Curriculum vitae di *Anna Laura Pisello*

Per il settore ERC primario: *PE8*

Settori ERC secondari:

PE8_03 Civil engineering, architecture, offshore construction, lightweight construction, geotechnics

PE8_06 Energy processes engineering

PE8_11 Environmental engineering, e.g. sustainable design, waste and water treatment, recycling, regeneration or recovery of compounds, carbon capture & storage

PE8_02 Chemical engineering, technical chemistry

PERSONAL DETAILS

Full Professor in Building Physics and Energy Systems (IIND-07B) – 2024.

Grantee of the ERC Starting Grant since 2021 with the project HELIOS (PE8) - "The new generation of scalable urban HEat isLand mitigatIOn by means of adaptive photoluminescent radiative cooling Skins" g.a. 101041255 (2022-2027).

Visiting Research Collaborator, Princeton University (dual scientific affiliation), NJ, USA (from 2014 to present).

Ph.D. in Energy Engineering, University of Perugia, (from 2009 to 2013), while visiting research scholar at Columbia University (NY, USA) in 2010-2011.

Pisello, Anna Laura:

Researcher unique identifier(s) (such as ORCID, Research ID, etc. ...):

Orcid: ANNA LAURA PISELLO (0000-0002-4527-6444) - ORCID

Scopus: "Pisello, Anna Laura" 54896291600

URL for web site: Helios - ERC Project for tackling climate change

ENVIRONMENTAL APPLIED PHYSICS LABORATORY - HOME (eaplab.net) - EAPLAB

Anna Laura Pisello - Università degli Studi di Perugia (unipg.it)

- **Education and key qualifications**

2009-2013 PhD in Energy Engineering
Department of Engineering and CIRIAF Interuniversity research centre on pollution and environment Mauro Felli, Università degli Studi di Perugia, Italy
Mentor: Prof. Franco Cotana

2009 Master degree in Building Engineering *cum laude,*
Civil and Environmental engineering, ABC Department, Politecnico di Milano, Italy

- **Current position(s)**

2024- today *Full professor* in the same field ING-IND/11 from April 4th, 2024, Department of Engineering, University of Perugia, Italy.

2021 National Scientific Qualification for the role of Full Professor in the sector 09/C2 "Applied Physics and Nuclear Engineering" (2021).

2018-today Visiting research collaborator at Princeton University, NJ, USA (double scientific affiliation).

- **Previous position(s)**

2021 - 2024	Associate professor in Building Physics and energy systems (ING-IND/11) Department of Engineering, University of Perugia, Italy
2018-2021	Fixed-term Researcher (RTD B typology) in Building Physics and energy systems Department of Engineering, University of Perugia, Italy
2014-2018	Fixed-term Researcher (RTD A typology) in Building Physics and energy systems Department of Engineering, University of Perugia, Italy
2013	Visiting Research Scholar, Virginia Tech University, Blacksburg, Virginia (2014)
2010-2011	Visiting Research Scholar, Columbia University, New York, U.S.A. (from 2010 to 2012)

RESEARCH ACHIEVEMENTS AND PEER RECOGNITION

Research achievements

1. The bibliometrics information below refers to the Scopus database in which the undersigned is identified by Author ID:54896291600.
   a. Significant information: Scopus H-index 59 - Total number of citations: 10,840, of which 9331 citations are those obtained excluding self-citations by the undersigned (H-index without self-cit. 53);
   b. More than 20 papers with at least 100 citations each;
   c. Total number of Scopus-indexed papers: 341, from 2011 to 2024;
   d. >40% of papers published as a result of international scientific collaborations;
   e. >75% of Scopus-indexed papers published in first quartile journals (citeScore);
2. **Advancement of science in the field of urban overheating mitigation via radiative cooling based on photoluminescence, phosphorescence, and high entropy solutions (**original contributions and review papers by invitation): Analytical modelling of their physical dynamic performance within urban canopy models and mesoclimate models, development of dedicated dynamic experimental methods at EAPLAB, as reported in these recent publications:
   a. DOI: 10.1016/j.renene.2025.123755 – original contribution
   b. DOI: 10.1146/annurev-matsci-091520-011838 – perspective paper
   c. DOI: 10.1016/j.renene.2021.02.071 – original contribution
   d. DOI: 10.1016/j.energy.2021.120815– original contribution
   e. DOI: 10.1088/1742-6596/1343/1/012198 – perspective paper
   f. DOI: 10.1016/j.apenergy.2022.119687– perspective paper
   g. DOI: 10.1016/j.renene.2022.06.027– original contribution
   h. DOI: 10.1016/j.energy.2022.126346– perspective paper
   i. DOI: 10.1016/j.rser.2023.113530– original contribution
   j. DOI: 10.1016/j.energy.2023.127333 – original contribution
   k. DOI: 10.1016/j.apenergy.2024.122984 – original contribution
   l. DOI: 10.1002/adsu.202300523 – original contribution
3. **Theorization of the new environmental comfort models and experimental validation multidomain approach** (4 domains of building physics, i.e. thermal, acoustics, lighting, air quality) interacting with human perception via cross-modal and contextual interaction, identified via neural signal analysis, as published here:
   a. DOI: 10.1016/j.buildenv.2025.113471 – original contribution
   b. DOI: 10.1016/j.buildenv.2023.111147 – original contribution
   c. DOI: 10.1016/j.buildenv.2022.109719 – review paper
   d. DOI: 10.1016/j.buildenv.2022.109385 – original contribution
   e. DOI: 10.1016/j.buildenv.2021.108744 – original contribution
   f. DOI: 10.1016/j.rser.2021.111359 – original contribution
   g. DOI: 10.1016/j.jobe.2021.102368 – original contribution
4. **Development of human-centric monitoring systems (patented) for urban transect wearable and vehicle sensing,** aimed at collecting and mapping the key environmental parameters interacting with human wellbeing in urban heat islands and contributing to heat resilience mapping also via urban canopy models, as published in the following scientific contributions (lead author):
   a. DOI: 10.1016/j.measurement.2023.113210,
   b. DOI: 10.1016/j.uclim.2023.101447,
   c. DOI: 10.3390/s22020502,
   d. DOI: 10.1038/s41598-021-88344-y,
   e. DOI: 10.1016/j.jclepro.2020.123748,
   f. DOI: 10.1016/j.uclim.2020.100716,
   g. DOI: 10.1016/j.rser.2020.110103,
   h. DOI: 10.1016/j.buildenv.2019.106641,
   i. DOI: 10.1016/j.scitotenv.2019.134448,
   j. DOI: 10.1016/j.scitotenv.2018.02.208
5. **Co-Author of 4 patents** about innovative cool materials, photoluminescent solutions for passive cooling triggered by specific radiation sources, and wearable sensing technologies (ref1. 202021000003590, ref2. 002021000001430, ref3. 202017000092057, ref4. 102016000127043).
6. Co-author of relevant review papers (by invitation) in prestigious journals around the strategic topics of building physics with >100 citations (selected):
   DOI: 10.3846/13923730.2015.1111934, DOI: 10.1016/j.solener.2017.01.068, DOI: 10.1016/j.buildenv.2020.106804, DOI: 10.3846/jcem.2018.6604, DOI: 10.1016/j.buildenv.2020.106920

7. Co-author (lead author) of relevant scientific contributions about the development and multiphysics testing (acoustic, thermal-energy, lighting) also via new experimental methodologies developed at EAPLAB of innovative and smart-adaptive materials for the built environment, such as phase change materials for thermal energy storage, cool materials for passive radiative cooling and mitigation of urban overheating, bio-materials for smart pavements and roofs, etc. in the last 15 years, such as:
   DOI: 10.1016/j.apenergy.2018.01.014, DOI: 10.1016/j.apenergy.2019.04.020
   DOI: 10.1016/j.buildenv.2015.09.003, DOI: 10.1016/j.solmat.2016.09.036
   DOI: 10.1016/j.enbuild.2017.06.051, DOI: 10.1016/j.apenergy.2019.114147
   DOI: 10.1016/j.buildenv.2015.11.038, DOI: 10.1146/annurev-matsci-091520-011838
   DOI: 10.1016/j.seta.2020.100706, DOI: 10.1016/j.enbuild.2018.08.024
   DOI: 10.1016/j.conbuildmat.2021.122373, DOI: 10.1016/j.applthermaleng.2017.10.155
   DOI: 10.1016/j.sna.2019.04.022
8. **ERC Grantee for the Starting Grant HELIOS**, **as first and only one scientific within her sicneitific sector 09/C2.** Details are provided as follows: EU-funded project under Horizon Europe. Call for proposals: ERC-2021-STG, Theme: ERC-2021-STG, Action type: HORIZON-ERC (HORIZON ERC Grants), Proposal number: SEP-210736113, Title: the new generation of scalable urban HEat isLand mitigatIOn by means of adaptive photoluminescent radiative cooling Skins, Proposal acronym: HELIOS, Duration: 2021-2026, Role: global scientific officer (PI), participant contact. Amount for UNIPG: 1498 k-euros.
9. **Editor in relevant scientific journal in the Energy and Buildings field,** such as (selected):
   a. Associate editor of Solar Energy, Elsevier, from 2019.
   b. Associate editor of Energy and Buildings, Elsevier, from 2021.
   c. Associate editor of Solar Energy Advances. Elsevier since 2023.
   d. Member of the Editorial Board of Nature Scientific Reports, Springer Nature, since 2021.
   e. Member of the Editorial Board of Energy Research and Social Science, Elsevier, since 2017.
   f. Member of the Editorial Board of Building Simulation, Springer, since 2021.
   g. Member of the Editorial Board of Energy Science & Engineering. Society of Chemical Industry and John Wiley & Sons, Ltd, since 2018.
10. Author of the following papers included into the PhD thesis entitled, contributing to the development, test and long term monitoring in real field of new cool and direction-selective cool materials for passive cooling and inter-building heat mitigation:
    DOI: 10.1016/j.apenergy.2011.12.094, DOI: 10.1016/j.buildenv.2012.06.017,
    DOI:10.1080/17512549.2013.865560, DOI:10.1016/j.enbuild.2013.10.031,
    DOI: 10.1016/j.apenergy.2013.10.038

Peer recognition

1. **Recipient of >10 scientific awards such as (selected)**
   a. "best editor of the year 2023" in Solar Energy Journal by Elsevier,
   b. Premio Ermanno Grinzato in 2013 for the development of the scientific model and prototype of the cool green roof for urban heat island mitigation,
   c. Best paper award at the International conference on urban heat island countermeasures in Venice (2014) and best research group in the same conference in Singapore (2016)
   d. Youngest Woman Scientist in Top Italian Scientists topitalianscientists.org since 2021.
   e. Invited plenary speaker at the International Women in Science day conference at University of Perugia in 2022.
2. Invited plenary speaker in the most relevant scientific conference in the field, such as
   a. SDEWES 2024 (planned in 2024).
   b. International Workshop on Net Zero Carbon Buildings, University of Bath, UK, 2024.
   c. 6th IC2UHI (International Conference on Countermeasures to Urban Heat Islands), RMIT University, Melbourne, Australia, 2023.
   d. XVI ENCAC e XII ELACAC in 2021.
   e. Nanotech France in 2021.
   f. Invited plenary speaker at the SDEWES 2024 International Conference. Rome, Italy, scheduled for 8-12/09/2024.
   g. 6th IC2UHI (International Conference on Countermeasures to Urban Heat Islands), entitled "Urban Climate Dynamics Observatory, A Participatory Approach for Wellbeing and Overheating Resilience," at RMIT University in Melbourne, Australia, 2023.
   h. SMARTGREENS 2023 -12th International Conference on Smart Cities and ICT Green Systems- by INSTICC - Institute for Information, Control and Communication Systems and Technologies, title "How Urban Heat Islands Do Compromise Our Resilience to Climate Change: A Human-centric

Approach Towards Better Understanding and Mitigating the Energy-related Impacts in the Built Environment," Prague, Czech Republic, 2023.

i. 38th AICARR national conference entitled "Building and energy systems for the future climate," titled "Environmental well-being and energy efficiency in urban heat islands: measures, models and new strategies for risk mitigation." Milan, Italy, 2022.
j. 2nd Global Experts Meet on Materials Science & Engineering (GEMMSE-22) entitled "Roadmapping the role of cool materials to mitigate urban heat island for citizens' wellbeing." Rome, Italy, 2022.
k. XVI ENCAC and XII ELACAC entitled "Human-centered multi-domain environmental comfort: the new generation of experiments and theories for understanding and improving indoor wellbeing and outdoor urban resilience to climate change." Palmas, Brazil, 2021.
l. Nanotech France 2021 titled "Human-centered multi-physics approach to improve livability in urban areas: the role of smart materials and new metrics for the resilience of cities to anthropogenic environmental forcing." Online, 2021.

3. Memberships in the prestigious associations:
ERCinItaly, Italian Acoustics Association, Scientific Committee of IEREK, Scientific Council of CIRIAF, ATI Italian Association of Thermotechnics, AICARR (Italian Association of Air Conditioning, Heating and Refrigeration), Italian Thermofluid Dynamics Association, IEA EBC Annex 66 "Definition and Simulation of Occupant Behavior in Buildings", from 2016 to 2020; IEA EBC Annex 79 "Occupant-Centric Building Design and Operation," from 2020 to 2023; IEA EBC – Annex 87 "Energy and Indoor Environmental Quality Performance of Personalised Environmental Control Systems," from 2021 to 2026 (Ongoing).

4. Principal investigator at University of Perugia of >10 research projects supported by the European Commission in 2014-2024 timeframe, such as:

a. HORIZON-HLTH-2023-ENVHLTH-02 , Theme: HORIZON-HLTH-2023-ENVHLTH-02-02, Action type: RIA, Proposal number: 101137507, Title: Situation-aware OrchestratioN of AdapTive Architecture , Proposal acronym: SONATA , Duration: 2024-2028, Role: PI, Scientific Officer on behalf of UNIPG, WP leader and participant contact. Amount for UNIPG: 428 k-euros.
b. HORIZON-MSCA-2021-DN-01, Theme: HORIZON-MSCA-2021-DN-01-01, Action type: HORIZON-TMA-MSCA-DN, Proposal number: 101073357, Title: Multi-sensory solutions for increasing human-building resilience in the face of climate change, Proposal acronym: MuSIC, Duration: 2023-2027, Role: PI, WP leader, Scientific Officer on behalf of UNIPG, participant contact, Doctoral Candidates Advisor. Amount for UNIPG: 516 k-euros.
c. H2020-LCE-2016-2017, Theme: LCE-17-2017, Action type: IA, Proposal number: 792210, Title: Deployment of novel GEOthermal systems, technologies and tools for energy efficient building retrofitting, Proposal acronym: GeoFit, Duration: 2018-2023, Role: PI, Scientific Lead on behalf of UNIPG, Task leader and participant contact. UNIPG: 462 k-euros.
d. H2020-LCE-2016-2017, Theme: LCE-07-2016-2017, Action type: RIA, Proposal number: 764025-2, Title: Development and Validation of an Innovative Solar Compact Selective-Water-Sorbencat-Based Heating System, Proposal acronym: SWS-HEATING, Duration: 2018-2023., Role: PI, Scientific Officer on behalf of UNIPG, WP leader, Task leader and participant contact. Amount for UNIPG: 302 k-euros.
e. H2020-MSCA-ITN-2017, Theme: MSCA-ITN-2017, Action type: MSCA-ITN-ETN, Proposal number: 765057, Title: Sustainable, Accessible, Safe, Resilient and Smart Urban Pavements, Proposal acronym: SAFERUP, Duration: 2018-2022, Role: PI, Scientific Officer on behalf of CIRIAF, Task leader and "confidant" Early Stage Researcher. Amount for UNIPG: 516 k-euros.
f. H2020-EE-2015-1-PPP, Theme: EE-02-2015, Action Type: IA, Proposal Number: 678407, Title: Achieving near Zero and Positive Energy Settlements in Europe using Advanced Energy Technology, Proposal Acronym: ZERO-PLUS, Duration: 2015-2019. Role: task leader, WP leader and participant contact. Amount for UNIPG: 173 k-euros.
g. H2020-LCE-2014-2, Theme: LCE-20-2014, Action type: CSA, Proposal number: 657466, Title: PhD on Innovation Pathways for TES, Project acronym: INPATH-TES. 2015-2018, Duration: 2014-2018, Role: Task leader and participant contact. UNIPG: 214 k-euros.

ADDITIONAL INFORMATION

Career breaks: 2 maternity leave breaks, in 2018-2019 (5 months) and 2022 (5 months).

Other contributions to the research community

Principal investigator and founder of the Environmental Applied Physics Lab at CIRIAF Interuniversity research centre on pollution and environment Mauro Felli, University of Perugia, in 2014.

Member of the Comitato Unico di Garanzia at University of Perugia, and strong supported of the Women in Science initiative.