

CURRICULUM VITAE
DR LAVINIA MELILLA
PhD, MSc Eng., CEng. FICE, Projects Director

Personal Details

Place of Birth Rome, ITALY
Nationality British, Italian
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Academic Education

2004 – 2007 **PhD, Hydraulic Engineering**, 'La Sapienza' University, Rome (Italy)
Dissertation: "Dynamic procedures for closure relations in the equation of filtered concentration of suspended solid particles. New closure relations for balance equation of the SGS viscous dissipation in LES." *Grade*: First with honour

1998 – 2003 **MSc, Civil and Hydraulic Engineering**, 'La Sapienza' University, Rome (Italy) – *Grade*: 100/110
Dissertation: "Coherent structures and a new model for vortex identification."

1993 - 1998 **'Maturità Scientifica'** High School Degree, 'Liceo scientifico Galileo Galilei', Pescara (I) – *Grade*: 60/60

Teaching and Qualifications

2016 – Present UK Institution of Civil Engineers (ICE), Committee Member, responsible for Qatar Charterships and Fellowships
2015 – Present UK Institution of Civil Engineers (ICE), *Fellow* (the youngest Fellow for ICE)
2014 – Present Various International Journals, *Paper Reviewer*
2013 – Present UK Institution of Civil Engineers (ICE) Charteship/Fellowship Candidates, *Mentor*
2010, July UK Institution of Civil Engineers (ICE), *Chartered Engineer*
2004 - 2007 'Hydraulic and computational fluid dynamics', *Annual courses and exams*
2004, June Institution of Italian Engineers, *Chartered Engineer*
2003 - 2004 'Health & Safety in civil works', Qualification required by the Order of Italian Engineers, CSCS equivalent

Publications and Conferences

2020, Feb "New Sustainability Methodology on Ashghal Programme", CIC 2020, Doha, Qatar
2020, Feb "Project Management Technics", CIC 2020, Doha, Qatar
2015, Sept "Manifesto" London Infrastructure Policy Workshop, ICE London
2015, Sept "Trabocchi, marine structure" ICE Coastal Management Blog
2014, October "Megathrust Tsunamis that may impact Coastal Industrial Facilities", Visible Thought Leadership-Bechtel
2014, March "Plausible megathrust tsunamis in Eastern Mediterranean"- Eng. and Computational Mechanics, Vol 167 (EM1) ICE
2006, June "Dynamic procedures for closure relations in the equation of filtered concentration of solid particles", WSEAS Journal
2006, June "New closure relations for the balance equation of the SGS viscous dissipation in LES". WSEAS Journal
2006, Oct "Large eddy simulation and the filtered equation of a contaminant", Water Pollution by WIT Press
2006, Sep "Simulation of re-suspension of solid particles from erosive beds". XXX° Conf. of Hydr. & Marine Constr., Rome (I).
2006, Aug "Large eddy simulation of the two phase River Flow", Lisbon (P).
2006, Aug "A new dynamic $k-\epsilon$ sub-grid scale model". WSEAS, Crete (Greece).
2006, Aug "Large eddy simulation of re-suspension of solid particles from an erodible bed". WSEAS, Crete (Greece).
2006, May "The SGS kinetic energy and viscous dissipation equations in relations in LES". AFM 2006, Skiathos (Greece).
2005, Oct "Viscous dissipation in the closure relations for the gen. SGS turbulent LES stress tensor ". EU Symposium, Como (I).
2004, Sep "Coherent structure and vortex identification", XXXI I.A.H.R. Congress, Seoul (South Korea).
2004, Sep "Coherent structure and vortex identification", XXIX Conference of Hydraulics and Marine Constructions, Trento (I).

Languages

Italian, *Mother Tongue*; English (R/W/L/S) Fluent; Arabic, French, German and Spanish (R/W/L/S), Basic.

Computing

Op. Systems: MS-Windows latest packages, Linux. Programming: Fortran, Pascal, MATLAB, Tecplot, Auto-Cad, SAP, STAAD, ANSYS, ASAS, MIKE 21, Project Management Programs

Skills & Interests

Technical leadership; Management of highly complex projects engaging at C-level; Coordinating and driving business strategy across various areas of engagements with Clients; Travelling; Horse Riding

Work experience

2020 – Present **Stantec** Qatar Doha – *Projects Director, Member of Stantec Leadership Team*

BD for Transportation (Ports, Highways, Water, Rail); Champion for Tender- NDOD Programme [11 bn QAR]
Projects Director responsible for AL Wakra Pumping Station, Tunnels, Laterals, Outfall [8bn QAR Projects]: all Technical, Commercial, Contract, Strategy, Procurement, Design, Construction, Resources aspects managed across all project phases.
Responsible of PWA SM at meetings with MME, QFZ Ministers and Undersecretaries. Direct report to Dr Saad, PWA President.

2017 – 2020 **Arcadis** Qatar Doha – *Business Development Director 200m Qar per year (Major Qatar Transport Authorities as PWA, Q terminal and Major Contractors).*

Directly responsible for New Clients and works on Transport, Infrastructure and Building. Key projects include: Hamad Port (PMC Role with QTerminal); 4 Lusail Towers (with Qatar Diar- Peer review, D&B with Hunday and Midmac/Besix); A-Ring Pedestrian Bridge with Boom; CDC Hotel Zagreet; Transports projects with Porr, Strabag, Zublin, HBK, Boom, Redco International, Redco Almana, QTCG. PPP/PFI Expert as PWA School Project and Sewage AL Wakra Project at tender stage.

Engineering Director for C2 Programme, Doha North-PWA (major infrastructure and transports- roads, sewage, drainage)

2016-2017 **Cundall** Qatar Doha – *Global Head Ports, Marine and Water, Senior Project Manager – Design/Construction - £3bn CAPEX LRT Project (light rail-Lusail Plaza)*

Overall responsibility for the Light Rail Project and interface with Senior Management of QDVC, Qatar Rail.

2015 – 2016 **Gatwick Airport**, UK – *Project Director Design & Construction - £0.8bn CAPEX [Bechtel Infrastructure]*

Overall responsibility for the wider Project Management. Responsible for the overall Programme consisting of 14 Projects, including Design, Procurement, Construction, Commercial, Reporting. Coordination of delivery with application of commercial thinking, best practice knowledge, subject matter expertise, innovation. Led successful handover to Operations and Commercial departments, arranging on and off-site production and quality inspections. Progress report, review of on-going applications, arranging production of As-Built drawings. High focus on Project Control and provision of trade-contract close out reports and Project Information Schedule as relevant.

2012 – 2015 **Bechtel (Infrastructure, Mine, Power and O&G)**, UK – *Global Head Ports, Marine*

Deputy Project Director, Engineering Manager, Area Manager on DFS York Potash Study - £4bn CAPEX

Responsible for the overall Engineering deliverables: Manager of 5 different Consultants for Shaft, Tunnel, Conveyor, Process, Port; Preparation of Business Case and Strategy for the Client; Responsible for the contract of RHDHV (Port and Overland Conveyor) and negotiation for wider scope of services; Value Engineering Leader; Quality Design Review and H&S best practice of DFS; Leading Procurement to provide Inputs to Estimation Team; Contract variations from original RHDHV on Port and Overland Conveyor; Inputs on Contamination and Environmental Issues; Inputs on scope of services for geotechnical survey and marine/land boreholes

Chief Marine and Ports Engineer/BD Lead

Technical head for the Civil GBU marine and port engineering function; Development, proposal, and implementation of business strategies; Researches on customers and competition, development of relationships with prospective teaming partners; Maintaining contacts within industry associations; Preparing and managing proposal budgets and developing alternative bid strategies; Analyses of technical merits of targeted prospects, suggesting the most economical engineering solutions.

Main Assignments:

- Manager on ME Ports Proposals, £10bn
- Technical Expert (ICE) - Swansea Bay Lagoon Review, UK- £30bn
- Design Manager- Lohmo Marine facilities, Project Review, Ghana - £800m
- Head of Procurement - Bumbuna Dam Proposal, Sierra Leone - £1bn
- Technical Leader - TTT (Tyne Thames Tunnel) Proposal, UK – £1.5bn
- BD Manager – Thema Port, Ghana - £2bn
- BD Manager – Port Brazilian Masterplan, Brazil – £20bn
- Engineering Manager - Owendo Port Design Review, Gabon - £ 200m
- BD Manager – South Africa Ports Development- £10bn
- Technical Expert - Severn Barrage Concept Design, UK - £25bn

2010 – 2012 **High Point Rendel** (now part of KPMG), UK - *Senior Maritime Engineer and BD Manager*

Main assignments:

- BD Manager at Board Senior Management Level for main Italian and European Contractors and Consultants
- Project Manager / Construction Design Manager - Bahrain Reclamation Shaft – £150m
- Project Manager / Technical Leader -Gabon Urea Jetty FEED Design – £500m
- Engineering Manager - Honk Kong Revetment Independent check to detailed design - £250m
- Senior Hydraulic Engineer - Lymes Regis Tender Design – £400m
- Senior Maritime Expert - Batinah Coastal Road Detailed Design Independent check, Oman - £300m
- Senior Engineer - Thames Barrier Mooring Rings Design (London, UK), £100m
- Supervision of Project Management and Tender Design;
- BD Manager/Project Manager/ Technical Hydraulic Expert Water Supply Pipeline Wasia, Saudi Arabia - £300m
- Aqaba New Port Project (Jordan) – Tender Design;
- PM, Senior Geotechnical and Hydraulic Design Engineer ASRY Basin Quay, Bahrain- £200m
- Senior Marine Engineer - Hay Point Berth Extension Construction Design, Australia – £700m

2007 – 2010 **Beckett Rankine**, UK, **Hydraulic Maritime Senior Chartered Engineer**

Responsibilities:

Preparation of Design (tender and detailed); Calculations and Drawings; Analysis and modelling numerical and physical hydraulic data; Reporting & Project Management; Assessment of Logistics problems; Surveys at on-site inspection visits; Cost estimations & Contracts; Procurement and Business Development; Liaison with clients, statutory authorities and other relevant organisations; Selection and negotiation with contractors; Links with contractors & material equipment suppliers; H&S plan and risk assessment;

Design of Ports, harbours, marina, piers, docks, quays, slipways, boat ramps and moorings; Breakwaters, vertical walls and defensive structures; Dredging, overtopping Goda impact wave, berths, trestle and jetty; Channels and lagoons; Ferry facilities, cruise ship characteristics, Ro-Ro terminal and vessels simulation; Bulk terminals: stockyard, conveyors and coal discharge; Flood management, flood defence structure and major dam projects; Debris flow, solid transport and sediments; Concrete and steel structures: beams slabs walls and stairs; Geotechnical design works, piles foundations; Streets, bridges and ecological terraces.

Main assignments:

- Maritime and Structural Engineer - Alderney Commercial Quay, Detailed Design – £200m
- Maritime Engineer - High Speed Coastal Ferries Feasibility Study, Oman – £300m
- Maritime Engineer - Atyrau River Port Proposal, Kazakhstan – £200m
- Maritime and Hydraulic Engineer - Dunbar Historic Harbour, Scotland – £70m
- Technical Leader English Point Marina Concept Design Mombasa, Kenya – £80m
- Design Engineer - Dahej Ore Jetty Design, Gujarat India – £60m
- Maritime Engineer Woolston Floating Dock: Shipyard Regeneration – £20m
- Structural maritime Engineer Battersea Reach Pier, UK – £80m
- Maritime and Hydraulic Engineer Brighton Marina, UK – £300m
- Maritime Engineer - Misurata Port Extension, Libya – £100m
- Technical Leader - Ras Trompy Waterfront Development Feasibility Study, Egypt – £250m

2003 – 2007 **La Sapienza University** (Italy), *PhD Student in Hydraulic Engineering & Hydraulic Engineer Consultant*

Numerical Modelling - Study and implementation of a new system for curvilinear coordinates; Technical Consultant and Management for five main Italian dams (*in cooperation with Acea SpA*) Italy- £1bn; Design Engineer – Ortona Port Feasibility Study (*in cooperation with Comune di Ortona, Chieti - Italy*) - £80m; Technical Expert - River Sarno Flooding Management and LES Numerical Simulation – £100m; Claim Technical Expert - Partial Collapse of Residential House due to oil explosion, Rome Italy – £10m; Numerical Modeller - River Fosso di Valle Semplice - £1m; Modeller- Generation 2 engine algorithm for the simulation of 3D velocity fields; Civil Engineer - New Real Estate Developments and Flats Refurbishment, Rome, Italy – £3m.