# Mohamed Awad Ahmed Salim

## Assistant lecturer of thermofluids

**Cairo University, Faculty of Engineering, Mechanical Power Engineering Department**

## Contact details


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## Qualifications

*2015*

**Degree:** Masters of Applied Sciences
**University:** Cairo University, Egypt
**Department:** Mechanical Engineering
**Research field:** environmental modeling**.**
**Thesis title:** Numerical investigations of air quality in urban street canyons at different building and street relative geometrics
**GPA**: (3.95/4)

*2009*

**Degree:** Bachelor of Science
**University**: Cairo University, Egypt
**Major**: Mechanical Engineering
**Minor**: Mechanical Power Engineering
**Rank:** 6th on my class
**Overall Grade:** very good with Honors.
**Graduation Project:** HVAC Design of A Healthcare Facility - Grade: Distinction

## Experience

Teaching experience

Conducting tutorial and laboratory sessions and administrating the following list of courses:

- **Fluid mechanics experiments**
  - Sensors and signal processing
  - Drag measurement using Wind tunnel
  - Pressure distribution using wind tunnel
  - Pipe lose
- **Basic Fluid mechanics.**
  - Fluid properties
  - fluid statics and buoyancy
  - fluid dynamics (integral conservation laws of flow)
  - dimension analysis
  - flow in pipe lines
  - introduction to compressible flow
  - introduction to turbo machines
- **Advanced fluid mechanics**.
  - Differential conservation laws of flow
  - Incompressible viscous flow

- Potential flow
- boundary layer flow
- gas dynamics
- positive displacement pumps
- drag and lift
- Water hammer

➢ **Numerical methods in thermal engineering.**

- Numerical integration
- solution of ordinary differential equations
- solution of nonlinear equations
- solution of set of equations
- interpolation
- curve fitting
- solution of partial differential equations using finite difference

➢ **Design of pipelines**

- Head loss calculations
- Pump selection
- network analysis
- stresses in pipelines

➢ **Turbo machines**

- Basics
- similarity
- 1-D flow and work transfer
- 2-D flow
- 3-D flow
- hydraulic turbines
- pumps
- compressors
- steam turbines
- gas turbines

➢ **Quality management**

- Introduction to quality
- ISO 9001
- Statistical quality control (flow charts)

Research experience

- Flow modelling using ANSYS fluent
- Dimensional analysis of models
- Computational fluid dynamics

Work experience 5/2010 – 5/2015

LAB engineer, Measurements and Calibration Laboratory (MCL) at faculty of engineering Cairo University.

➢ Testing and measurement experience

- Temperature measurement using thermocouple, liquid in glass thermometer and RTD
- Temperature distribution inside furnaces
- Air velocity and humidity
- HVAC balancing (air and water balancing)
- Heating value of collide measurement using dry bomb
- Environmental noise measurement according ISO 9612-2009
- Light intensity measurement
- PH, conductivity and density of liquids

- Volume of solids measurement

- Calibration experience
  - Digital thermometer, thermocouple, Dry blocks and RTD calibration
- Lab quality experience
  - ISO 17025
  - ISO 17025 auditing
  - ISO 9612 (workplace noise measurement)
  - Internal audit

## Research interests

Fields
- Measurements and calibrations
- Gas dynamic
- Thermofluids systems
- Computational fluid dynamics
- Desalinations
- Pollution control
- Flames

## Computer skills

CAD
- Solid works
- Fusion 360

Programing
- C++ language
- R language
- MATLAB (programming, toolbox, Simulink)

Office
- Word, excel and PowerPoint

CFD
- ANSYS fluent 14

## Languages

- **English**: very good
- **Arabic** (Native)

*** All documents, references and certificates are available on request.**