topic 1.4.1 (IA) Leveraging knowledge on the Nexus management of Water-Energy-Food-Ecosystems resources in the Mediterranean region: from concepts to practical solutions. <a href="https://surenexus.eu/">https://surenexus.eu/</a>
- Inclusive Outscaling of Agroecosystem REstoration ACTions for the MEDiterranean. REACT4MED. Lead by Hellenic Mediterranean University (Greece) with partners from Greece, Germany, Cyprus, Egypt Spain, Israel, Italy, Morocco (INRA) and Turkey. Topic: 1.1.1-2021 (RIA) Sustainable soil and water management for combating land degradation and desertification and promoting ecosystem restoration. https://react4med.eu/

#### **European Commission**

- Project on Curricula development on Soil and Water Resources Protection using Information and communication Technologies- SWART-ICT. Tempus Meda Joint European Project, Wageningen University & Ecole Mohammadia des Ingénieurs (Rabat). (2003-2006)
- Network on Governance, Science and Technology for Sustainable Water Resource Management in the Mediterranean. The role of DSS tools. EC Contract No INCO-CT-2004-509158.
- Mediterranean dialogue on framing sustainability in water policy evaluation (SWAP). Contract 043536 (INCO).
- 6<sup>th</sup> EU Framework, KASSA Project, Knowledge Assessment and Sharing on Sustainable Agriculture, EU Special Support Action (GOCE-CT-2004-505582), <a href="http://kassa.cirad.fr">http://kassa.cirad.fr</a> (Morocco, Bolivia, Brazil, Argentina, Spain, France, Italy, Greece). 2004-06.
- Conservation agriculture in Africa: Analyzing and foreseeing its impact comprehending its adoption. EU Seventh Frame Programme. Project KBBE-2009-1-2-09 Special Support

Action (2009-11; National coordinator). http://ca2africa.cirad.fr/ (East Africa, Southern Africa, North Africa (Morocco, Tunisia), West Africa and Madagascar)

#### Global Environment Facility (GEF) - World Bank

Social & Integrated Agriculture in Morocco (Agriculture Solidaire et Intégrée au Maroc).
 ASSIMA project

#### **International Agency for Atomic Energy**

- Conserving and Improving the Quality of Aromatic and Medicinal Plants through Irradiation, and Transfer of this Procedure on an Industrial Scale. INRA-AIEA MOR/5/029 (2007-2009).
- Supporting Innovative Conservation Agriculture Practices to Combat Land Degradation and Enhance Soil Productivity for Improved Food Security. RAF/5/063. (2012-2013). (Coleader). (Algeria, Benin, Ivory Coast, Madagascar, Mali, Morocco, Senegal, Tunisia Uganda and Zimbabwe)
- Using nuclear techniques to support the national program for the genetic improvement for annual and perennial plants and to develop agricultural production. MOR/5/033. (2011-13).

#### FAO- GEF (GCP/MOR/044/GEF)

• GIAHS: Conservation of biodiversity and mitigation of land degradation through adaptive management of agricultural heritage systems.

#### FAO with ICARDA and NARS Egypt, Tunisia and Morocco

• Water Scarcity Initiative: Towards larger adoption of sustainable and profitable conservation agriculture in Near East and North Africa (2015-2018).

#### INRA-OCP-ICARDA-ICRISAT- Swaminatan Research Foundation

• India-Morocco Food Legumes Initiative: Increasing food legumes production by small farmers to strengthen food and nutrition security through adoption of improved technologies and governance within South-South Cooperation. 2012-2015.

#### **EU-IFAD** project (Steering committee Member & Consultant)

- Enhanced small-holder wheat-legume cropping systems to improve food security under changing climate in the drylands of West Asia and North Africa. 2012-2015.
- Improved Water Management for Sustainable Mountain Agriculture: Jordan, Lebanon and Morocco (IFAD Grant No 1226). 2011-2014.

#### OCP Foundation, Moroccan Agency for International Cooperation (AMCI) - INRA

 Mapping soil fertility for durable agriculture in Caribbean islands. 2015-26 (Dominica, Saint Lucia, Saint Kitts & Nevis, Grenada, Saint Vincent & the Grenadines, Antigua & Barbuda, Barbados, Jamaica). <a href="https://www.dominicavibes.dm/news-160282/">https://www.dominicavibes.dm/news-160282/</a>

#### UM6P, AMCI and INRA

• Soil Fertility Assessment and Mapping for Sustainable Agriculture in Guyana and Suriname (2022-2026)

#### Horizon2020: Project CURE XF:

• Capacity Building and Raising Awareness in Europe and in Third Countries to Cope with *Xylella fastidiosa*. H2020-MSCA-RISE-2016

## German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB) & International Climate Initiative (IKI) & ICARDA

Conservation of pollinator diversity for enhanced climate change resilience (June 1<sup>st</sup> 2017 – May 31<sup>st</sup>, 2020). (Focal Point) <a href="http://repo.mel.cgiar.org/handle/20.500.11766/8332">http://repo.mel.cgiar.org/handle/20.500.11766/8332</a> - <a href="https://mel.cgiar.org/projects/iki-pollinators">https://mel.cgiar.org/projects/iki-pollinators</a>

#### **Bilateral Cooperation Projects**

#### **IDRC-Canada**

Valorisation de l'eau d'irrigation et partenariat publique privé : cas de la zone El Gardane. 2012-2015. <a href="http://idl-bnc.idrc.ca/dspace/bitstream/10625/54811/1/IDL-54811.pdf">http://idl-bnc.idrc.ca/dspace/bitstream/10625/54811/1/IDL-54811.pdf</a>

#### **French Cooperation**

- Projet de Recherche Agronomique pour le Développement (PRAD)
  - Rachid Mrabet & Yves Le Bissonnais (INRA-France) 2000-2003. Mesure et estimation des indices d'agrégation des sols Marocains et application pour l'évaluation des systèmes de gestion des cultures.
  - Mustapha Naimi, Rachid Mrabet & Yves Le Bissonnais (INRA-France) et al. 2009-2011. La vulnérabilité des sols à l'érosion et son évaluation au Maroc. IAV Hassan II, ENFI Salé, INRA Maroc, INRA –France et IRD Montpellier. PRAD n° 09-05. <a href="https://www.umr-lisah.fr/?q=system/files/Rapport%20final%20PRAD09-05%20LE%20BISSONNAIS.pdf">https://www.umr-lisah.fr/?q=system/files/Rapport%20final%20PRAD09-05%20LE%20BISSONNAIS.pdf</a>
  - Mohamed Hafidi (Université de Cadi Ayyad, Marrakech), Hamim Ahlam (INRA Tanger), Rachid Mrabet (INRA Rabat), Lucie Miche (Univ. Marseille), Duponnois Robin (IRD) et al. 2012-2016: Valorisation de la microflore fongique symbiotique pour l'optimisation durable de la domestication de la Myrtille au Maroc.

#### Volubilis

• El Mourabit, N., Mrabet, R. et al. : Evaluation phénotypique et moléculaire de la réponse à la disponibilité en nitrate et ammonium chez des écotypes marocains de sorgho. 2012-2014. INRA et Université Abdelmalek Essaidi (Tanger).

#### • Agence Nationale de Recherche (ANR – France):

 Adaptation des mosaïques paysagères dans les agrosystèmes pluviaux Méditerranéens pour une gestion durable de la production agricole, des ressources en eau et en sol LISAH – Montpellier. 2014-2016.

#### • Agence inter-établissements de recherche pour le développement (AIRD)

• Jeune Equipe Associée à l'IRD: IAV Hassan II- INRA-ENFI et LISAH France « Vecteur Maroc : Vulnérabilité des sols et des ressources hydriques du Nord du Maroc face aux changements globaux ». 2013-18. <a href="http://jeai-vecteur.org/mrabet">https://jeai-vecteur.org/mrabet</a>

#### **Spanish Cooperation**

- Azehar Program (Comisión Interministerial de Ciencia y Tecnología, Plan Nacional I + D
   + I):
  - Conservation tillage in rainfed agricultural systems: soil-plant and N dynamics and carbon sequestration in Mediterranean environments (2004-07) (University of Llieda).
  - o Conservation agriculture in irrigated agricultural systems (2006-08) (University of Cordoba) (Coordinator marocain).
  - Agence Espagnole de Coopération Internationale au Développement (AECID) (2012-2015). Proyecto de investigación para la mejora del sector caprino en el norte de Marruecos. INRA-IRTA.

#### **Belgian cooperation:**

- Technical Belgian Cooperation (CTB): 2006-08
  - Mrabet, R., A. Bouaziz & A. Falisse. Production agricole plus performante, conservatrice des sols, parcimonieuse en eau et en énergie, par une optimisation intégrée des facteurs de production dont travail du sol, rotation des cultures et apports d'eau. Faculté Universitaire des Sciences Agronomiques de Gembloux, INRA & IAV Hassan II.
- VLIR-UOS Belgian Directorate for Development Cooperation (DGD): 2017-2021
  - Larabi, A., R. Mrabet et al.: Projet WASIS: Smart Water Resources System for the Optimal Water Management in the Tafilalet Oasis using Palm Sensors and a GIS-Mathematical Model. - VUB, Department of Hydraulics and Hydrology Engineering (Promoter), Ecole Mohammadia des Ingénieurs, INRA Morocco, ABH-T, ORMVAT, ANDZOA.

#### **Hungarian cooperation:**

NAIK (Water & Soil Ltd)

Project assessment of soil retainers under contrasting crops and soils in irrigated and pluvial regions of Morocco (www.waterandsoil.eu)

#### **National Projects**

Agence National de Développement des Zones Oasiennes et de l'arganier (ANDZOA-INRA) - ORMVA Ouarzazate and Tafilalet, DRA Guelmim Es Smara and DPA de Figuig.

• Convention cadre de développement des palmeraies : Projet de recensement, caractérisation et cartographie des palmeraies. 2012-2019. (coordinator)

### Banque Mondiale & Ministère de l'Agriculture, Développement Rural et Pêches Maritimes

- Projet Développement Rural Intégré Petite et Moyenne Hydraulique (DRI-PMH) Khénifra : Composante développement agricole.
- Projet Développement Rural Intégré Mise en Valeur Bour DRI-MVB Tissaf (Province Boulemane) (coordinator).
- Fonds Spécial pour les Changements Climatiques (Banque mondiale) INRA ADA: Contrat cadre pour l'accompagnement par l'INRA des opérations de semis direct prévues dans le Projet d'Intégration du Changement Climatique dans la mise en œuvre du Plan Maroc Vert (PICCPMV): coordinator

## Ministère de l'Agriculture de la Pêche Maritime (MAPM) (Direction de l'Enseignement, la Recherche et le Développement).

 Analyse de la vulnérabilité et des stratégies de Moyens d'existence des jeunes ruraux, fils et filles d'agriculteurs, dans les zones défavorisées de montagne. Proferd. 2005-2007.

## MAPM-DEFR : Mécanisme Compétitif pour la Recherche-Développement et la Vulgarisation (MCRDV).

• Hamim, A., R. Mrabet et al. 2012-14. Introduction, Caractérisation et Sélection de nouvelles variétés de baies rouges (Myrtillier, Framboisier, et Mûrier) prometteuses dans la région Tanger-Tétouan. 2012-2015.

#### Conseil régional d'agriculture de Chaouia- Ouardigha

• Convention de recherche-développement entre INRA et Conseil Régional d'Agriculture de la Chaouia-Ouardigha (2001-06). Etablissement des sites permanents de semis direct dans la région de Chaouia-Ouardigha.

## MCA-Agence de partenariat pour le progrès – INRA-IAV Hassan II-ENA Meknès & ENFI Salé

• Projet de recherche sur l'arboriculture fruitière. Axe I. Impact des techniques d'aménagements et de plantations sur la qualité et la conservation des sols. Thème I.4. Effet des techniques d'aménagement et de plantation sur l'hydrologie et la fertilité des sols.

#### Office Régional de la Mise en Valeur Agricole de Tafilalet

Projet de développement rural des zones de montagnes de la province d'Errachidia.
 Convention de partenariat n° 2/2010 relative à la réalisation des essais de démonstration de bonnes pratiques de réhabilitation des parcours au niveau des zones montagneuses de la zone d'action de l'ORMVA-TF.

## Convention ministère de l'Agriculture – Pêche Maritime – Group OCP – INRA (2009-2018)

• Convention relative à l'élaboration de la carte de fertilité des sols cultivés au Maroc.

#### **OCP Group**

• Valorisation du phosphogypse, des boues de lavage des phosphates et du phosphate naturel en agriculture (2017-2021).

#### CNRST - Programme national d'appui à la recherche sectorielle (2010-2013)

- El Mourabit, N., R. Mrabet, A. Noutfia & S. Barrijal. Valorisation des populations locales de sorgho grain : Eude de la diversité génétique par les marqueurs moléculaires et Sélection de génotypes performants. (INRA & FST Tanger).
- El Amrani, A., M. Benicha, & R. Mrabet. Mise en œuvre d'une stratégie de lutte intégrée contre les ravageurs des cultures de fraises et petits fruits rouges dans la région du Loukkos. (FST & INRA Tanger)
- Elharfi A., Rafik M., Hegazi S., Elkhoukhi, T., Bouih, A. R. Mrabet, M. Mouhib & Zantar, S. Synthèse et étude des polymères époxydes multifonctionnels formulés par des nano charges inorganiques en vue du confinement des déchets nucléaire de types A et B. (FS Kenitra, CNESTEN, INRA Tanger).

#### **Royal Institute for Strategic Studies (IRES) (Think-Thank)**

• La sécurité alimentaire et sanitaire face au changement climatique : essai pour une stratégie d'adaptation dans le cadre d'une gouvernance intégrée. Programme d'études « changement climatique : impacts sur le Maroc et options d'adaptation globales ». <a href="http://www.ires.ma/spip.php?article633">http://www.ires.ma/spip.php?article633</a>

#### **AMABIO-INRA ENA IAV Hassan II:**

Convention de Recherche-Développement signée entre la FIMABIO (anciennement AMABIO) et les Institutions de Recherche: IAV, INRA et ENA.
 <a href="http://fimabio.org/jour nee-r-et-d/">http://fimabio.org/jour nee-r-et-d/</a> (2013-2015)

#### **CONSULTANT & REVIEWER**

Member of Scientific Committee – COP22

Member of Inter-Ministerial Commission on Climate Negotiation – COP22

Member of Labelling Committee - COP22

Project Reviewer & Expert National Center for Scientific and Technical Research (CNRST) (2008-2014). (<a href="http://www.cnrst.ma/comites\_scientifiques.htm">http://www.cnrst.ma/comites\_scientifiques.htm</a>).

- o Convention CNRST CNRS (France),
- o Convention CNRST CSIC (Spain),
- Convention CNRST CNRi (Italy),
- o Convention CNRST FCT ex GRICES & ex ICCTI (Portugal),
- Convention CNRST EuroMed Programme 3+3

Expert-Reviewer CNRST & Fondation OCP (2015-16).

National Center for Energy and Nuclear Sciences and Technologies (CNESTEN) (2013-2023).

• President Scientific Committee (CNESTEN) (2019-2020) and Member (2021-22)

Consultant for Moroccan Center for Innovation (CMI) (2013-14).

Consultant for ANPME (2015-16).

Consultant - Moroccan Agency for International Cooperation (2015 to date): Soil Fertility Mapping of Caribbean Islands.

Member of Jury: Grand Prix Hassan II pour l'invention et la recherche dans le domaine agricole: Group Coordinator: Agronomy (session 2013) & (session 2017).

Member of network: RCM (Réseau Grandes Cultures Méditerranéen): <a href="http://www.rcmed.org/le-rcm/missions-du-rcm/">http://www.rcmed.org/le-rcm/missions-du-rcm/</a>

**Focal Point for Phosphate Research** Network (Mohammed VI Polytechnic University, Ben Guerir, Morocco).

*Member of International Scientific Evaluation Panel:* PRIMA foundation (Partnership for Research and Innovation in the Mediterranean Area) (<a href="http://prima-med.org/calls-for-proposals/">http://prima-med.org/calls-for-proposals/</a>). 2018-19 & 2023

Member of IUCN Commission on Ecosystem Management (2017-2023).

Member of GSP-NETSOB – International Network on Soil Biodiversity (Working Group 2) and "Lead Author "Field Manual On Best Management Practices To Conserve Soil Biodiversity And Prevent Soil Biodiversity Loss".

#### Consultant:

Public Institutions & NGOs	Private Sector
OCP Foundation ( <a href="http://www.ocpfoundation.org/">http://www.ocpfoundation.org/</a> ) OCP Group ( <a href="http://www.ocpgroup.ma/">http://www.ocpgroup.ma/</a> ),	Bearingpoint :« Projet de conception e d'un pôle Agritech dans la région Fès-M
Think Tank - IRES: Royal Institute for Strategic Studies (http://www.ires.ma)	Fondazione Giacomo Brodolini (Ro. "Case studies on the future of skills. "Morocco" Reference: https://www.etf.europa.eu/sites/default/04/future_of_skills_agri-food_sector_in
Morocco's State Secretary in Charge of Sustainable Development (now department of environment)	Capital Consulting – Casablanca (Ag http://www.capitalconsulting.ma.
Ministry of Agriculture, Marine Fisheries, Rural Development and Waters & Forests:  AAA initiative: http://www.aaainitiative.org/sites/aaainitiative.org/files/AAA_livre%20blanc_ENG.pdf	Les Domaines agricoles (Direct (http://www.lesdomainesagricoles.com
	Compagnie Tunisienne du Grain COTU

#### Invited speaker & Chairman & Rapporteur & Scientific Committee Member:

- Scientific Committee Member, Pannelist and Invited Speaker at 3rd African Congress on Conservation Agriculture (3ACCA) June 5-8, 2023, Rabat Morocco <a href="https://www.africacacongress.org/speakers">https://www.africacacongress.org/speakers</a>
- Scientific Committee Member and Pannelist. UNESCO International Conference on Ancestral Hydrotechnologies as a Response to Climate, Health and Food Emergencies. Good practices in the Mediterranean and Latin America "Use of Cultural Heritage to Rescue the Future". February 16-17, 2023. Vertex Building – UPC North Campus Barcelona, Spain.
- Organizing committee member and invited Speaker: Conférence sur l'agriculture de conservation: Pilier de résilience dans la stratégie de la Génération Green. ENA Meknes, 16/03/2023.
- Invited Lead speaker: 3<sup>rd</sup> International Web-Conference on Natural Resource Management for Global Food Security and Sustainable Development Goals, 2-3 December 2022. The Academy of Natural Resource Conservation and Management

- (ANRCM), Lucknow, India, and KSN University of Agricultural and Horticultural Sciences, Shivamogga, India.
- Yangling International Agri-Science Forum. Yangling, Shaanxi, China. October 23-24, 2021. Keynote Speaker.
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- Facilitator for Africa Vice Chancellors' Regional Food Systems Dialogue. University
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- Member of Scientific Program Committee: Ecosystem Services Partnership (ESP)
   MENA Regional conference Rabat, Morocco 27-29 January 2021.
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- Member of International Steering Committee (ISC) & Scientific/ Technical Committee
  of 8<sup>th</sup> World Congress on Conservation Agriculture, (8WCCA): Profitable and
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Prima MountainHer Project

https://www.youtube.com/watch?v=Un5XST1qXU4

Prima Surenexus Project

https://upcommons.upc.edu/handle/2117/385933

# **D**ATABASE

https://qcat.wocat.net/fr/accounts/user/685/

### LANGAGES & COMPUTER SKILLS

## Langages

Scale (1 - excellent; 5 - basic)

Language	Conversation	Talking	Writing
Arabic	1	1	1
French	1	1	1
English	1	1	1
Spanish	4	4	3

# Computer skills & technology

• Programing, Statistics (SAS), Geostatistics, Geographic Information System, Data Bases, Soil, Crop and Hydrological Modeling (Modflow, EPIC, SWAT, RZWQM, DNDC, APSIM, RUSLE etc).

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#### MAJOR SKILLS

Senior Scientist, Science and Management Leadership, Academic leader, performing ground-breaking research, managing large projects, and acquiring external funding. Professional experience with project/portfolio management, Experience in funding acquisition at national and/or international levels, Knowledge management, Innovative scientific thinking, Research priority setting, Designing, coordinating, institutional budget overview, Funding quality and supervising research programs, Augmenting science quality and performance and scope of impact and guiding and implementing cooperation strategy, Develop teamwork, empowerment, collaboration, and targeting for results and impacts, Declining agricultural policies into long-term scientific policy of research institution, Science-Policy development, Lecturer at Universities both national and international, International expert, Keynote speaker, Reviewer (Projects and Publications), Editor (Journals).