

PERSONAL INFORMATION **MARIA LUISA MELE**

## WORK EXPERIENCE

Jun 2017 - present

**assistant**

customer search

Panna e miele Srls - ROMA (RM) Italy

*Business or sector* other services

Nov 2018 - Jan 2023

**PhD**

Research in the field of lithium-ion battery safety for automotive applications, bibliographic research, experimental tests with calorimetric cone and DSC, data processing.

Università degli Studi 'La Sapienza' - ROMA (RM) Italy

*Business or sector* Quality and security , chemistry

Aug 2018 - Oct 2018

**Research fellow**

Research in the field of lithium-ion battery safety for automotive applications, bibliographic research, experimental tests with calorimetric cone and DSC, data processing.

Università 'La Sapienza' di Roma - ROMA (RM) Italy

*Business or sector* chemistry

## EDUCATION AND TRAINING

2018 - 2023

**PROCESSI CHIMICI PER L'INDUSTRIA E PER L'AMBIENTE**

EQF level 8

Sapienza Università di Roma

Doctor of Philosophy (Ph.D.)

2013 - 2017

**INGEGNERIA CHIMICA**

EQF level 7

Sapienza Università di Roma - Faculty of Civil and Industrial Engineering

2nd cycle degree/Master of Science (2 years)

*Principal subjects/occupational skills covered:*

Italian, mathematics, English, hygiene and safety

2002 - 2013

**INGEGNERIA CHIMICA**

EQF level 6

Sapienza Università di Roma - Faculty of Civil and Industrial Engineering

1st cycle degree/Bachelor (3 years)

**Postgraduate studies****OTHER TRAINING COURSE**

2022 - 2022

DaET School - WINTER SCHOOL: Process Decarbonization and Energy Transition  
GRICU, AIDIC**OTHER TRAINING COURSE**

2019

Short Summer School on Thermal Analysis and Calorimetry

Sapienza Università di Roma

**OTHER TRAINING COURSE**

2019 - 2019

Short cycle Course on thermal analysis in material science

Funded by the Erasmus+ programme of the European union

**TRAINING COURSE**

2015 - 2015 (4 months)

La sicurezza nella prog. imp. ind. - tecniche an. rischio

Auriga consulting srl

Description: The main topics covered in the 'Safety Course in the Design of Industrial Plants - Risk Analysis Techniques' were the following:

1. The world of work:

Notes about industrial plants,  
Multidisciplinary design;

2. Design safety:

HSE Discipline (Health,Safety and Environment),  
Loss Prevention Discipline;

3. Hazard identification methods:

HAZID procedure,  
HAZOP procedure;

4. Evaluation of the Incidental Scenarios Frequency occurrence

Fault Tree Analysis (FTA),

Event Tree Analysis (ETA);

5. Calculation of Consequences:

PHAST software,

Computational fluid dynamics models (CFD models);

6. Risk Analysis (Quantitative Risk Analysis):

Risk Matrix and Index,Risk Mitigation Measures.

## PERSONAL SKILLS

### Mother tongue(s)

Italian

### Foreign language(s)

	UNDERSTANDING				SPEAKING				WRITING	
	Listening		Reading		Spoken interaction		Spoken production			
English	B2	Independent	B2	Independent	B2	Independent	B2	Independent	B2	Independent
French	A1	Basic	A1	Basic	A1	Basic	A1	Basic	A1	Basic
Portuguese	A1	Basic	A1	Basic	A1	Basic	A1	Basic	A1	Basic
Spanish	A1	Basic	A1	Basic	A1	Basic	A1	Basic	A1	Basic

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2: Proficient user  
Common European Framework of Reference for Languages

### Communication skills

Team spirit created during the years in which I played volleyball and during the years of my study. Good communication skills with people of different nationalities achieved thanks to the experience of working with an holiday home.

Strong aptitude for the management of disabled people and for collaboration in groups of work for the main social operations.

Long experience of collaboration with voluntary associations with children and elderly people suffering from chronic diseases, both in Italy and abroad, with UNITALSI.

Management of children in post Confirmation activities.

### Organisational / managerial skills

organizational skills (obtained above all by combining study work and family).

Flexibility and spirit of adaptation; predisposition to the initiative; high quotient intellectual; ease of speech; ambition, ability to communicate and coordinate; vastness of personal interests; enthusiasm, imagination and spontaneity; ability to organize and regulating work; ability to identify problems; ability to organize in time balanced way.

Ability to understand and manage mathematical, chemical and physical activities

Developed empathic skills.

### Digital competences

SELF-ASSESSMENT				
INFORMATION PROCESSING	COMMUNICATION	CONTENT CREATION	SAFETY	PROBLEM SOLVING
Proficient user	Proficient user	Independent user	Independent user	Independent user

Digital competences - Self-assessment grid

**Basic digital competence:** Operating systems (Good), Programming languages (Fair), Word processing (Excellent), Electronic spreadsheet (Excellent), Data base administrators (Fair), CAD skills (Limited), Internet skills (Excellent), Data transmission networks (Limited), Web-site creation (Fair), Multimedia (Fair),

**Programming languages known:** (C++, visualbasic)

**Software applications:** (Ambiente windows e iOSX. Pacchetto office, Phast, phaworks, matlab, proll,)

### Other skills

Volleyball, beach volleyball, gym, reading, manual work, volunteering, training

Driving licence B

## PUBLICATIONS

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- Journal articles** "Modeling of the thermal runaway phenomenon of cylindrical 18650 Li-Ion cells" ; Russo, P.; Ubaldi, S.; Mele, M.L. ; Lecture notes in electrical engineering (2023)
- "Thermal abuse tests on 18650 Li-Ion cells using a cone calorimeter and cell residues analysis" ; Mele, M. L.; Bracciale, M. P.; Ubaldi, S.; Santarelli, M. L.; Mazzaro, M.; Di Bari, C.; Russo, P. ; ENERGIES (2022)
- "Differential Scanning Calorimetry (DSC) as a tool for studying thermal properties of a crude cellulase cocktail" ; Di Matteo, P.; Luziatelli, F.; Bortolami, M.; Mele, M. L.; Ruzzi, M.; Russo, P. ; Chemical papers (2022)
- Abstract/reply/comments** "- A study of the main reactions occurring at the electrodes of Li-ion cells during the thermal runaway." ; Russo, P.; Mele, M. L. ; Book of abstract XLII National Conference on Calorimetry, Thermal Analysis and A (2021)
- Journal articles** "Heat capacity and thermodynamic functions of di-,tri- and tetramethylammonium lead iodide perovskites from 289 to 473K." ; Vecchio Cipriotti, S.; Cicciooli, A.; Mele, M. L.; Russo, P.; Pulci, G.; Latini, A. ; THERMOCHIMICA ACTA (2020)
- Conference proceedings** "Analisi critica dei modelli di reazione e realizzazione di un apparato sperimentale per lo studio del thermal runaway di celle Li-ione" ; P. Russo, R. Bubbico, M.L. Mele, S. Ubaldi ; Report RdS/PTR2020/051 (2020)
- "Recent safety focused overall analysis, testing and accident reviews towards safer e-mobility and energy storage" ; Di Bari, C.; Lecocq, A.; Marlair, G.; Truchot, B.; Mazzaro, M.; Mele, M. L.; Russo, P. (2020)
- "Li-ion batteries: characterization of the thermal runaway reactions using a DSC;" ; Russo P., Mele M.L. ; Proceedings of the 13th International Symposium on Hazards, Prevention and Mitig (2020)
- Journal articles** "Investigation on the fire hazards of Li-ion cells" ; Russo P., Mele M.L., Longobardo G., Mazzaro M., Di Bari C. ; LECTURE NOTES IN ELECTRICAL ENGINEERING (2019)
- "Stabilizing Lead Halide Perovskites with Quaternary Ammonium Cations: The Case of Tetramethylammonium Lead Iodide" ; Cicciooli A.; Panetta R.; Luongo A.; Brunetti B.; Vecchio S.; Mele M.L.; Latini A. ; PHYSICAL CHEMISTRY CHEMICAL PHYSICS (2019)
- Book chapter** "Caratterizzazione delle modalità di innesco e delle curve di Heat Release Rate e Mass Loss Rate, caratterizzazione dei composti chimici rilasciati ..." ; Mazzaro M., Di Bari C., Russo P., Cancelliere P., Puccia V., De Rocchi L., Bonfatti M., Ottaviani M., Lupotto P., Mele M. L. ; Risks related to the lithium-ion battery storage systems ; Ministry of Interior, Italian National Fire Rescue and Service (2019)
- Abstract/reply/comments** "Characterization of 18650 Li-ion cell components before and after thermal abuse tests" ; Russo P., Mele M.L., Bracciale M.P., Santarelli M.L., Di Bari C. ; book of abstract 5th CEEC-TAC5 and Medicta (2019)
- "Characterization of Cellulases Produced by Trichoderma longibrachiatum DIBAF-10 using Differential Scanning Calorimetry" ; P. DI MATTEO, F. LUZIATELLI, M.L. MELE, M. RUZZI, P. RUSSO ; book of abstract 5th CEEC-TAC5 and Medicta (2019)
- Conference proceedings** "Operazioni di ricarica di veicoli elettrici: la misura dell'HRR per la modellazione delle distanze di sicurezza" ; Paola Russo, Maria Luisa Mele ; RdS/PAR2017/251 ; La Sapienza, ENEA, VVF, MiSE (2018)

## ADDITIONAL INFORMATION

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I am a determined person, I learn very easily. Curious, receptive, I like working in a team. I love my family, I am a beach volley player, I attended a basic Hebrew course, and I occasionally volunteer.