

# Lyesse Laloui

Swiss citizen, Place of origin: Ecublens VD, Switzerland  
born on 29.07.1963, married, two children

**CHAIR FULL PROFESSOR**, Swiss Federal Institute of Technology, EPFL  
**DIRECTOR** of the Laboratory of Soil Mechanics, CO<sub>2</sub> Sequestration and Geo-Engineering, EPFL  
**MEMBER**, Swiss Academy of Engineering Sciences  
**MEMBER**, Academia Europaea - The Academy of Europe  
**HONORARY EDITOR IN CHIEF**, Geomechanics for Energy and the Environment  
**PRESIDENT**, International Society of Soil Mechanics and Geotechnical Engineering



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epfl.ch/labs/lms/prof-lyesse-laloui/

## Professional Profile

Lyesse Laloui is a professor of civil and environmental engineering at the Swiss Federal Institute of Technology, EPFL. He is a world-renowned expert in geomechanics and geo-energy. **Inspired by the intricate systems of the natural world**, his groundbreaking research into the physical mechanisms of geomaterials has unlocked innovative technologies crucial for addressing **climate change, resource optimization, and the widespread adoption of renewable energy**.

His impact is underscored by prestigious awards, including an **Advanced ERC Grant** (2018), an **ERC Proof of Concept Grant** (2020), and an **EiC Transition Grant** (2023). Prof. Laloui's **international recognition is further solidified by two honoris causae** (Heriot-Watt University, Technical University of Cluj-Napoca) in recognition of his sustainability leadership.

Prof. Laloui holds influential positions within the **Swiss Academy of Engineering Sciences, Academia Europaea**, and the **Swiss Society of Engineers and Architects** and serves as President for the **International Society of Soil Mechanics and Geotechnical Engineering**.

As founder and Honorary Editor-in-Chief of Geomechanics for Energy and the Environment, Prof. Laloui shapes the field's discourse. His vast publication record (13+ books, 400+ papers, 20,000 citations, h-index 70+) includes internationally celebrated works. He is a sought-after keynote speaker (>50 conferences) and the recipient of numerous Lecture awards, including the Interpore **Kimberly-Clark Distinguished** Lectureship Award (2026), the **DFI John Mitchell** Lecture (2025), **Vienna Terzaghi** Lecture (2022), **ASCE Kersten** Lecture (2020), and more. In 2025, he was recognised among the top 0.05% of scholars worldwide by ScholarGPS. He currently ranks as the #1 active global scholar in Analytical Technique, #1 in Geotechnics in Europe, and among the top three active researchers globally in Geomechanics, underscoring the international visibility of his work and the depth of engagement he brings to the scientific and professional advancement of his disciplines.

Prof. Laloui's commitment to innovation extends beyond academia, holding several patents and founding **five startups**, with Enerdrape ranked within the Swiss Top 100 (2023, 2024, 2025). This underscores his ability to translate cutting-edge science into impactful technologies, often drawing inspiration from nature's own solutions.

## EDUCATION

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|                                                                                      |      |                                                         |      |
|--------------------------------------------------------------------------------------|------|---------------------------------------------------------|------|
| <b>Administrator of companies</b>                                                    | 2021 | <b>Advanced Master</b> in Soil and Structural Mechanics | 1989 |
| Swiss Board School (Uni. of St. Gallen, Lausanne, Geneva, and Swiss Board Institute) |      | Ecole Centrale Paris, France                            |      |
| <b>Ph.D.</b> with honors: "Summa cum laude"                                          | 1993 | <b>Master in Civil Engineering</b>                      | 1987 |
| Ecole Centrale Paris, France                                                         |      | Ecole Nationale des Travaux Publics, Algiers, Algeria   |      |

## MAIN ACADEMIC POSITIONS

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|                                             |                |                                                                            |             |
|---------------------------------------------|----------------|----------------------------------------------------------------------------|-------------|
| <b>Professor</b>                            | 2006 – current | <b>Honorary Director</b>                                                   | 2018 – 2020 |
| Swiss Federal Institute of Technology, EPFL |                | International Joint Research Center for Energy Geotechnics, Nanjing, China |             |
| <b>Member</b>                               | 2021 – current | <b>Research Fellow</b>                                                     | 1994 – 2006 |
| Swiss Academy of Engineering Sciences       |                | Swiss Federal Institute of Technology, EPFL                                |             |
| <b>Member</b>                               | 2024 – current | <b>Research Fellow</b>                                                     | 1993 – 1994 |
| Academia Europaea - The Academy of Europe   |                | Ecole Centrale Paris                                                       |             |

## OTHER ACADEMIC POSITIONS

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|                                                                              |             |                                                                                |      |
|------------------------------------------------------------------------------|-------------|--------------------------------------------------------------------------------|------|
| <b>Adjunct Professor</b>                                                     | 2007 – 2024 | <b>MTS Distinguished Visiting Professorship</b>                                | 2012 |
| School of Civil and Environmental Engineering, Duke University, USA          |             | Civil and Environmental Engineering Department, University of Minnesota, USA   |      |
| <b>Visiting Professor</b>                                                    | 2022 – 2023 | <b>Visiting Professor</b>                                                      | 2012 |
| Civil and Environmental Engineering Department, Northwestern University, USA |             | Civil and Mechanical Engineering Department, University of Montpellier, France |      |
| <b>Advisory Professor</b>                                                    | 2016 – 2019 | <b>Visiting Professor</b>                                                      | 2009 |
| Hohai University, Nanjing, China                                             |             | Civil and Transportation Engineering Department, Padova University, Italy      |      |
| <b>Distinguished Adjunct Professor</b>                                       | 2013 – 2014 | <b>Visiting Scientist</b>                                                      | 1998 |
| King Abdulaziz University (KAU), Jeddah, Saudi Arabia                        |             | Department of Mechanics, Darmstadt University, Germany                         |      |

## INSTITUTIONAL RESPONSIBILITIES AT EPFL

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|                                                                                                                                           |                |                                                                                                                                         |             |
|-------------------------------------------------------------------------------------------------------------------------------------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------|-------------|
| <b>Director</b>                                                                                                                           | 2008 – current | <b>Member of the Board of Directors</b>                                                                                                 | 2013 – 2022 |
| Laboratory for Soil Mechanics, Geo-engineering and CO2 Storage                                                                            |                | School of Architecture, Civil and Environmental Engineering (ENAC)                                                                      |             |
| Establishing it as a world-class teaching and research unit.                                                                              |                | <a href="https://www.epfl.ch/schools/enac/">https://www.epfl.ch/schools/enac/</a>                                                       |             |
| <a href="https://www.epfl.ch/labs/lms/">https://www.epfl.ch/labs/lms/</a>                                                                 |                | <b>Director</b>                                                                                                                         | 2008 – 2012 |
| Our annual reports are available online:                                                                                                  |                | Doctoral Program in Mechanics                                                                                                           |             |
| <a href="https://www.epfl.ch/labs/lms/annualreports/">https://www.epfl.ch/labs/lms/annualreports/</a>                                     |                | <a href="https://www.epfl.ch/education/phd/edme-mechanics/">https://www.epfl.ch/education/phd/edme-mechanics/</a>                       |             |
| <b>Director</b>                                                                                                                           | 2012 – 2022    | <b>President</b>                                                                                                                        | 1991 – 2001 |
| Civil Engineering Section                                                                                                                 |                | EPFL General Assembly – Senate                                                                                                          |             |
| The department was ranked in the Top 10 of the QS ranking for all this period.                                                            |                | <a href="https://www.epfl.ch/about/overview/governance/epfl-assembly/">https://www.epfl.ch/about/overview/governance/epfl-assembly/</a> |             |
| About 600 students and 120 faculty members.                                                                                               |                | <b>ETH-Rat Board</b>                                                                                                                    | 1991 – 2001 |
| <a href="https://www.epfl.ch/schools/enac/education/civil-engineering/">https://www.epfl.ch/schools/enac/education/civil-engineering/</a> |                | EPFL Body representative - Domain's strategic management and supervisory body for ETH Zürich and EPFL                                   |             |
|                                                                                                                                           |                | <a href="https://ethrat.ch/en/">https://ethrat.ch/en/</a>                                                                               |             |

## HONORARY TITLES

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- Doctorate Honoris Causa** 2022  
For outstanding achievements in geotechnical engineering and developing innovative technologies supporting a sustainable future, Heriott-Watt University (U.K.).
- Doctorate Honoris Causa** 2022  
In recognition of the contribution to geotechnical engineering solutions for a sustainable world. Technical University of Cluj-Napoca (UTCN), Romania.
- Ambassador - Lausanne Montreux Congress (LMC)**  
LMC brings together experts from different sectors in the economic region of Lausanne and Montreux.

## INDUSTRY BOARDS

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|-----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| <b>President of the board of directors</b> 2023 – current<br>Medusoil SA   (member 2018-2023) | <b>Member of the Scientific Council</b> 2025 – current<br>Hagerbach – The Underground Future Lab |
| <b>Member of the board of directors</b> 2020 – current<br>Realstone holding SA                | <b>President of the board of directors</b> 2015 – 2016<br>Stunex SA                              |
| <b>Member of the board of directors</b> 2020 – current<br>Local Energy SA                     |                                                                                                  |

## FUNDED COMPANIES

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|-------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| <b>Laloui Consulting</b> 2018<br>lalouiconsulting.com | <b>Nesol Sarl</b> 2018<br>nesol.net                                                                |
| <b>Medusoil SA</b> 2018<br>medusoil.com               | <b>Enerdrape SA</b> 2020<br>enerdrape.com<br>Ranked within the Swiss Top 100 start-up (2023, 2024) |
| <b>Geoeg Sarl</b> 2018<br>geoeg.net                   |                                                                                                    |

## MANAGEMENT, SCIENTIFIC AND EXPERT COMMITTEES OUTSIDE EPFL

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|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>President</b> 2026 – current<br>International Society of Soil Mechanics and Geotechnical Engineering (ISSMGE)<br>21,000 members in 93 countries.                     | <b>Founder and Honorary Editor-In-Chief</b> 2014 – current<br><i>Geomechanics for Energy and the Environment</i> – Elsevier<br>Impact Factor: <b>3.3</b><br>CiteScore: <b>5.9</b> (2024)               |
| <b>Member</b> 2026 – current<br>Engineering Panel (Joint Research Schemes) of the Research Grants Council – Hong Kong Universities Grants Committee                     | <b>Chair</b> 2024<br>Advisory Committee of the XVIII European Conference on Soil Mechanics and Geotechnical Engineering, Portugal.                                                                     |
| <b>Member</b> 2026 – current<br>Board of the Federation of International Geo-Engineering Societies                                                                      | <b>Executive Committee representative</b> 2016-2021<br>Government of Switzerland in the International Energy Agency Greenhouse R&D Technology Collaboration Program.                                   |
| <b>Director for Europe</b> 2023 – 2026<br>International Associated Research Centers for the Urban Underground Space (ACUUS)                                             | <b>Member</b> 2017- 2021<br>Executive Committee of the Swiss Competence Center for Energy Research – Supply of Electricity (SCCER-SoE) – Leader of the Work Package on Geo-Energies.                   |
| <b>Vice President for Europe</b> 2022 – 2026<br>International Society of Soil Mechanics and Geotechnical Engineering (ISSMGE)<br>9000 members in 38 European countries. | <b>Member</b> 2002, 2006, 2019<br>International Experts Group in charge of building a Thermo-Hydro-Mechanical Capability at NAGRA (Swiss national co-operative for the disposal of radioactive waste). |

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| <b>Chair</b>                                                                                                                                                                                                                                                                             | 2018       | <b>Vice-director</b>                                                                                                                                              | 2005-2011 |
| Evaluation Panel of Civil and Geological Engineering R&D Units of Portugal.<br>Portuguese Science and Technology Foundation (FCT).                                                                                                                                                       |            | ALERT-Geomaterials network (Alliance of Laboratories in Europe for Research and Technology - Leading European network in Geomechanics formed by 27 universities). |           |
| <b>Member</b>                                                                                                                                                                                                                                                                            | 2017- 2018 | <b>President of the scientific committee</b>                                                                                                                      | June 2008 |
| Scientific Council of CISM, the International Centre for Mechanical Sciences, Udine (Italy).                                                                                                                                                                                             |            | 26th annual meeting of French-speaking universities in Civil Engineering, Nancy (France).                                                                         |           |
| <b>Vice-Chair</b>                                                                                                                                                                                                                                                                        | 2013-2017  | <b>Member</b>                                                                                                                                                     | 2002-2008 |
| Technical Committee TC101 "Laboratory Stress Strain Strength - Testing of Geomaterials" of the International Society for Soil Mechanics and Geotechnical Engineering.                                                                                                                    |            | Scientific Committee of the INERIS (French National Institute of Industrial Environment and Risks). Evaluation of research groups and research projects.          |           |
| <b>Member</b>                                                                                                                                                                                                                                                                            | 2014-2015  | <b>Member</b>                                                                                                                                                     | 2011-2012 |
| EU-ERC Consolidator Grants panel dealing with Products and Processes Engineering - The Consolidator Grant provides significant support to the most promising researchers of the next generation who are consolidating their research careers, usually 7 – 12 years beyond the doctorate. |            | Board of examiners of the Scuola Interpolitecnica di Dottorato (Torino, Milano, Bari).                                                                            |           |
|                                                                                                                                                                                                                                                                                          |            | <b>Member</b>                                                                                                                                                     | 2008      |
|                                                                                                                                                                                                                                                                                          |            | Evaluation Committee of the research activities of the French Environment and Energy Management Agency (ADEME).                                                   |           |
|                                                                                                                                                                                                                                                                                          |            | <b>Search committees for professor positions</b>                                                                                                                  |           |
|                                                                                                                                                                                                                                                                                          |            | at various Universities, including EPFL, ETH Zurich, University of Grenoble, University of Montpellier, etc.                                                      |           |

## ACADEMIC HONOURS

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |      |                                                                                                                                                                                                                       |      |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| <b>InterPore Kimberly-Clark Distinguished Lecturer on Porous Media Science &amp; Technology</b>                                                                                                                                                                                                                                                                                                                                                                                                                     | 2026 | contributions to the practice, research, or education in the industry.                                                                                                                                                |      |
| This is a highly prestigious recognition with a very high international recognition within the field of porous media science and technology. This award honors individuals who have made significant contributions to the science and engineering of porous media and related applications. This lecture was delivered in Nicosia, Tehran, Turin, Vienna and Vilnius.                                                                                                                                               |      | <b>Prague Geotechnical Lecture</b>                                                                                                                                                                                    | 2025 |
| <b>FedIGS Lecture</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 2026 | "Advances in numerical design and analysis of underground nuclear waste repositories". Honorary lecture award - Czech Academy of Sciences.                                                                            |      |
| "Carbon Dioxide Injection into Deep Aquifers: A Geomechanical Perspective" at the IAEG World Congress.                                                                                                                                                                                                                                                                                                                                                                                                              |      | <b>XXIX Károly Széchy Memorial Lecture</b>                                                                                                                                                                            | 2024 |
| <b>3rd ISSMGE Honour Lecturer on Energy Geotechnics</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 2026 | "A New Era for Geotechnical Engineering Practice" honorary lecture award - Hungarian Academy of Sciences, The Hungarian Geotechnical Association, and the Geotechnical Section of the Hungarian Chamber of Engineers. |      |
| "Revolutionizing Foundations: Advances in Thermo-Active Piling Engineering". This distinction is the highest honour the International Society for Soil Mechanics and Geotechnical Engineering can bestow and is "a recognition of my pioneering and sustained contributions to energy geotechnics, particularly in advancing the fundamental understanding and practical application of coupled thermo-hydro-mechanical processes, as well as my leadership in promoting this field and entrepreneurship globally". |      | <b>Vienna Terzaghi Lecture</b>                                                                                                                                                                                        | 2022 |
| <b>DFI John Mitchell Lecture</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 2025 | "Tailor-made soil properties by bio-geochemical means," Austrian Geotechnical Conference.                                                                                                                             |      |
| "Revolutionizing Foundations: Advances in Thermo-Active Piling Engineering". The DFI John Mitchell Lecture, awarded by the Deep Foundations Institute (DFI), is one of the most prestigious honors in the field of geotechnical engineering and deep foundations. It recognizes individuals who have made significant, long-term                                                                                                                                                                                    |      | <b>2022 Eshbach Lecture</b>                                                                                                                                                                                           | 2022 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |      | "Tailor-made soil properties by bio-geochemical means," Northwestern University, Chicago, USA.                                                                                                                        |      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |      | <b>Proof of Concept Grant (PoC-ERC)</b>                                                                                                                                                                               | 2020 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |      | European Research Council (ERC) for the project CEBREWA (Construction & Environmental Biocementation in Real World Applications).                                                                                     |      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |      | <b>2020 Kersten Lecture</b>                                                                                                                                                                                           | 2020 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |      | "Energy Geotechnology: A New Era for Geotechnical Engineering Practice," Geo-congress 2020 Minneapolis, American Society for Civil engineering, USA.                                                                  |      |

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|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| <b>Advanced ERC Grant</b>                                                                                                                                                                                                                                       | 2018 | <b>Honorary Editor and Chairman</b>                                                                                                                                                                                 | 2013 |
| European Research Council (grant 2.5 million Euros) for the project BIOGEOS (Biomediated Geomaterials Strengthening).                                                                                                                                           |      | Géotechnique Symposium in Print 2013 – Institute of Civil Engineering, London, U.K.                                                                                                                                 |      |
| <b>30th Roberval Award</b>                                                                                                                                                                                                                                      | 2018 | <b>2012 Vardoulakis Lecture</b>                                                                                                                                                                                     | 2012 |
| For the book “Mécanique des sols et Roches” (ISBN 978-2-88074-961-3), co-authored with L. Vulliet and J. Zhao. Award received at the French Academy of Science, 2018. Former Nobel prize winners such as G. Charpak et P-G. de Gennes are among the recipients. |      | For significant contributions to the field of geomechanics, University of Minnesota, USA.                                                                                                                           |      |
| <b>2016 RM Quigley Award</b>                                                                                                                                                                                                                                    | 2015 | <b>"Fondazione Cassa di Risparmio di Padova e Rovigo" award</b>                                                                                                                                                     | 2009 |
| For the best paper published in the Canadian Geotechnical Journal.                                                                                                                                                                                              |      | Doctoral School in Civil and Environmental Engineering, University of Padova, Italy.                                                                                                                                |      |
| <b>12th G.A. Leonards Lecture</b>                                                                                                                                                                                                                               | 2014 | <b>Excellent Contributions Award</b>                                                                                                                                                                                | 2008 |
| “Advances in the Analysis of Thermo-Active Foundations”, University of Purdue, USA.                                                                                                                                                                             |      | International Association for Computer Methods and Advances in Geomechanics for significant contributions in research, academic activities, and professional service in the interdisciplinary area of Geomechanics. |      |

## PROFESSIONAL AWARDS

Since their launch in 2018 and 2020, two of my start-ups have received several prestigious awards and recognition, highlighting their innovative contributions to renewable energy, sustainable construction and environmental solutions.

### Enerdrape

- Swiss Innovation Tech4Impact (2020)
- Venture KICK Stages 1,2,3 (2021)
- « Prix SUD Startup Durable – LE TEMPS » (2022)
- Klimastiftung/Fondation du Climat (2022)
- Trophée PERL (2022)
- Venture (2022)
- TOP16 Swiss Startup (2024)
- AMAG Sustainability Challenge (2024)

### Medusoil

- ClimateLaunchpad (2017)
- Venture Kick (2018)
- TOP20 Slush (2019)
- Innosuisse Innovation project (2022)
- IMD Startup Competition (2022)
- Horizon Léman Innovation MIPIM (2025)
- UK Innovation Zero (2025)
- Geotech Awards: Innovative Material Supplier & Best Use of Sustainable Solutions (2025)
- Green Business Award Switzerland Top5 (2025)

## INNOVATION, TECHNOLOGY TRANSFER - PATENTS AND COMMERCIAL SOFTWARE

|                                                                                                                                                                                                                                                                                                                               |                            |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|
| <b>Invention 1:</b>                                                                                                                                                                                                                                                                                                           | PCT/IB2019/054532          |
| <b>System and method for ground consolidation.</b>                                                                                                                                                                                                                                                                            |                            |
| The present invention belongs to the fields of construction technology and geotechnical engineering. More precisely, the present invention relates to a method and system for ground stabilization that uses a system of electrodes in the ground.                                                                            |                            |
| <b>Invention 2:</b>                                                                                                                                                                                                                                                                                                           | PCT/IB2019/052950 – Patent |
| <b>Heat exchanger module and methods of using thereof</b>                                                                                                                                                                                                                                                                     |                            |
| Heat exchanger module and methods of using thereof. The present invention relates to a thermal energy transfer unit and its applications in, e.g., heat exchange processes in a built environment.                                                                                                                            |                            |
| <b>Invention 3:</b>                                                                                                                                                                                                                                                                                                           | PCT/IB2020/05473 – Patent  |
| <b>Method and system for producing a carbonate-containing species-rich, nitrogen-containing species-free solution.</b>                                                                                                                                                                                                        |                            |
| The present invention generally belongs to the field of inorganic chemistry. More particularly, the invention pertains to a method and system for producing a carbonate-containing species-rich, nitrogen-containing species-free solution from a urea-rich solution and applications for ground bio-consolidation processes. |                            |
| <b>Invention 4:</b>                                                                                                                                                                                                                                                                                                           | PCT/EP2017/062995 - Patent |
| <b>A geosynthetic element for soil bio-improvement</b>                                                                                                                                                                                                                                                                        |                            |
| The present invention relates to a geosynthetic element for geotechnical engineering applications. More specifically, according to the present invention, the geosynthetic element comprises bacteria carriers for calcifying bacteria and a flow network. The                                                                |                            |

present invention also relates to a method of inducing microbial calcium carbonate precipitation in a geomaterial by using the geosynthetic element.

The related activities were developed in the context of a startup (MeduSoil), awarded the Swiss National ClimateKIC 2017.

#### Invention 5:

Patent application No. 24206595.1 filed on 15 October 2024 (priority)

#### Borehole in situ stress measurement system

The patent describes a method and tool for direct in situ stress measurement in deep boreholes using an annular displacement device with high-resolution probes and integrated electronics. A central passage allows coring and hydraulic pressurization without removing the sensor. Pressure is applied to restore the wall's original position in a specific direction, and the in-situ stress is deduced from the required pressure; device rotation enables multi-directional stress assessment.

Patent application No. WO2026082508 filed on 08 October 2025 (priority)

More about the patents: <https://patents.justia.com/search?q=Laloui>

#### Software for the design of energy geostructures

In 2011, we developed the commercial software "Thermo-Pile" for the geotechnical design of energy piles. To this day, it remains the leading software on the market dedicated to the feasibility analysis of energy pile projects. Thermo-Pile is currently **used internationally by 24 universities and 6 engineering companies**.

Further details can be found at <http://lms.epfl.ch/thermopile>.

## KEYNOTE LECTURES

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Prof. Laloui has given over 60 keynote and invitational lectures in over 30 countries. This includes:

### 2026

- *"Subsurface Energy Solutions: where Geotechnics meets innovation"* **15th International conference "Modern Building Materials, Structures and Techniques** Vilnius, Lithuania.

### 2025

- *"Bio-cementation: Transforming Scientific Discoveries into Market Solutions"*. **Geotech Asia 2025**, Goa, India.
- *"From Microbial Bonds to Macroscopic Strength: A Mechanical Perspective on Biocemented Soils"*. **EUNSAT2025- 5<sup>th</sup> European Conference on Unsaturated Soils**, Lisbon, Portugal.
- *"Revolutionizing Foundations: Advances in Thermo-Active Piling Engineering"*. **John Mitchell Lecture - DFI-EFFC International Conference on Deep Foundations and Ground Improvement – Geotechnics Reimagined**, Bruges, Belgium.
- *"Advances in numerical design and analysis of underground nuclear waste repositories"*. **Prague Geotechnical Honorary Lecture**, Prague, Czech Republic.
- *"Revolutionizing Foundations: Advances in Thermo-Active Piling Engineering"*. **Opening presentation**, British Geotechnical Association annual meeting, London, England.
- *"Revolutionizing Foundations: Advances in Thermo-Active Piling Engineering"*. **Celebration of the 75th Anniversary of the Brazilian Association for Soil Mechanics and Geotechnical Engineering**, Sao Paulo, Brazil.
- *"Bio-cementation: Advancing Sustainable Soils Stabilization in Geotechnics"*. **Celebration of the 70th Anniversary of the Swiss Geotechnical Society**, Bern, Switzerland.
- *"Revolutionizing Foundations: Advances in Thermo-Active Piling Engineering"*. **2th International Geotechnical Innovation Conference (IGIC 2025)**, Jeddah, Saudi Arabia.
- *"Revolutionizing Foundations: Advances in Thermo-Active Piling Engineering"*. **1st Geotech Asia Conference**, Goa, India.

### 2024

- *"Bio-cementation: A game-changing innovation shaping the future of geotechnics"*. **International Geotechnical Innovation Conference**, Dubai, UAE.
- *"Smart exploitation of the renewable energy situated under our cities"*, **19th Nordic Geotechnical Meeting**, Göteborg, Sweden.
- *"Tailor-made Soil Properties by Bio-Geo-Chemical Means"*, **ALIVE Symposium 2024**, Zurich, Switzerland.
- *"Bio-cementation: Transforming Scientific Discoveries into Market Solutions"* **18th European Conference on Soil Mechanics and Geotechnical Engineering**, Lisbon, Portugal.

- *"Bio-cementation: Transforming Scientific Discoveries into Market Solutions"* **5th International Conference of Environmental Geotechnology, Recycled Waste Materials and Sustainable Engineering**, Warsaw, Poland.
- *"Exploiting the Renewable Energy Resources of our cities' underground,"* **11th International Symposium on Geotechnical Aspects of Underground Construction in Soft Ground**, Macao, SAR.
- *"Unlocking Renewable Energy in the Urban Subsurface"* **7th International conference Series on Geotechnics, Civil Engineering and Structures**, Hochi Minh City, Vietnam.
- *"Soil Reinforcement based on Bio-Geo-Chemical Processes"* **28th European Young Geotechnical Engineers Conference EYGEC2024**, Macedonia.

## 2023

- *"Numerical analysis of multiphysical processes in the vicinity of nuclear waste repository"* **9th Geotechnical Symposium**, Istanbul, Türkiye.
- *"Energy geo-technology: a new era for geotechnical engineering practice"* **17th Asian Regional Conference on Soil Mechanics and Geotechnical Engineering 2023**, Astana, Kazakhstan.
- **Distinguished lecture**, *"Smart exploitation of the renewable energy situated under our cities"* Hong Kong University.
- *"Carbon Dioxide Injection into Deep Aquifers: A Geomechanical Perspective"* **9th International Congress on Environmental Geotechnics (9ICEG)**, Creta, Greece.
- *"Exploiting the renewable energy resources of our cities' underground"* **European Conference on Geotechnical Engineering (17DECG)**, Bucharest, Romania.
- *"Smart exploitation of the renewable energy situated under our cities"* **International Conference on Advances in Structural and Geotechnical Engineering (ICASGE'23)**, Hurghada, Egypt.

## 2022

- *"Innovation for a Sustainable Geotechnical Engineering Industry"* **The Big 5, International Building and Construction Show**, Dubai.
- *"Sustainable (geo-)energies: Global progress and existing challenges"* **Northwestern Sustainability Lecture Series**, Chicago, USA..
- *"Tailor-made soil properties by bio-geochemical means"*, **16th International Conference of the International Association for Computer Methods and Advances in Geomechanics**, Turin, Italy.
- *"Energy from Geotechnical Constructions: Analysis and Design"* **XXVII Italian National Congress on Geotechnical Engineering for a Sustainable Development**, Reggio Calabria, Italy.
- *"Tailor-made soil properties by bio-geochemical means"* **Terzaghi Lecture, Austrian Geotechnical Conference**, Vienna, Austria.
- *"Field Monitoring and Simulations of Nuclear Waste Barrier Systems"* **2nd International Conference on Energy Geotechnics**, San Diego, USA.

## 2021

- *"Fundamentals of Soils Desiccation"*, **GE@2M (Grand Est, Mécanique et Matériaux)**, Online.

## 2020

- *"Energy Geotechnology: A New Era for Geotechnical Engineering Society"*, **Geo-congress 2020** Minneapolis, Minnesota, USA.
- *"Bentonite clay barriers in nuclear waste repositories"*, **4th European Conference on Unsaturated Soils**, Lisbon, Portugal.

## 2019

- State-of-the-art lecture *"Geothermal structures: from laboratory testing to engineering design"*, **7th International Symposium on Deformation Characteristics of Geomaterials**, Glasgow, UK.
- *"Energy Geotechnology: A New Era for Geotechnical Engineering Society"*, **XVII European Conference on Soil Mechanics and Geotechnical Engineering**, "Reykjavik, Island.
- *"Tailor-made soil properties with novel bio-geo-chemical means"*, **1st Mediterranean Young Geotechnical Engineers Conference (MYGEC)**, Bodrum, Turkey.

- *"Subsurface Energy Applications and the Importance of Coupled Processes in Shales"*, **DECOVALEX 2019 Symposium on Coupled Processes in Radioactive Waste Disposal and Subsurface Engineering Applications**, Brugg, Switzerland.
- *"Analysis, Design and Application of Energy Geostructures from the Building to the City Scale."*, **XVI Pan-American Conference on Soil Mechanics and Geotechnical Engineering (XVI PCSMGE)**, Cancun, Mexico.
- *"New Era for Geotechnical Engineering Society"*, **University of Minnesota 68th Annual Geotechnical Engineering Conference**, Minneapolis, USA.
- *"THM behavior of bentonite-based materials"*, **International Symposium on Energy Geostructures**, Nancy, France.

## 2018

- *"Analysis and design of energy tunnels and walls."*, **International Symposium on Energy Geostructures**, Lausanne, Switzerland.
- *"Analysis and design of energy tunnels and walls"*, **Deep Foundations Institute**, Chicago, USA.
- *"Gas shales: geomechanical challenges and analysis"*, **7th International Conference on Unsaturated Soils**, Hong Kong.
- *"Gas shales: geomechanical challenges and analysis"*, **ComGeo IV**, Assisi, Italy.

## 2017

- *"Design of energy geostructures"*, **7th Geotechnical Symposium**, Istanbul, Turkey.
- *"Advances in energy piles design"*, **2nd International Conference on Geo-Energy and Geo-Environment, GeGe2017**, Hangzhou, China.
- *"Design of thermo-active piles"*, **Shallow geothermal energy systems. Applications and perspectives**, Aveiro, Portugal.
- *"Geomechanical solutions for Geo-Energy issues"*, **Bochum Underground Space Day 2017**, Germany.

## 2016

- *"Geomechanical solutions for Geo-Energy issues"*, **XVII French-Polish Colloquium of Soil and Rock Mechanics**, Lodz, Poland.
- *"Analysis of the vertical deformation of energy pile groups"*, **1st International Conference on energy geotechnics, ICEGT 2016**, Kiel, Germany.
- *"Analysis of canister movements in an engineered barrier system"*, **International mini-symposium Chubu**, Nagoya, Aichi, Japan.
- **8th Conference on Geo-engineering**. Vysoké Tatry, Slovakia.

## 2015

- **1st International Conference on Geo\_Energy and Geo\_Environment (GeGe2015)**, Hong Kong.
- **6th International Symposium on Deformation Characteristics of Soils**, Buenos Aires, Argentina.
- *"Geomechanical solutions for Geo-Energy issues"*, **EAGE Geomechanics, and Energy workshop**, Celle, Germany.
- *"Testing of the Hydromechanical behavior of Shales"*, **6th Asia-Pacific Conference on Unsaturated Soils (AP-UNSAT 2015)**, Guilin, China.
- *"Analysis of a volcanic ash slope subjected to wetting and drying cycles"*, **Prague Geotechnical Days 2015**, Czech Republic.

## 2014

- Theme lecture, *"Geomechanical solutions for CO2 sequestration"*, **Environmental Geotechnics Congress Melbourne**, Australia.
- Plenary lecture, **14th International Conference of Int. Association for computer methods and advances in geomechanics (IACMAG)**, Kyoto, Japan.
- Plenary lecture, **GeoShanghai 2014 International Conference**, Shanghai, China.
- Plenary lecture, **6th International Conference on Porous Media**, Milwaukee, Wisconsin, USA..
- *"THM simulation of canister movements in an engineered barrier system"*, **Annual meeting of the Mont Terri Consortium**. Saint-Ursanne, Switzerland..

## 2013

- *"Multiphysical couplings in (geo)materials"*, **1st International Workshop on the Finite Element Code LAGAMINE**, Liège, Belgium.
- Feature lecture *"Hydromechanical analysis of a volcanic ash slope subjected to wetting and drying cycles"*, **3rd International Symposium on Computational Geomechanics**, Krakow, Poland.
- *"Hydro-mechanically Coupled Processes in Rainfall-induced Landslide Modelling"*, **XVI French-Polish Colloquium of Soil and Rock Mechanics**, Montpellier, France.
- *"Geotechnical Analysis of Energy Geo-Structures"*, **European Geothermal Congress 2013**, Pisa, Italy.
- General report, *"Geotechnical Analysis of Energy Geo-Structures"*, **International Symposium CPEG 2013 Coupled Phenomena in Environmental Geotechnics**, Torino, Italy.
- *"Coupled analytical and numerical solutions of CO2 injection induced surface uplift and caprock deflection"*, **3rd Sino-German Conference on Underground Storage of CO2 and Energy**, Goslar, Germany.
- *"Advances in the analysis of thermo-active foundations and underground structures"*, **International Workshop on Thermo-active Geotechnical Systems for Near-Surface Geothermal Energy**, Lausanne Switzerland.

## 2011

- Plenary lecture, *"Multiphysical Coupled Processes in Underground Nuclear Waste Disposal Problems"*, **Computational Methods for Coupled Problems in Science and Engineering IV**, Kos, Greece.
- Theme lecture, *"Evidences on the deformation mechanisms of a Shale"* **5th International Symposium on Deformation Characteristics of Geomaterials (IS-Seoul 2011) IV**, Seoul, Korea.
- Feature lecture, *"Geotechnical design of energy piles"*. **2nd International Symposium on Computational Geomechanics**, Cavtat-Dubrovnik, Croatia.

## 2010

- Plenary lecture, *"Mechanics of unsaturated soils: concepts and applications"*, **3rd International Euro- Mediterranean Symposium on Advances in Geomaterials and Structures**, AGS'10, Djerba, Tunisia).

## 2008

- Invited lecture *"Numerical Simulation of an In-Situ Underground Experiment for Nuclear Waste Storage"*, **12th IACMAG Conference**, Goa, India.
- *"Enhanced viscoplastic modeling of soft soils"*, **2nd International Workshop on Geotechnics of Soft Soils - Focus On Ground Improvement**, University of Strathclyde, Glasgow, UK.
- Invited lecture *"Geomechanical modeling of a natural slope affected by multiple slip surface failure mechanisms"*, **Intensive Course on Quantitative Risk Assessment and Risk Management**, Barcelona, Spain.
- *"Environmental Geomechanics, Concepts and Applications"* **33rd IGC International Geological World Congress**, Oslo, Norway.
- *"A THM framework for modeling clay barriers performance in underground nuclear waste storage"*, **European Conference on Unsaturated Soils**, Durham, UK.

## 2007

- Invited lecture, *"New insight into the unified hydromechanical constitutive modeling of unsaturated soils."* **3rd Asian Conference on Unsaturated Soils**, Nanjing, China.

## 2006

- Invited lecture, *"Numerical modelling of the geomechanical behaviour of a large slope movement: The Triesenberg landslide (Liechtenstein)"*, JTC-1 (the joint ISSMGE, ISRM and IAEG Committee on Landslides and Engineered Slopes), **Workshop on the Mechanics and Velocity of Large Landslides**, Courmayeur, Italy.
- Invited lecture, *"A THM stress-strain framework for modelling the performance of argillaceous materials in deep repositories for radioactive waste"*, **Mont Terri Project, 10 Years Anniversary Workshop**, St-Ursanne, Switzerland.

## JOURNALS GUEST EDITOR (SPECIAL ISSUES)

- Energy Procedia - Volume 114, Pages 1-7666, July 2017.

- Proc. 13th International Conference on Greenhouse Gas Control Technologies, GHGT-13, 14-18 November 2016, Lausanne, Switzerland. Edited by Tim Dixon, Lyesse Laloui, and Sian Twining
- Acta Geotechnica: Thermoactive Geotechnical Systems, 2014.
- Engineering Geology: Mechanics and velocity of large landslides, vol. 109, 2009.
- European Journal of Environmental and Civil Engineering:
  1. Coupled Multi-Physics Processes in Geomechanics, vol. 9, N°5-6, 2005.
  2. Failure in multiphase geomaterials, vol. 13, N°7-8, 2009.
- International Journal of Road Materials and Pavement Design: Water in Pavements, vol. 8, N°4, 2007.
- Géotechnique: Symposium in Print – Bio- and Chemo-Mechanical processes in geotechnical engineering (Vol. LXIII N° 2, 2013; Vol. LXIII N° 3, 2013)
- Soils and Foundations: Geomechanics of Structured Materials, Vol. 49, N°3, 2009.
- Water Resources Research: Hydrology and Mechanical Coupling in Earth Sciences and Engineering: Interdisciplinary Perspectives, Vol. 44, Issue 5, 2008.

## SUPERVISED RESEARCHERS

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Prof. Laloui has supervised more than 50 Ph.D. theses and post-docs researchers. Many have resulted in distinguished awards, including:

- **Haenny Prize 2024** (D. Terzis).
- **Zeno Karl Schindler 2019 Award** (A. Rotta Loria).
- US Deep Foundation Institute (DFI) **Educational Trust 2018 Young Professor Paper Competition** for the paper "Performance-Based Design of Energy Pile Foundations" (A. Rotta Loria).
- "**First runner-up position**" at the US Deep Foundation Institute (DFI) Educational Trust 2011 Young Professor Paper Competition for the paper "Design of Piles with Dual Role of Structural Stability and as a Sustainable Source of Energy for the Heating and Cooling of Buildings" (A. Di Donna).
- "**Best European Ph.D. thesis in Geomechanics in 2010**" from the European Association ALERT Geomaterials (M. Nuth).
- "**Best European Ph.D. thesis in Geomechanics in 2009**" from the European Association ALERT Geomaterials (B. François).
- "**EPFL Chorafas Prize 2009**" (M. Nuth)
- "**2009 best PhD thesis**" from the "Association universitaire de génie civil" in France (M. Nuth)
- "**EPFL Zanelli Prize for a Master's Work**" (T. Meynet)
- "**Best European Ph.D. thesis in Geomechanics in 2008**" from the European Association ALERT Geomaterials (A. Koliji)
- "**Second position for the best European Ph.D. thesis in Geomechanics in 2008**" from the European Association ALERT Geomaterials (H. Péron)
- "**Second prize for 2003 best PhD thesis**" from the "Association Universitaire de Génie Civil" in France (C. Cekerevac).

## INSTITUTIONAL RESEARCH GRANT REVIEWS

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Regular reviewer of research proposals for a range of international research institutions, including the *Swiss National Science Foundation*, the *European Research Council (ERC)*, the *National Research Council of Canada*, the *Austrian Science Fund* and the *French National Agency for Research*.

## ORGANISATION OF INTERNATIONAL EVENTS

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Over 40 events organized among them:

2025

- o Geotechnique Swiss Spring Conference, **Geotechnical aspect of nuclear waste disposal** in Basel, Switzerland, More than 100 participants.

2024

- o Ongoing director of the annual intensive course, **Energy geostructures analysis and design** in Lausanne, Switzerland, since 2018.

2020

- o Biogeotechnics Webinar - 5 Little Known Keys for Successful Biogeotechnical Practice, Online, September 2020.
- o Chair of the international **Winter School on Geomechanics for Energy and the Environment** in Villars, Switzerland, (2018-2020).

2018

- o Chair of the international **Symposium on Energy Geotechnics** in Lausanne, Switzerland. More than 260 participants from 35 countries, 26-28 September 2018.

2017

- o Convener of the **15th Swiss Geoscience Meeting**, session "Shale-Gas, CO2 Storage and Deep Geothermal Energy". Davos, Switzerland, November 2017.
- o 2<sup>nd</sup> International Workshop on **Advances in laboratory testing and modelling of soils and shales**, Villars-sur-Ollon, Switzerland, 18 - 20 January 2017.

2015

- o Vice-Chair, 1<sup>st</sup> International Conference on **Geo\_Energy and Geo\_Environment (GeGe2015)**, Hong-Kong, December, 2015.
- o Chair 2<sup>nd</sup> International Workshop on **Geomechanics and Energy - the Ground as Energy Source and Storage**, Celle, 13 - 15 October 2015 (116 participants).
- o One day session on **Shale-Gas, CO2 Storage and Deep Geothermal Energy**, 11<sup>th</sup>, 12<sup>th</sup> and 13<sup>th</sup> Swiss Geoscience Meetings, Lausanne, Fribourg and Basel, November 2013 (70 participants), November 2014 (200 participants), November 2015 (120 participants).

2014

- o Chair Short course on **Introduction to multiphysical geomechanics**, Minneapolis, June 2014 (20 participants).
- o Chair One-day session on **Geothermal Energy, CO2 Sequestration and Shale Gas**, 12<sup>th</sup> Swiss Geoscience Meeting, Fribourg, November 2014 (60 participants).

2013

- o Chair International Workshop on **Geomechanics and Energy - the Ground as Energy Source and Storage**, Lausanne, 26 - 28 November 2013 (100 participants).
- o Short course on **Introduction to multiphysical geomechanics**, Lausanne, 25 November 2013 (17 participants).
- o **Geotechnique Symposium in Print 2013** on Bio- and Chemo-Mechanical Processes in Geotechnical Engineering, London, May 2013.
- o International Workshop on **Thermo-active Geotechnical Systems for Near-surface Geothermal Energy**, sponsored by US-NSF, Lausanne, March 2013 (70 participants).

2012

- o 5th Low Carbon Energy University Alliance Workshop, Lausanne, November 2012 (30 participants).
- o International Workshop on **Multiphysical Testing of soils and Shales**, Lausanne, September 2012 (80 participants).
- o One-day session on **Geomechanics for Energy Production**, ALERT-Geomechanics Workshop, Aussois, France, October 2012 (220 participants).

2011

- o Two sessions on **"Energy foundations"** at GeoFrontiers 2011 Conference, Dallas, Texas, March 2011.

## 2010

- o ALERT Olek Zienkiewicz Course on “**Mechanics of Unsaturated Geomaterials**”, EPFL, Lausanne, 5-9 July 2010 (60 participants).
- o Six sessions on: “**Computational Models and Methods for Multiphysics Processes in Geomaterials, Biomaterials and other Multiphase Porous Media**”. IV European Conference on Computational Mechanics, ECCM 2010, Paris (France), May 16-21, 2010.

## 2009

- o **European Doctoral School of the ALERT-Geomaterials** on Failure in Multiphase Materials. Aussois (France), 15-17 October 2009 (102 participants).
- o Two sessions: “**Multiphysics Modelling of Geo-environmental Engineering Problems**” and “**Multiscale Problems**”. ECCOMAS Computational Methods for Coupled Problems in Science and Engineering, Coupled 09, Ischia (Italy), Jun. 8-10, 2009.

## 2008

- o Training course on THM Behaviour of Clays in Deep Excavation with Application to Underground Radioactive Waste Disposal, EPFL, July 7-9, 2008 (50 participants).
- o Special session on Environmental Geomechanics in the ASCE GeoCongress 2008, New Orleans, March 9-12, 2008.

## 2007

- o **European Workshop on Hazard Analysis** (slides, rockfall, debris flow, snow avalanche) (50 participants), Lausanne, November 26-30, 2007.
- o Special session on “Water in Pavements” – **International Conference on Advanced Characterisation of Pavement and Soil Engineering Materials**, Athens (Greece), 2007.
- o Special session on **Thermo-Hydro-Mechanical Coupling in Geomaterials** in the Second International Conference on Porous Media and its Applications in Science, Engineering and Industry, Kauai, Hawaii, June 17-22, 2007.
- o One day session in the ALERT Geomaterials annual meetings: “**Geomechanics of Structured Materials**”, October 2007.
- o Two special sessions on **Modeling of Multiphysics Processes in Soils** in the ASCE GeoDenver 2007 Conference, Denver, February 18-21, 2007.

## 2005

- o **International Workshop “Water in Pavements WIP’05”**. Centro de Estudios y Experimentación de Obras Públicas (CEDEX), Madrid, 27 October 2005 (70 participants).
- o **European Doctoral School of the ALERT-Geomaterials and DIGA Networks**. Aussois (France), 13-16 October 2005 (130 participants).

## 2003

- o Special session on “Environmental Geomechanics” in the **International Conference on Environmental Geotechnics**, Singapore, 2003.

## 2002

- o **International Workshop on Environmental Geomechanics**. Monte Verità, June 31- July 5, 2002 (80 participants).

## 2001

- o **European Workshop on Geothermal Response Tests**. EPFL, October 25 & 26, 2001 (40 participants).

## 2000

- o One day session in the ALERT Geomaterials annual meetings: “**Multiphysical processes in geomaterials**”, October 2000, Aussois (France).

## 1996

- o **International Workshop on Constitutive Modelling and Finite Elements Method Applications in Geomechanics**. EPFL, June 25 & 26, 1996 (40 participants).

## 1995

- o **International Workshop “Mechanics of granular flows in an environment of natural disasters”**. EPFL, December 19 & 20, 1995 (50 participants).



# Publications

## SCIENTIFIC OUTPUT – BASED ON SCOPUS DATABASE

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13 books

**Over 400** articles, **over 20,000** citations, an **H-index=70+** (A.D. Scientific Index), and two highly cited papers (papers received enough citations to be placed in the **top 1%** of the academic field of Engineering based on a highly cited threshold for the field and publication year). In 2025, he was recognised among the top 0.05% of scholars worldwide by ScholarGPS. He currently ranks as the #1 active global scholar in Analytical Technique, #1 in Geotechnics in Europe, and among the top three active researchers globally in Geomechanics, underscoring the international visibility of his work and the depth of engagement he bring to the scientific and professional advancement of his disciplines.

The complete list of publications is available here:

<https://infoscience.epfl.ch/search?Ln=fr&p=lyesse%20laloui&f=&spc.page=1&query=laloui>

## BOOKS

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- *Analysis and Design of Energy Geostructures*. L. Laloui, A. Rotta Loria. Elsevier Publishing House, 1096 pages, ISBN : 9780128206232, 2019.
- *Energy Geotechnics*. A. Ferrari, L. Laloui (Editors). Springer International Publishing, 511 pages, <https://doi.org/10.1007/978-3-319-99670-7>, ISBN: 978-3-319-99669-1, 2018.
- *Energy Procedia* - Volume 114, Pages 1-7666 (July 2017) - Proc. 13th International Conference on Greenhouse Gas Control Technologies, GHGT-13, 14-18 November 2016, Lausanne, Switzerland. Edited by Tim Dixon, L. Laloui, and Sian Twinning.
- *Advances in Laboratory Testing and Modelling of Soils and Shales* (ATMSS). A. Ferrari, L. Laloui (Editors). Springer International Publishing, 235 pages, Doi: 10.1007/978-3-319-52773-4, ISBN: 978-3-319-52772-7, 2017.
- *Energy Geostructures*. L. Laloui, A. Di Donna, G. Kong (Editors). China Architecture and Building Press, 255 pages, ISBN: 978-7-112-19661-6., 2016.
- *Géostructures énergétiques*. L. Laloui, A. Di Donna (Editors). Hermes Science Publications, 250 pages, ISBN: 978-2-7462-4577-8, 2015.
- *Energy Geostructures: Innovation in Underground Engineering*. L. Laloui, A. Di Donna (Editors). Wiley-ISTE, 250 pages, ISTE Ltd. and John Wiley and Sons, Hoboken, NJ, ISBN: 9781848215726. 2014.
- *Mécanique des sols et des roches*. Vulliet L., Laloui L., J. Zhao. Presses Polytechniques Universitaires Romandes, 624 pages, ISBN 978-2-88074-961-3, 2016.
- *Multiphysical Testing of Soils and Shales*. Editors: L. Laloui and A. Ferrari. Springer, 978-3-642-32491-8, Springer Series in Geomechanics and Geo-engineering, 2012. Since its online publication, there has been a total of **104,098**-chapter downloads for the eBook on SpringerLink. This means the book was one of the **top 25%** most downloaded eBooks in the relevant eBook Collection in 2017.
- *Mechanics of Unsaturated Geomaterials*. L. Laloui (Editor). Wiley-ISTE, 380 pages, 2010. ISTE Ltd. and John Wiley and Sons, Hoboken, NJ, ISBN 9781848212664.
- *Computer applications in geotechnical engineering*. Siegel TC, R. Luna, T. Hueckel, L. Laloui (Editors). ASCE Geotechnical special publication N°157, 2007.
- *Environmental Geomechanics*. L. Vulliet, L. Laloui & B. Schrefler (Editors). Publisher EPFL-Press. 423 pages; ISBN 2-88074-515-2. 2002.
- *Tests de réponse géothermique/Geothermische response tests*. W.J. Eugster & L. Laloui (Editors). Proceedings of the European Workshop on Geothermal Test Responses. Lausanne, 130 pages. Publisher GTV; ISBN 3-932570-43-X. 2002.

# Selected Media Appearances

Regular contributor to local and international media outlets.

## TV AND RADIO INTERVIEWS:

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- Quand les géostructures de l'EPFL apparaissent à Neuchâtel – Canal Alpha, 22.04.2025  
<https://www.canalalpha.ch/play/le-journal/topic/37578/les-geostructures-de-lepfl-apparaissent-a-neuchatel>
- Special guest – Swiss national radio RTS, 22.07.2024  
<https://www.rts.ch/audio-podcast/2024/audio/invite-fil-rouge-lyesse-laloui-directeur-du-laboratoire-de-mecanique-des-sols-a-l-epfl-28576995.html>
- Site pour déchets nucléaires – Forum RTS, 12.09.2022  
<https://www.rts.ch/play/tv/forum/video/forum-video-presente-par-esther-coquoz-et-renaud-malik22?urn=urn:rts:video:13379051>
- “Un livre veut favoriser le développement des géostructures énergétiques”, RTS, 05.11.2019  
<https://www.rts.ch/play/radio/cqfd/audio/un-livre-veut-favoriser-le-developpement-des-geostructures-energetiques?id=10804511>
- “Géo Ingénierie: la promesse de Prométhée”- RTS, 25.05.2019  
<https://www.rts.ch/play/radio/prise-de-terre/audio/geo-ingenierie-la-promesse-de-promethee?id=10425239>
- “Séquestrer le CO2”- Journal de la télévision suisse romande & journal de la télévision suisse italienne.  
<https://actu.epfl.ch/news/prof-laloui-interviewe-par-rts-au-sujet-de-la-sequ/>
- “Finlande: un tombeau nucléaire pour l'éternité ?”- Radio Suisse Romande la 1ère.  
<https://www.rts.ch/info/dossiers/quinze-minutes/10023635-finlande-un-tombeau-nucleaire-pour-l-eternite-.html#timeline-anchor-1543667123373>
- “La géothermie, ce potentiel inexploité”- Radio Suisse Romande la 1ère.  
<https://www.rts.ch/play/radio/tout-un-monde/audio/la-geothermie-ce-potentiel-inexploite-interview-de-lyesse-laloui-professeur-a-lepfl?id=9839478&station=a9e7621504c6959e35c3ecbe7f6bed0446cdf8da>
- “Rencontre avec Lyesse Laloui”- “CQFD”, Swiss National Radio – 24.3.2017 and 8.4.2018.  
<https://www.rts.ch/play/radio/cqfd/audio/rencontre-avec-lyesse-laloui?id=8450929&station=a9e7621504c6959e35c3ecbe7f6bed0446cdf8da>
- “Berges Instables” – Radio Suisse Romande  
<https://www.rts.ch/info/suisse/9224238-accalmie-sur-le-front-des-intemperies-mais-la-prudence-reste-de-mise.html>
- “Le Génie Civil face à la problématique des dangers naturels” – Guest of the Swiss National Radio – La Première  
<https://pages.rts.ch/la-1ere/programmes/la-matinale/8857363-lininvite-dactualite-video-lyesse-laloui.html?anchor=8874671#8874671>
- “Enfouissement des déchets nucléaires” – Guest of the Swiss National Radio – Couleur3  
<https://www.rts.ch/play/radio/lininvite/audio/lininvite-professeur-lyesse-laloui-directeur-du-laboratoire-de-mecanique-des-sols-de-lecole-polytechnique-federale-de-lausanne-epfl?id=8577008>
- “The Important Guest” of the Swiss National Radio RTS – 24.03.2017  
<http://www.rts.ch/play/radio/cqfd/audio/rencontre-avec-lyesse-laloui?id=8450929>
- “Où stocker le CO2,” RTS, 2013  
<http://www.rts.ch/espace-2/programmes/babylone/5353311-ou-stocker-le-co2-20-11-2013.html?f=player/popup>
- “Des bactéries pour durcir le sol,” RTS, 2013  
<http://avisdexperts.ch/videos/view/1795/10>
- “Stocker le CO2 dans le sol,” RTS, 2013  
<http://www.rts.ch/la-1ere/programmes/cqfd/5017970-dossier-stocker-le-co2-dans-le-sol-20-08-2013.html?f=player>
- “RTS Interview about Landslides,” RTS, 2013.  
<http://www.rts.ch/la-1ere/programmes/cqfd/4820447-actu-29-04-2013.html?f=player/popup>
- “What to do with nuclear waste?” RTS, 2013.  
<http://www.rts.ch/la-1ere/programmes/cqfd/4697006-la-gestion-des-dechets-nucleaires-14-03-2013.html?f=player/popup>
- “Swiss concept of Nuclear waste disposal,” RSI, 2012.  
<http://reteuno.rsi.ch/modem/welcome.cfm?IDc=43321&IDd=1349737200>
- “Extracting the heat from the ground”, La Regione Ticino, 2012. <http://lms.epfl.ch/files/content/sites/lms/files/shared/Nuclear%20waste%20storage/Interview-Lyesse-Radio-Chablais-19.01.2012.mp3>

## PRINT

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- “Q & A with Professor Laloui” – Ground Engineering, April 2025  
<https://www.geplus.co.uk/digital-edition/ground-engineering-april-2025/>
- “Quand les bâtiments puiseront leur chaleur dans les sols” ArcInfo, April 2025  
[https://www.arcinfo.ch/economie/immobilier/quand-les-batiments-puiseront-leur-chaleur-dans-les-sols-1448955?utm\\_source=matinale&utm\\_medium=email&utm\\_campaign=2025-04-23](https://www.arcinfo.ch/economie/immobilier/quand-les-batiments-puiseront-leur-chaleur-dans-les-sols-1448955?utm_source=matinale&utm_medium=email&utm_campaign=2025-04-23)
- “La Suisse va-t-elle enfouir son CO2 ou l'exporter?” – Spektrum Magazine, 15.07.2024  
<https://www.spektrum.de/news/waermewende-heizen-mit-der-u-bahn/2215138>
- “Heating with the subway” - Tribune de Genève, 24heures, 01.11.2021  
<https://actu.epfl.ch/news/will-switzerland-store-co2-underground/>
- “Choix du site de stockage des déchets nucléaires suisse”- Le Temps, 12.09.2022  
<https://www.letemps.ch/sciences/suisse-potentiel-geothermie-surface-enorme>
- “En Suisse, le potentiel de la géothermie de surface est énorme”- Le Temps, 01.09.2021  
<https://www.letemps.ch/sciences/suisse-potentiel-geothermie-surface-enorme>

- "Les start-up proposent des solutions pour l'assainissement énergétique" - AGEFI, 6.09.2021  
<https://actu.epfl.ch/news/laloui-research-group-in-an-article-by-agefi/>
- "We have a duty to Switzerland, and to the planet" - ACTU EPFL, 14.01.2021  
<https://actu.epfl.ch/news/we-have-a-duty-to-switzerland-and-to-the-planet-3/>
- "Séquestration du CO2: remettre le carbone à sa place" - TRACÉS, 08.12.2020  
<https://actu.epfl.ch/news/prof-laloui-interviewed-about-co2-sequestration-in/>
- "Innovations en sous-sol prêtes à faire surface" - Le Nouvelliste, 18.12.2019  
<https://actu.epfl.ch/news/prof-laloui-talks-about-innovation-in-nouvelliste/>
- "EPFL champions energy geostructures" - ACTU EPFL, 01.11.2019  
<https://actu.epfl.ch/news/epfl-champions-energy-geostructures-2/>
- "Pourquoi négliger une énergie indigène, renouvelable et durable !" - L'AGEFI, 26.02.2019.  
<https://agefi.com/actualites/acteurs/pourquoi-negligier-une-energie-indigene-renouvelable-durable-et-neutre-en-carbone>
- "Remettre le CO2 d'où il vient !" - Le Temps, 21.12.2018.  
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## Other information

Information on advised post-docs, master students, teaching activities, etc., is available in the following annual reports that cover the period 2008-2024: <https://www.epfl.ch/labs/lms/annualreports/>

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