**NARASIMHA M THOTA**

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**EDUCATIONAL QUALIFICATIONS**

1. **Bachelor of Technology in Mechanical Engineering**

Kakatiya University, Warangal, Andhra Pradesh, India

Years of the study: 1986-90

Completed with FIRST CLASS

1. **Master of Engineering in Mechanical Engineering with the specialization in “Engineering Design”**

P S G College of Technology, Coimbatore, Tamil Nadu, India

Years of the study: 1990-1992

Completed with FIRST CLASS (Distinction)

1. **Doctor of Engineering (Thesis submitted)**

University of Southern Queensland, Toowoomba, Queensland, Australia

Expected year of award: 2014

I have carried out the research work with the following aims and currently I have got 24 credits required for the doctor of engineering.

* Material testing (wood, foam and metals) and development of material database for non-linear finite element analysis.
* Review the suitability of anthropomorphic test dummies for the evaluation of blunt thoracic trauma caused by high speed blunt projectiles.
* Develop and validate FE Model surrogate of the thorax for high speed ballistic impact applications.
* Evaluate the effect of energy absorbing mechanism embedded in the foam nose projectiles on the thoracic injury
* Develop a concept of manufacturable surrogate of the thorax for the evaluation of blunt thoracic trauma and commotio-cordis applications.
* Fool proof design and development of airbag compliant passenger vehicle front protection systems.
* Evaluation of the effect of foam embellishments of the VFPS on the pedestrian safety.

**PROFESSIONAL EXPERIENCE**

**CAE-Consultants, Adelaide, South Australia**

**April 2006 to Present**

***Managing Director and Consulting Engineer***

* Successfully completed highly advanced technological research projects in the following areas.
  + Bio-mechanical analysis and development of bio-mechanical surrogate of the thorax FEA model
  + Design and development of a robust tractor with light weight parts with composite materials.
  + Advanced aerospace projects (Bird strike analysis of the aircraft compressor)
  + Development of light weight helicopter structure
  + Advanced automotive engineering projects such as airbag compatible and ADR compliance vehicle front protection systems.
  + Steel structural engineering projects
* Liaised with engineering consultancies, material/metallurgy related research organizations
* Developed design concepts to meet design specifications and provided strategies to authenticate designs and achieve compliance.
* Mentored teams working for various activities of the project.
* Managed multi-million dollar projects in structural engineering and delivered the high quality output.
* Devised and implemented policies and procedures for accomplishing error free, high quality outcome.,
* Provided strategic direction for promoting company and partner companies (Amerigo Structural Engineering Pvt Ltd, India., Amritha Tools Ltd, India, Seighart Engineering, Germany., SONI electronics, India., Aarbee International in USA and India, Krish Engineering, India)
* Project managed multimillion dollars worth of Automotive, defence and aerospace projects from India, UK and Australia. Managed 10 teams comprising 130 professional engineers.
* Devised design concepts and strategies for virtual testing for corroborating designs.
* Devised specifications for physical testing to prove the compliance.

**Adelaide Pacific International College, Adelaide, South Australia**

**April 2009 to April 2010**

***DEAN of Automotive Studies:***

* Developed new courses and training programs in automotive engineering, mechanical engineering and structural engineering. Prepared course proposals and got approvals for some courses. Provided strategic directions to the management for sustainability.
* Liaised with accrediting bodies such as DFEEST, Auditors and industrial partners for implementing policies and procedures to gain 100% compliance.
* Developed curriculum for automotive engineering
* Streamlined activities of automotive department with over 400 students and training officers by developing appropriate plans and strategies, implementing the strategies and coordinated every activity. Monitored and metered the KPIs to guide and steer the team towards organizational goals by continuous improving processes.
* Provided strategies and directions to convert a shabby workshop into world-class laboratory for automotive practical sessions
* Embedded safety into every operation of the department.
* Applied lean principles and by giving right job to the right person and increased productivity of the department from 15% to 99% (I believe in continuous quality improvement. Therefore, there is always room for improvement)
* Scored 100% in audits conducted by Department of Education and other third party auditors.
* Provided strategic direction to introduce Electronic assessment program (SCORM compatible) to save human resources and environment.
* Liaised with over 100 RSR industries to facilitate student work experience.
* Made automotive department into turn-key project.

**Mitsubishi Motors Australia Ltd**

**January 2003 – April 2006**

***CAE Specialist Engineer with Special Project Centre:***

* Managed over 12 multimillion dollar projects related to 4WD vehicles produced by Mitsubishi Motors Corporation, Japan
* Developed concepts for new products
* Devised testing methods and liaised with world-class test facilities pertaining to Australian defence companies
* Provided strategies for cost cutting by efficient processes and embedding virtual testing in specifications. In one of the engineering projects, I have completely avoided trial and error method of crash testing the vehicle to achieve the compliance. Also reduced the product cost by 60% when compared with similar product from the competitor.
* Compliance related aspects
* Configuration management
* Applied Lean manufacturing principles
* Won “**Innovation award for the year 2003”** from the Department of Production Engineering.

**AMTEK Group of Companies (Kris Components Bhd)**

**July 1997 – January 2003**

***Head, R&D Department (Senior Executive):***

* Established a metal forming research centre with advanced computing resources.
* Liaised with CRAY super computers, Silicon Graphics and world renowned universities in Singapore.
* Team building and mentoring
* Carried out extensive metal forming research to produce complex sheet metal forming components /assemblies with ease and great quality
* Accomplished millions of dollars cost cutting
* Facilitated company to bag multi-million dollars worth projects from electronic giants from Eastern and Western companies such as Panasonic, SONY, Samsung, DELL, ACER and HP.
* Provided strategies to optimize the productivity of designers by customizing the design softwares with R&D results.
* Introduced intranet concepts for ease of sharing data.
* Published and presented 2 technical papers on metal forming in international conferences.

**CDR Imaging Systems Sdn Bhd**

**January 1999 – January 2003**

***Lead Consultant and General Manager Manufacturing:***

* Provided project proposals of establishing a CD manufacturing plant to an entrepreneur and well known industrialist as a freelance consultant.
* Got appointed as Lead consultant /Chief Engineer for the project
* Prepared proposal for the bank loan and got approval for 23million MYR.
* Coordinated various activities related to construction, electrical, clean room building, machinery purchase, installation and commissioning of the machines and production lines.
* Assumed responsibilities as General Manager (Manufacturing) and employed right people for the right job. Coordinated manufacturing activities and accomplished 20 million CDs per month production.
* Established marketing networks and increased productivity
* Accomplished 220% profit and promoted as Technical Director of the company.
* Bagged major clients such as Samsung (for OEM production) and Shoppers stop (India)

**Indian Space Research Organization, Ahmedabad, INDIA.**

**April 1993 – July 1997**

***Scientist/Engineer (Executive, Gazetted Officer, Class I and Group A)***

* Developed concept designs for satellite payloads
* Devised test specifications for corroborating designs
* Developed own software codes for computerised testing and also for design optimization.
* Provided strategic direction and engineering support to cut the satellite launching costs by introducing various composite materials to fabricate satellite major components
* Cost cutting by using Aluminium in stead of costly INVAR material.
* Managing and coordinating activities of 12 junior scientists and supporting virtual testing activities for complete organization.
* Coordinating physical tests.
* Liaising with Indian Defence laboratories for innovating research in materials and metals (especially hybrid composite laminates)
* Visiting faculty member to Institute of Plasma Research (Ahmedabad, India) to train junior scientists in virtual testing/numerical testing/CAE
* Published and presented **15 technical papers** in various national and international conferences and symposia.
* 100s of technical reports pertaining to my work are in circulation in Indian defence departments and Indian top universities and other research organizations.
* Earned millions of dollars of revenue to the organization by taking up consultancy projects from USA, Germany and some commercial companies within India.
  + Designed and produced 10 channel mux and demux wave filters to HUGHES Space Communications, USA.
  + Designed and produced C-Band filters to a private aerospace company in Germany.
  + Designed, analysed and optimized 32m transmit and receive antenna for GCEL (these antennae are erected in all Indian airports)
  + Designed Road Transportable Antenna for Indian Army
  + Redesigned plasma generator for Institute of Plasma Research.
* Designed, developed and coordinated activities related to major payloads of 7 communication and remote sensing satellites.
* Actively involved in configuration management and weight budget analysis.
* Liaised with 10s of defence suppliers and project management.

**Dr. Babasaheb Ambedkar Technological University**

***(Formerly University of Bombay)***

**July 1992- April 1993**

***Faculty member in Department of Mechanical Engineering:***

* Responsible for teaching and curriculum development
* Taught very complex subjects such as Machine design, Structural Mechanics, Engineering Mechanics and Finite Element Analysis to Under Graduate and Post Graduate students of mechanical engineering.
* Carried out revenue earning consultancy projects for industries from within India and overseas
* Accomplished 100% success rate
* Provided guidance to final year students doing industrial and design projects.
* Named as “trend setter” by Vice-chancellor of the university.

**National Institute of Technology**

***(Formerly Regional Engineering College)***

**August 1991 – July 1992**

***Research Fellow (Government of India) and Teaching Assistant, Department of Mechanical Engineering***

* Engineering research in Hybrid composite laminates
* Carried out revenue earning engineering consultancy projects taken by CRC of the institution.
  + Redesigned tripper of conveyor belt of coal handling plant.
  + Redesigned shock absorbers for heavy industry applications.
* Taught Finite Element Method and Design of Machine Elements to undergraduate and post graduate students of Mechanical Engineering.
* Conducted laboratory/practical sessions for engineering drawing, IC Engines and Gas Turbines, CNC machining.

**Colleges affiliated to Kakatiya University and some private education providers**

**March1985 – July 1992**

***Lecturer in Physics***

* Delivered lectures on physics to undergraduate students in 14 institutions on the part-time basis.
* Achieved 100% student success rate
* Most of my students accomplished high scores in competitive exams (for engineering, polytechnic and medical) and got admissions into Indian top technological and medical universities.

**TECHNICAL PUBLICATIONS**

1. N.M. Thota. J.A. Eeparaachchi, K.T. Lau, 2013, “Review of ATDs and feasibility study of a novel concept of biomechanical surrogate for evaluation of thoracic trauma due to high speed impacts” is under review with Journal of Biomechanical Science and Engineering. Japanese society of Mechanical Engineers.
2. N.M. Thota. J.A. Eeparaachchi, K.T. Lau, 2013, “Development and validation of a thorax surrogate FE model for assessment of trauma due to high speed blunt impacts” is under review with the Journal of Biomechanical Science and Engineering. Japanese Society of Mechanical Engineers.
3. N.M. Thota. J.A. Eeparaachchi, K.T. Lau, 2013, “*Effect of the energy absorbing mechanisms on the blunt thoracic trauma caused by a typical foam projectile”,* International Journal of Mechanical Engineering Research, ISNN NO. 2249-0019 Volume 3 Number 1, 2013.
4. N.M. Thota. J.A. Eeparaachchi, K.T. Lau, 2013*, “Important aspects of finite element modeling of low density thermo-plastic closed cell foams"*, International Journal of Mechanical Engineering Research ISNN NO. 2249-0019 Volume 3 Number 4, 2013.
5. Thota, N M, Eepaarachchi, JA & Lau, KT 2013, 'Effect of the foam embellishments on the pedestrian safety of the vehicle front protection systems', *International Journal of Engineering Research and Technology*, vol. 6, no. 5, pp. 11-4.
6. Thota, N M, Eepaarachchi, JA & Lau, KT 2012, 'Develop and validate a biomechanical surrogate of the human thorax using corrugated sheets: a feasibility study', in Proceedings of the 7th Australasian Congress on Applied Mechanics (ACAM 7): *proceedings of the Proceedings of the 7th Australasian Congress on Applied Mechanics (ACAM 7)* Engineers Australia.
7. N.M. Thota. C.J. Doolan. A.C. Zander. D.J. Moreau, L.A. Brooks, 2011, “*Analysis of noise generated by a wall mounted finite-length airfoil”* Proceedings of Acoustics 2011, Gold Coast, Australia,
8. N.M. Thota. P.J. Soni and P.V.B.A.S. Sarma, 1996, “Structural design, analysis and optimization of a typical microwave radiometer of a remote sensing satellite”, Proceedings of the conference organised by “The international journal of structural engineering, Korea.
9. N.M. Thota, 1999***,*** “Study of drawing operation using PAM-Stamp – some case studies from the precision stamping industry”***,*** proceedings of *PAM-Stamp users conference Asia, Tokyo, Japan.*
10. N.M. Thota, 1998, “Metal forming simulations using PAM-Stamp – solutions for the problems of industries concerned”, Proceedings of *PAM-Stamp Users conference Asia*, Tokyo, Japan.
11. N.M. Thota. P.J. Soni and P.V.B.A.S. Sarma, 1997, “Bending and Dynamic analysis of a typical C-band filter of INSAT-II E”, Proceedings of CEASM-97, Baba atomic research centre, Kalpakkam, India.
12. N.M. Thota. C. Suneetha, P.J. Soni and P.V.B.A.S. Sarma, 1997, “Structural analysis and optimisation of a typical electronic box assembly using finite element technique”, Proceedings of CEASM-97, BABA ATOMIC RESEARCH CENTRE, Kalpakkam, India.
13. N.M. Thota. P.J. Soni and P.V.B.A.S. Sarma, 1996, “Vibration level measurements on a typical 6.1m RTA”, Proceedings of APSYM-CUSAT-96, Cochin, India.
14. N.M. Thota. P.J. Soni and P.V.B.A.S. Sarma, 1996, “Thermal distortion analysis of support structure for microwave radiometer”, Proceedings of APSYM-CUSAT-96, Cochin, India.
15. N.M. Thota. P.J. Soni and P.V.B.A.S. Sarma, 1996, “Feasibility study of METAL MATRIX COMPOSITES for fixture construction”, Proceedings of ENCAE-96, Institution of Engineers, Hyderabad, India.
16. N.M. Thota. P.J. Soni and P.V.B.A.S. Sarma, 1996, “Structural analysis of VHRR camera of INSAT -II C” -presented and published in the proceedings of ENCAE-96, Institution of Engineers, Hyderabad, India.
17. N.M. Thota. P.J. Soni and P.V.B.A.S. Sarma, 1996, “Theoretical structural analysis of VHRR and CCD payloads of INSAT - II E”, Proceedings of XII national convention of Mechanical Engineers, Institution of Engineers India, Hyderabad, India.
18. N.M. Thota. P.J. Soni and P.V.B.A.S. Sarma, 1996, “Structural analysis of CFRP reflector of IRS payload”, Proceedings of XII national convention of Mechanical Engineers, Institution of Engineers India, Hyderabad, India.
19. N.M. Thota. P.J. Soni and P.V.B.A.S. Sarma, 1996 “Random vibration analysis of a fixture designed for holding a typical INSAT payload”, Proceedings of the 3rd International conference on vibration problems, Darjeeling, India.
20. N.M. Thota. P.J. Soni and P.V.B.A.S. Sarma, 1995, “Applications of metal matrix composites in space technology - a case study”, Proceedings of NACOMM-95, Durgapur, India.
21. N.M. Thota. C. Suneetha. B.S. Varma, 1994, “Feasibility study of CNC hobbing in the tractor industry”, Proceedings of ENCPE-94, Allahabad, India
22. “N.M. Thota. C. Suneetha. B.S. Varma, 1994, Study of some thermal aspects of investment casting”, Journal of Mechanical Engineering, SSME, INDIA.
23. N.M. Thota. C. Suneetha. B.S. Varma, 1994, “Ceramics for high speed machining”, Journal of mechanical engineering, SSME, INDIA.
24. N.M. Thota. P.J. Soni and P.V.B.A.S. Sarma, 1994, “Structural analysis of primary mirror mount of INSAT payload”, Proceedings of EMRC- NISA (CANADA) users conference, Bangalore, India.