Paola G. Pittoni, Ph.D.

Associate Teaching Professor
Iowa State University

+1 641-781-9447
ppittoni@iastate.edu
www.paolapittoni.com
Google Scholar ID: ND_Gma4AAAAJ

Nationality: Italian
Date of birth: 1976/02/25
Italian (mother tongue) English (LS-C2,RW-C2*)*
French (LS-C1,RW-B2*) Chinese (LS-A1*,RW-A2*)*
** CEFR standard*

Work Experience

2020 – Present **Associate Teaching Professor**
Iowa State University (Iowa, USA)
Research Topics: Wettability, Triple Line Dynamics, Multiphase Heat Transfer
Lecturing: Heat Transfer, Elements and Performance of Power Plants, Engineering Thermodynamics, Engineering Graphics and Introductory Design, Mechanical Engineering Problem Solving with Computer Applications, Engineering Measurements and Instrumentation.

2019 –2020 **Assistant Teaching Professor**
Iowa State University (Iowa, USA)

2015 – 2019 **Lecturer**
Iowa State University (Iowa, USA)

2014 **Postdoctoral Research Associate**
Iowa State University (Iowa, USA)
Research Topics: Wettability, Triple line dynamics, Nuclear reactors thermal hydraulics
Teaching Assistant: Nuclear Reactor Engineering

2011 – 2014 **Graduate Research Assistant**
National Taiwan University of Science and Technology, Taipei (Taiwan)
Research Topics: Drop impact, Wettability, Triple line dynamics at low and high temperatures
Teaching Assistant: Physical Chemistry of Surfaces (2013)

2009 – 2010 **Instructor**
Eurocentre Taipei (Taiwan)
Lecturing: Italian Language

2005 – 2008 **Research Fellow, Undergraduate Research Assistant**
Department of Energy Engineering – Politecnico di Milano, Milan (Italy)
Research Topics: Heat transfer, pressure drop and flow regimes during evaporation and condensation of R134a inside smooth and micro-fin tubes

1999 – 2005 **Events Manager – Marketing Specialist**
Renault, Parmalat, MSC Crociere, CMP&P, Casa Editrice Universo, others
Events planning and management (promotions, concerts, conferences), Marketing (TV, press, web)

Awards

2022 **Professor of the Year 2021-2022**
Department of Mechanical Engineering, Iowa State University, USA

2020 **ISU Award for Early Achievement in Teaching**
Iowa State University, USA

2020 **Professor of the Year 2019-2020**
Department of Mechanical Engineering, Iowa State University, USA

2018 **College of Engineering Superior Engineering Teacher Award 2017-2018**
College of Engineering, Iowa State University, USA

2017 **Professor of the Year 2016-2017**
Department of Mechanical Engineering, Iowa State University, USA

2013 **NTUST Outstanding Youth - College of Engineering Award**
National Taiwan University of Science and Technology, Taiwan

2013 **Best Young Scientist Award**
The 4th Asian Symposium on Advanced Materials, Taiwan

2011 **Best Poster Award**
Taiwanese Interface Science Society Annual Conference, Taiwan

Mentoring and Outreach

2018 – Present **Iowa State University SAE International**
Iowa State University
Faculty advisor (~450 students involved, from multiple colleges)

2018 – Present **Pi Tau Sigma Mechanical Engineering Honor Society - Iowa State Chapter**
Iowa State University
Faculty advisor

2016 – Present **Women in Mechanical Engineering**
Iowa State University
Faculty advisor

2020 – Present **Curriculum Development Committee: Thermofluids Fundamentals**
Department of Mechanical Engineering, Iowa State University
Chair / Member

2016 – 2021 **Department of Mechanical Engineering Safety Committee**
Department of Mechanical Engineering, Iowa State University
Member

2019 – 2020 **Curriculum Development Committee: Energy**
Department of Mechanical Engineering, Iowa State University
Member

2016 – 2019 **ISU Study Abroad Programs**
Iowa State University
Collaborator for the exchange programs in Italy and Nicaragua

2016 – 2019 **Curriculum Development Committee: Thermofluids Fundamentals**
Department of Mechanical Engineering, Iowa State University
Member

Education and Professional Development

2014 – Present **Faculty Development Workshops and Seminars**
Center for Excellence in Learning and Teaching, Iowa State University (Iowa, USA)
Senior Vice President and Provost Events, Iowa State University (Iowa, USA)
HR Learning and Development, Iowa State University (Iowa, USA)
"Preparing Effective Award Nominations", 2019
"Recognizing Emotional Intelligence" (9 hours course), 2017 and 2019
"American Sign Language: Deaf Culture and Language", 2019
"Mindfulness Matters", 2019
"Clery Act Training for CSAs", 2019
"Term Faculty Advancement Workshop", 2019

"Top 10 Ways to Help Freshmen Learn in a Large Introductory Class", 2019
"Shop Safety Fundamentals - Basic Procedures and Policies", 2019
"Using Social Media Professionally and Effectively", 2019
"Green Dot Overview for ISU Employees", 2019
"Drug Free Workplace", 2019
"Effectively Managing Disruptive Classroom Behavior", 2019
"Green Dot Faculty Staff Bystander Training", 2018
"Youth Program Leader Awareness Training", 2018
"Child Abuse Awareness and Prevention Training", 2018
"Leadership at Any Level" (10 hours course), 2017
"Tools for Managing Workplace Conflict" (6 hours course), 2017
"Inclusive Classroom", "Conversation on Teaching Inclusively", 2017
"Tools for Change: How to increase student success while maintaining academic rigor", 2017
"Connecting with Diverse Learners", 2015
"Maximizing Student Attention: Low-Tech Effectiveness in Large Lecture", 2014
"Many Modes of Effective Teaching", 2014

2014 **Basic bloodstain pattern recognition**
Las Vegas Metropolitan Police Department – CSI Section, Las Vegas, NV (Nevada, USA)
40 hours course, certified IABPA, IAI and POST NV

2014 **Ph.D. Chemical Engineering**
National Taiwan University of Science and Technology, Taipei (Taiwan)
Dissertation: "Evaporation, spreading and impact of droplets"
GPA 4.0 (24 credits) – Fast track

2009 **Chinese Language**
National Taiwan Normal University, Taipei (Taiwan)
540 hours course

2007 **Project management and business plan**
MIP – Politecnico di Milano School of Management, Milan (Italy)
40 hours course

2006 **B.S. Energy Engineering**
Department of Energy Engineering – Politecnico di Milano, Milan (Italy)
Thesis: "Heat transfer and pressure drop during the evaporation of R134a inside a horizontal micro-fin tube" – (Original "Scambio termico e cadute di pressione nell'evaporazione di R134a in un tubo orizzontale internamente microalettato")
Grade 93/110 (247.5 credits)

1998 and 1999 **General English**
Queen's University of Belfast, Belfast (UK)
120 hours course

Scholarship Funds

2011 – 2014 **Ph.D. Scholarship** (monthly stipend and tuition waiver)
National Taiwan University of Science and Technology, Taipei

2014 **Professor Lee-Chia-Ping's Filial Piety Scholarship**
National Taiwan University of Science and Technology, Taipei

2007 **Research Fellowship Program "Ingenio"** (individual fellowship + conference grants)
Lombardy Government (Regione Lombardia)

Grants

2014 **Conference Grant**
"1st International Conference on Micro & Nanofluidics", The Netherlands
Conference travel expenses refund

2013 **European Space Agency (ESA) and French Space Agency (CNES) Conference Grant**
"Wetting and evaporation: droplets of pure and complex fluids", France
Conference registration fee waiver and accommodation

2012 **Conference Grant**
"7th International Conference on High Temperature Capillarity", Israel
Conference registration fee waiver and accommodation

Academic Papers

Paola G. Pittoni, Chia-Hui Lin, Teng-Shiang Yu and Shi-Yow Lin
"On the Uniqueness of the Receding Contact Angle: Effects of Substrate Roughness and Humidity on Evaporation of Water Drops"
Langmuir 30, **2014**, pp. 9346–9354 **(IF= 3.557, Q1)**

Paola G. Pittoni, Heng-Kwong Tsao, Yi-Lin Hung, Jen-Wei Huang, and Shi-Yow Lin
"Impingement dynamics of water drops onto four graphite morphologies: from triple line recoil to pinning"
Journal of Colloid and Interface Science 417, **2014**, pp. 256–263 **(IF= 7.489, Q1)**

Paola G. Pittoni, Ya-Chi Lin, and Shi-Yow Lin
"The impalement of water drops impinging onto hydrophobic/ superhydrophobic graphites surfaces: the role of dynamic pressure, hammer pressure and liquid penetration time"
Applied Surface Science 301, **2014**, pp. 515–524 **(IF= 6.182, Q1)**

Paola G. Pittoni, Chiang-Ching Chang, Teng-Shiang Yu, Shi-Yow Lin
"Evaporation of water drops on polymer surfaces: Pinning, depinning and dynamics of the triple line"
Colloids and Surfaces A: Physicochem. Eng. Aspects 432, **2013**, pp. 89–98 **(IF= 3.131, Q1/Q2)**

Paola G. Pittoni, Heng-Kwong Tsao, and Shi-Yow Lin
"Water drop impingement on graphite substrates with random dilute defects"
Experimental Thermal and Fluid Science 53, **2014**, pp. 142-146 **(IF= 3.444, Q1)**

Paola G. Pittoni, Yao-Yuan Chang, Shi-Yow Lin
"The effect of interfacial morphology on wetting of graphite by molten silver at high temperature"
Journal of Materials Science 47, **2012**, pp. 8395–8403 **(IF= 3.553, Q1)**

Paola G. Pittoni, Ren-Jing Wang, Teng-Shiang Yu, and Shi-Yow Lin
"Occurrence and formation mechanisms of bubbles entrapped into water drops impinging on graphite"
Journal of the Taiwan Institute of Chemical Engineers 45, **2014**, pp. 3062–3068 **(IF= 4.794, Q1)**

Lucchini, Carraretto, Phan, **Paola G. Pittoni**, Molinaroli, Colombo
"Convective condensation of R134a and R1234ze (E) inside microfin tube"
Journal of Physics: Conference Series, 2509, 012027, **2023**

Lucchini, Carraretto, Phan, **Paola G. Pittoni**, Colombo
"Comparison between R134a and R1234ze(E) during Flow Boiling in Microfin Tubes"
Fluids, 6, 11, 417, **2021**

Luigi Colombo, Andrea Lucchini, Luca Molinaroli, Alfonso Niro, Thanh Phan, **Paola G. Pittoni**
"Flow patterns during flow boiling and convective condensation of R1234ze(e) inside a microfin tube"
5th Thermal and Fluids Engineering Conference (TFEC), **2021** – New Orleans (conference full paper)

Paola G. Pittoni, Ya-Chi Lin, Ren-Jing Wang, Teng-Shiang Yu, and Shi-Yow Lin
"Bubbles Entrapment for Drops Impinging on Polymer Surfaces: the Roughness Effect"
Experimental Thermal and Fluid Science 62, **2015**, pp. 183–191 **(IF= 3.444, Q1)**

Paola G. Pittoni, Yao-Yuan Chang, Shi-Yow Lin
"Interpretation of the peculiar temperature dependence of surface tension for boron trioxide"
Journal of the Taiwan Institute of Chemical Engineers 43, **2012**, pp. 852–859 **(IF= 4.794, Q1)**

Luigi Colombo, Andrea Lucchini, Adriano Muzzio, **Paola Pittoni**
"Experimental results on flow boiling and convective condensation of R134a in microfin tubes"
5th European Thermal-Sciences Conference, **2008** - The Netherlands (conference full paper)

Luigi Colombo, Andrea Lucchini, Adriano Muzzio, **Paola Pittoni**
"Flow-boiling of R134a inside a horizontal micro-fin tube"
XXV Congresso Nazionale UIT sulla Trasmissione del Calore, **2007** – Trieste (conference full paper)

Editorial and Memberships

2020 – Present **Journal of Molecular Liquids (IF= 5.065, Q1)**
Reviewer

2019 – Present **International Dark-Sky Association (IDA)**
Member

2018 – Present **American Society of Thermal and Fluids Engineers (ASTFE)**
Member

2018 – Present **SAE International**
Member

2018 – Present **Order of the Engineer**
Member

2016 – Present **Journal of the Taiwan Institute of Chemical Engineers (IF= 4.794, Q1)**
Reviewer

2015 – Present **Experimental Thermal and Fluid Science (IF= 3.444, Q1)**
Reviewer

2011 – Present **Journal of the American Ceramic Society (IF= 3.502, Q1)**
Reviewer

Contributed Lectures and Presentations

2014 **1st International Conference on micro & nanofluidics**
Enschede, The Netherlands
"The impalement of water drops impinging onto superhydrophobic graphite surfaces: role of dynamic pressure, hammer pressure and liquid penetration time" (poster)
"Occurrence and mechanisms formation of bubbles entrapped into water drops impinging on polycarbonate substrates with different roughnesses" (poster)

2013 **IV International conference on colloid chemistry and physicochemical mechanics**
Moscow, Russia
"Impingement dynamics of water drops onto four graphite morphologies: from triple line recoil to pinning" (oral)

Wetting and evaporation: droplets of pure and complex fluids
Marseilles, France
"Evaporation of water drops on polymer surfaces: pinning, depinning and dynamics of the triple line" (poster)

The 4th Asian Symposium on Advanced Materials
Taipei, Taiwan
"Evaporation of water drops on polymer surfaces: pinning, depinning and dynamics of the triple line" (oral) –

Won Best Young Scientist Award
"Stick-slip Phenomenon in Wetting of Graphite by Molten Silver at High Temperature" (poster)

Chemical Engineering Annual Conference
Taipei, Taiwan
"The impalement of water drops impinging onto superhydrophobic graphite surfaces: role of dynamic pressure, hammer pressure and liquid penetration time" (oral)

Taiwanese Interface Science Society Annual Conference
Taipei, Taiwan
"Evaporation of water drops on polymer surfaces: pinning, depinning and dynamics of the triple line" (oral)
"Impingement dynamics of water drops onto four graphite morphologies: from triple line recoil to pinning" (poster)

2012 **7th International Conference on High Temperature Capillarity**
Eilat, Israel
"*The effect of interfacial morphology on wetting of graphite by molten silver at high temperature*" (oral)

Chemical Engineering Annual Conference
Taichung, Taiwan
"Stick-slip Phenomenon in Wetting of Graphite by Molten Silver at High Temperature" (oral)

2011 **4th Asian Conference on Colloid and Interface Science**
Tainan, Taiwan
"*Interpretation of the peculiar temperature dependence of surface tension for boron trioxide*" (oral)

Taiwanese Interface Science Society Annual Conference
Tainan, Taiwan
"*Interpretation of the peculiar temperature dependence of surface tension for boron trioxide*" (poster) – **Won Best Poster Award**

Other Conferences

2023 **Iowa State Conference on Race and Ethnicity (ISCORE)**
Ames, Iowa

2022 **Iowa State Conference on Race and Ethnicity (ISCORE)**
Ames, Iowa

2021 **Iowa State Conference on Race and Ethnicity (ISCORE)**
Ames, Iowa

2020 **Iowa State Conference on Race and Ethnicity (ISCORE)**
Ames, Iowa

2019 **Iowa State Conference on Race and Ethnicity (ISCORE)**
Ames, Iowa

2018 **Iowa State Conference on Race and Ethnicity (ISCORE)**
Ames, Iowa

2007 **The 22nd IIR International Congress of Refrigeration**
Beijing, China

ASME-JSME Thermal Engineering Conference and Summer Heat Transfer Conference
Vancouver, Canada

2000 **Energy and Environment: Nuclear and renewable energies**
Rome, Italy