



Curriculum Vitae
of
Professor Tarun Kant
PhD, FNA, FASc, FNASc, FNAE
Professor Emeritus
Department of Civil Engineering
Indian Institute of Technology Bombay
Powai, Mumbai-400 076
tkant@civil.iitb.ac.in
tkant1946@gmail.com
www.civil.iitb.ac.in/~tkant
M. +91 996 916 4646
O. +91 222 576 7301

Tarun Kant, PhD; FNA; FASc; FNAE; FNASc

FIE; FAeSI; MISTAM; MISTE; MISCES; FIndACM; FIASE; MIACM; FWIF

Date of birth: 1 July 1946

Professor Emeritus

Department of Civil Engineering



Indian Institute of Technology Bombay
Powai, Mumbai-400 076, INDIA

Telephones: Office (022) 2576 7301
Mobile: 996 916 4646
Telefax: (022) 2576 7302
E-mail : tkant@civil.iitb.ac.in

Tarun Kant was born on 1 July 1946 at Ballia in eastern Uttar Pradesh, India. Passed his High School (10th standard) in 1958 from Queens' College, Varanasi and his Intermediate (12th standard) in 1960 from King Edward Government Inter College, Deoria, both in first division. He received his BSc degree from the University of Allahabad in 1962, his BTech (Hons) in civil engineering from the Indian Institute of Technology Bombay (IIT Bombay) in 1967 and MTech in civil engineering with specialization in structural engineering from the Indian Institute of Technology Kanpur (IIT Kanpur) in 1969. He spent about one and a half year in a consulting engineering firm in Mumbai before joining IIT Bombay on 20 January 1971 as a *Lecturer*. He earned his PhD degree while working as a Lecturer from IIT Bombay in 1977. He was selected as an *Assistant Professor* in 1978 and a *Professor* in 1986.

He has held the positions of the Department Head (2000-2002), the Dean (Planning) of the Institute (2001-2003), the Chairman of the prestigious Joint Entrance Examination (JEE-1998) and the Chairman of the Central Library (1995-1999) with great distinction. He initiated and introduced many innovations effectively during his tenure. The Institute appointed him as an *Institute Chair Professor* from 31st December 2009. He was re-employed by the Ministry of Human Resource Development (MHRD) of Government of India (GOI) for five years until 30 June 2016 though he formally retired (superannuated) from service on 30 June 2011. **The Institute honoured him with the title of *Professor Emeritus for life, an honour bestowed on a select few of the retired faculty*, on 27 September 2017.** Through an endowment of Rs. 1.15 crore created by his students and well-wishers in the industry, a *Prof. Tarun Kant Endowed Chair* was established in his honour in the department of civil engineering of IIT Bombay on 19th March 2020.

Prof. Kant was elected a *Fellow of the Indian National Academy of Engineering (INAE)* in 1999, a *Fellow of the Indian Academy of Sciences (IASc)* in 2004, a *Fellow of the Indian National Science Academy (INSA)* in 2007 and a *Fellow of the National Academy of Sciences, India (NASI)* in 2011. **He is the first civil engineering academic in the country to get elected to all the four national academies** – one engineering (INAE) and three science (INSA, IASc and NASI) .

Prof. Kant was a *visiting scholar* at University of Wales, Swansea (1979-'82) and a *visiting professor* at University of Cambridge (1993) and University of California, Los Angeles (2005).

He is a recipient of the *Burmah-Shell Best Paper Prize*. He was the first engineer selected by a committee after personal interview whose chairperson was no less a person than the Prime Minister of India (Late Mr. Morarji Desai) and was awarded the *1979 Jawaharlal Nehru Memorial Trust (U.K) Scholarship* to carryout research in Finite Element Methods in the United Kingdom; he was also selected for the *1992-93 European Commission (EC) Senior Faculty Exchange Fellowship*, both by the Government of India. He was awarded the *2006 Professor H.H. Mathur Award for Excellence in Research in Applied Sciences* in recognition of his outstanding work in the area of Mechanics of Composite Materials and Structures by IIT Bombay on 13th March 2007. He also received the *2009 Khosla National Award for his lifetime achievement* in the field of engineering. He is also a recipient of the *2010 IIT Bombay Research Paper Award*. **He was conferred with the 2011 Lifetime Achievement Award of IIT Bombay on 4th April 2012.** ICCS17 (17th International Conference on Composite Structures, Porto, Portugal, 17-21 June 2013) honoured Professors Romesh Batra, JN Reddy and Kant with the title “**legends and pioneers in mechanics of composites**”. Of course, being included in the same category as Professors Batra and Reddy was in itself a great honour for Prof. Kant. He received the *APACM Senior Scientist Award* of the Asia Pacific Association of Computational Mechanics (APACM) on 12th December 2013 during APCOM2013 in Singapore. Received the *ICCES (International Conference on Computational and Experimental Engineering and Sciences) Lifetime Achievement Award - 2015 Medal* in Reno, Nevada, USA on 23rd July 2015 for making seminal contributions to composite materials and to the education of generations of students in India. Birla Institute of Technology & Science (BITS) Pilani also honoured him with *Lifetime Achievement Award* on 26th February 2018. He is also honoured with 2019 INSA’s (Indian National Science Academy’s) Prof Brahm Prakash Memorial Medal [Lecture was delivered on 15th September 2021 (Engineers’ Day) at IIT Delhi where medal and citation were received] and 2020 Vasvik Award for Mechanical & Structural Science & Technology.

He has published 160 research papers in refereed journals, 6 chapters in edited books, about 182 papers in conference proceedings, edited 4 books and currently serves on the editorial boards of 5 international journals in diverse areas of computational structural mechanics. He has supervised 27 PhD and over 77 MTech and over 90 BTech students in their theses/ dissertations/ projects. He has also been a referee for over 100 external PhD theses. He has *Research & Citation Standing in terms of h-index of 47 on GoogleScholar (35 on Web of Science & 40 on Scopus)*. His current **citations are over 8289 on GoogleScholar** (over 4082 on Web of Science & 5113 on Scopus). He is in the top 0.3659% in the list of **Top 2% Global Scientists** published by Stanford University in November 2020.

He has carried out 12 sponsored projects and has authored about 21 unpublished reports. He has edited a set of two volumes entitled *Finite Elements in Computational Mechanics*, Pergamon Press, Oxford, 1985 (ISBN 0-08-031682-2), a special thematic issue on *Computational Mechanics* of the *Proceedings of the Indian National Science Academy (ProclNSA)* [Volume 82(2), June 2016, pp. 147-402] and has co-edited another volume entitled *Advances in Structural Engineering*, Quest Publications, Mumbai, 2000 (ISBN 81-87099-08-9).

He served a term on the editorial board of *Computational Mechanics – An International Journal* and currently serves on editorial boards of 5 international journals: *Structural Engineering & Mechanics - An International Journal* [Techno-Press, South Korea], *International Journal for Computational Methods in Engineering Science and Mechanics (CMESM)* [Taylor & Francis], *Computer Modeling in Engineering & Sciences (CMES)* [Tech Science Press], *Advances in Civil Engineering* [Hindawi Publishing Corp.] and *International Journal of Computational Methods* [World Scientific]. He was Editor of *Advances in Civil Engineering* and Editor of *Engineering & Technology Section* of the *Proceedings of the Indian National Science Academy (ProclNSA)*.

His sustained efforts for over 10 years resulted in establishment of an interdisciplinary research centre, Centre for Computational Engineering and Science (CCES) at IIT-Bombay [www.cces.iitb.ac.in] on 8th October 2018 with generous financial support from the Department of Atomic Energy (DAE) through Board of Research in Nuclear Sciences (BRNS). This unique facility is a kind of national facility; it's resources can be accessed through network from anywhere in the country. He has influenced many of his colleagues in several Institutes to contribute substantially to this area.

He was elected President of the Indian Society of Theoretical and Applied Mechanics (ISTAM) for two terms (1999 and 2000), **has founded Indian Association for Computational Mechanics (IndACM) and Indian Association for Structural Engineering (IASE) and is responsible for organization of biennial ICCMS (International Congress on Computational Mechanics and Simulation) and SEC (Structural Engineering Convention) congresses in the country very successfully.** Both these conferences are research oriented and has influenced many young researchers, mainly the PhD students of IITs, to do quality research and publish their research results in peer reviewed reputed journals. He was an INSA nominated Member on the National Committee of International Union of Theoretical & Applied Mechanics (IUTAM) for two, 3 year terms: July 2000-June 2003 and January 2008-December 2011. He was also a Member of the General Assembly of IUTAM until 2012. He was a Member of Engineering & Technology Sections of both INSA and IASc for several years and later also became their convener. Presently, he is a Council Member of INSA for a three year term (2020-2022).

Besides his scholarly and notable scientific publications in computational solid mechanics, he has displayed leadership initiatives and has made long and sustained contributions in the field for over 50 years and is recognized as **"the face of India"** in computational mechanics. **He is also responsible for convincing a donor, Mr. Jitendra Mehta, a 1963 alumnus and a successful civil contractor in California, USA, for creation of the first endowed Chair in the department – the JK & MJ Mehta Chair. He also mobilized more than Rs. 1.15 crore through small donations/ contributions from his former students (alumni), friends in the industry and his own personal funds for creation of an unique endowed Chair in the department.** He has been honoured with several National and International awards for contributions to computational engineering, solid and structural mechanics and composites. Only and first Indian academician-scientist to have been invited to give a Semi-Plenary Talk at the world famous WCCM-APCOM (2016, Seoul, South Korea) international computational mechanics conference.

Through a Technology Transfer scheme of IIT Bombay, the outcome of his research on Composite Mechanics has been ported on PARAM systems of C-DAC Pune in the form of a computer code FEMCOMP which is being used by several organizations including IITs in the country and Russia.

He has been on the Advisory Panels of many national and international conferences. He has lectured at several universities and research institutions and has participated in numerous conferences and seminars both within and outside India. He was the Convener of a very successful International Conference on Finite Elements in Computational Mechanics held in 1985 (FEICOM-85) at Bombay. He was also General Chairman of SEC-2000: 2nd Structural Engineering Convention held on 5-8 January 2000 at IIT-Bombay and Chair of ICCMS09: 3rd International Congress on Computational Mechanics & Simulation held on 1-5 December 2009 at IIT-Bombay. He is listed in several Who's Who in the World.

He is a Fellow of The Institution of Engineers (IE) and The Aeronautical Society of India (AeSI), a Member of International Association for Computational Mechanics (IACM) and Life Members of The Indian Society of Theoretical and Applied Mechanics (ISTAM) and Indian Society for Technical Education (ISTE) and Founder Life Member of International Society for Computational Engineering and

Science (ISCES), Fellow of Indian Association for Computational Mechanics (IndACM) and Fellow of Indian Association for Structural Engineering (IASE). He is also a nominated Fellow of The World Innovation Foundation (U.K).

His research interests lie in the areas of solid mechanics, plates, shells, fibre reinforced polymer composites, refined higher-order theories, thermal stresses, transient dynamics, finite element and other numerical methods, use of polymer composites in construction, mechanics of composite materials and structures & computational mechanics.

He is a consultant to many leading government and private organizations and serves on many national and state research/ advisory/ policy/ selection committees and is a member of several national and international bodies.

Besides, being a Professor Emeritus (for life) at IIT Bombay, he is presently a Visiting Distinguished Professor at IIT Mandi and an Adjunct Professor at both IIT Indore and IIT Hyderabad.

Notable Contributions to IIT Bombay Society/Community at Large

His personal initiatives as a departmental faculty member led to the following:

1. Got fabricated strong & durable blocks (500 x 500 x 150) in M35 concrete in Heavy Structures' Lab to make an environmentally friendly pathway over the green lawn to connect the civil engineering corridor to the existing concrete roadway to avoid people going over the lawn in mud during monsoon.
2. The areas over two staircases in the department were open to sky. During monsoon the stairs' steps used to become wet and slippery. A number of students and staff members used to slip and get injured during monsoon. His personal initiative with the estate office led to the covering of the area with transparent corrugated fibre reinforced plastic sheets at the roof level. Other departments followed suit seeing this development in the civil engineering.
3. There were two toilet blocks on the ground floor near the stairs. Due to neglect and less usage by the department's staff and students, they were eyesores to any visitor to the department. Got them demolished during nineties with the support of then head of department and few faculty members. There were some opposition in the department due to now absence of no toilet blocks on the ground floor because a person on the ground floor had to climb up one floor up to use a toilet block. In the process also got a new unique central entrance to the department. Ultimately, this change gave a new neat and clean look to the department and everyone accepted it.
4. Looked after general cleanliness and upkeep, especially the hygiene in the toilets of the department as a social service for several decades until he finally retired on 30th June 2016 after a five-year term of re-employment by Gol.
5. He is singly responsible for bringing-in internet in the department through his individual initiative in getting modest hardware in place through an enthusiastic student , Amitey, of aerospace department. He was responsible for developing a modern and top class computer laboratory in

the department, the only one in the Institute in nineties by enthusiastic participation of about 50 registered PhD students in the department at the time by maintaining a dust-free environment and keeping the computer laboratory open 24x7. Many students from other departments started making use of the facility in those days.

At the Institute level as Chairman of Central Library (1994-1999) and Dean-Planning (2001-2003) he showed his initiatives through dedication and hard work and introduced and carried out many innovations, some of which are listed below:

1. Almost immediately after I had taken over as Dean (Planning), on an evening I learnt that the Institute had won a case to evict a longtime encroacher who had a sizable amount of land behind C-Transit Building in the Institute in his possession since the Institute came in being in 1958. I decided to remain present on the site when the Executive Engineer (Estate) arrived along with his men on the site to demolish the old existing structure. I was told later by the Executive Engineer that my presence made a lot of difference to him and the Estate Office Staff who had arrived there and they could complete the job successfully without any resistance from the encroachers. The Estate Office was so elated that they could quickly close the broken boundary wall along the main Adi Sankaracharyya Marg with stone masonry work within few hours.
2. On the advice of a Consulting Architect, my predecessor Dean (Planning) had redesigned parking lot, the associated traffic movement around the Y-Point Gate and making entry into the campus through a steep road. Unfortunately, it had turned out to be very complicated and circuitous. There were a lot of complaints, including in an Institute Faculty Meeting, from the residents /faculty of the campus/Institute. The first job that I did after taking over as Dean (Planning) was to straighten the road by dividing the parking lot into two parts and reducing the steep slope of the road. People inside the campus felt a lot of relief after these simple common changes.
3. Introduced communication within and outside through internet e-mail facility in the Library. Though, IITB budget for library was quite good but still because of high cost of subscription of foreign journals, it was not possible to procure all the necessary journals in the Central Library for the benefit of research students and faculty. He rationalized the subscription of journals by various departments and research groups in the Institute through persuasion and communication, for the first time, by formal meetings of Librarians and Directors of all IITs and BARC which led to a written, workable and functional MoU for providing xerox copies of journal papers required by a user within a week in the consortium of IITs and BARC. This initiative worked very well for several years benefitting all at no extra cost till the Ministry of Human Resource Development (MHRD), formed a consortium, of all higher educational institutions for centralized procurement of journals.
4. He introduced, for the first time in the country, submission of electronic version (.pdf copies) of PhD theses and MTech dissertations to Central Library for archival purpose by the graduating students themselves, at no extra cost to the Institute, through a well-defined procedure by presenting his proposal to the Institute Senate. In this entire process the then Director Prof Suhas P Sukhatme played a very positive encouraging role.
5. When he took over as Dean-Planning in December 2001, the planning of Hostels 12 & 13, of about 1000 plus single seated rooms, was on the drawing board and was awarded to Larsen & Toubro Construction Company as a turnkey project, for the first time, as an experiment. This

was necessitated due to acute shortage of hostel accommodation for students. Right from the start of the construction, a number of objections/ stop-work notices were received from the Municipal Corporation of Greater Mumbai (MCGM) due to shoddy approvals of Architect M/s Hafeez Contractor and non-involvement of our estate engineers in the matter. He had to get these objections overruled through urban development department of the Government of Maharashtra (GoM) and at MCGM Municipal Commissioner's level through his personal contacts/ friends in GoM. He never brought these issues to the notice of his Director because he always felt that having taken the responsibility of the position of Dean-Planning it was his duty and responsibility to resolve these issues at his level. This megaproject of two big hostels of the size never taken in the Institute before along with creating a dining facility of 1000 + 1000 students at a time was a big challenge and to the surprise of everybody it could be completed in a record time of 18 months from the date of the issue of the contract.

6. IIT Bombay campus had hardly had any footpath in existence. During summer of 2002, he visited USA to attend a conference. He took the opportunity of visiting his son for a week who was then in San Diego, California. He started going out for his morning walks on the footpaths along the roads there. He was impressed by the simple and neat construction of footpaths in white cement concrete there. On return from there, he asked the Executive Engineer (Estate) of IIT Bombay Mr Vivek B Mamdapur and his assistant Mr Unnithan to let him know the possible length of footpaths in the campus if one goes for constructing these. They asked him if they could also include the open storm water drains along the road sides which existed then. His response was yes, if they could only design proper prefab covers so that people could walk on it without tripping. The estimated length came out to be about 20 Kms. It was decided to have a standard cross-section of 1500x150 for most of the footpaths except the one from the main building to Hostels 12 & 13 to have a cross-section of 2000x150, all in M25 cement concrete with broom finished top surface, so that students in groups could walk safely and freely on it. It was decided to tender the entire lot in three segments so as to ensure that the three contractors complete the job simultaneously in a record time of about 12 months. Road widening across the campus was also undertaken along with footpath construction. These footpaths turned to be not only safe for walking but have also turned out to be durable that even after more than twenty years they are intact. Incidentally, it was tried to propagate the same model for MCGM and MMRDA by persuading their engineers to follow and implement but have failed. They have continued with their interlocking concrete blocks/ tiled surface footpaths which no sooner are they built their blocks/ tiles start coming out making the top surface unfit for safe walk or a safe wheel chair movement. Their engineers have their own interest in mass demolition and reconstruction year after year without worrying about waste of public money.
7. There used to be scarcity of water during summer months for gardening. The water from the two abandoned wells, one behind CTR building and the other near the Staff Club, were made use of for this purpose.
8. Lecture Theatre (LT), now called the PC Saxena Auditorium (PCSA) having a seating capacity of about 250, is an important place for meeting of all kinds – academic, social, conferences, etc. In the past its false ceiling had been seen falling down every now and then. One day a proposal from the executive engineer (estate) was received for approval by the Dean-Planning for bituminous waterproofing of its roof estimated to cost about 3.00 lakh. Instead of approving it, the Dean-Planning wrote on it "Please speak to me" and sent it back. When Executive Engineer Mr Mamdapur came to speak he was asked "how often do you go for waterproofing"? His response was "every two years or so" . I asked him to wait for some time. I asked Mr RN

Mukherjee, a retired Chief Engineer from Atomic Energy Commission who was hired temporarily to look after the construction of Hostels 12 & 13 to get a rough design and drawing of a corrugated aluminum sheet roof over it with light steel frame support system over the existing roof of the PCSA through the engineering staff of the local L & T site office. He brought a drawing after about a week. It was okay but did not give good look. In the meantime, Mr Hafeez Contractor visited me in connection the Hostels 12 & 13. I requested him if his architectural firm could provide a good aesthetic shape to the aluminum sheeting roof. He sent me after a few days a modified good looking curved surface shape. I froze it and asked Mr Mamdapur to go for it (a roof over roof concept). We got a contractor through open tendering who agreed to do it as a turn key project for a sum of Rs. 17.00 lakh. Fortunately, this experiment turned out to be very successful and the roof is still intact without any maintenance even after 21 years (now in 2021) and keeping the fully furnished PCSA in safe and good condition.

9. The new building of the Department of Aerospace Engineering (DAE) which came up around 1980 when there was an acute shortage of cement and the state's Chief Minister was one Barrister, Mr Antulay. The initial structural construction of this building is very bad. It started showing signs of distress just after it was constructed. The building has a large number reinforced concrete beams of about 40 feet span and depth of about 1.0 meter. Extensive cracks were seen in these beams and concrete had started falling on the floor. External Consultants suggested repairs with either polymer modified mortar (PMM) or attachment of a 4 mm thick steel plate with polymer in the tensile zone at the bottom face of the beam. Both these solutions were very expensive. Fixing a steel plate was in fact tried out but after some time it was seen to delaminate. Estate office was busy finding a durable solution. The issue of repairs of these beams was brought out before me while I was the Dean-Planning. I was aware of the problem because of my very close association with the DAE. I had suggested some repairs with simple mix of 1:2:4 with small size aggregates in the past in NITIE in repairs of their buildings and that had turned out to be simple, inexpensive and durable. The reason for suggesting 1:2:4 mix was that because the original concrete used was of the same mix. Luckily, the main reinforcement in the beams had not corroded at all. They were all mild steel bars. I requested my colleague in the department, Prof Yogesh Desai to help me out in this project. The main reinforcements were found to be adequate in the existing structure by design. The quality of concrete was bad. We suggested a solution which was not only inexpensive and simple but which also turned out to be durable. The original concrete used was M15 (1:2:4 by simple proportion by volume of cement: sand: aggregate). We suggested that all the loose concrete be removed from all the three faces of the beams and replaced with mortar of the same mix but with small size, < 20 mm, aggregates. All the beams that were repaired with the above methodology did not require any further repairs even after 20 years (2021) and the DAE was rehabilitated satisfactorily.
10. On a field visit with the Institute executive engineer (estate) and his staff, I as Dean-Planning found that the area lying between the guest house and the main road was kept in a very untidy condition. The land was undulated with full of shrubs and pond was very dirty and shallow. I asked the staff to get the pond desilted and the shores paved with natural stones and get the entire area cleaned up and leveled. The open area automatically got converted into **Guest House Lawn** with very good natural ambience. I, as Dean-Planning, requested Mr Mamdapur, sometime in November 2002, who was the Social/General Secretary of the Staff Club, to host the Annual Staff Club Dinner Night in the lawn and we introduced this new facility to the campus community. This place now remains in great demand for functions with catering facility

for large gatherings like conferences and marriages. This community facility fetches a decent sum of money to the Institute.

11. The open area in front of the White House building and abutting Powai Lake fringe road had remained undeveloped until middle of 2001 although White House came up in around 1984. The desilting of the pond in front of the Guest House was a blessing in disguise. The silt from the pond was dumped here to level the area and with the help of Estate Officer Mr Mamdapur we got the entire place converted into a beautiful **Sarovar Udyan** by constructing a jogging track, carving out a children's playing area with modest facility and a small garden.
12. The open area between CTR building and the old multistorey building had a diagonal storm water drainage line coming from outside the Institute boundary in from of the HP Petrol Pump making the entire area unusable for anything useful. I, as Dean-Planning, got the outside drain along the road connected to another existing storm water drain beyond the Old Multistorey Building, making the large parcel of area useful. It is a pity that it is still lying unutilized. If I had continued as Dean-Planning and had not resigned about one year before my term was to end, then I would have got this beautiful piece of land converted into a much more beautiful garden for the residents of the campus to enjoy.
13. There existed only one sewage water pumping station behind Hostel-8 from where it used to be lifted and drawn into the far off main municipal drainage line near Y-point. This pumping station was under tremendous stress and there have been instances of overflowing sewage especially within the Staff Club premises and along the lake fringe road near the guest house. Based on the topography of the drainage lines and after a thorough study, I, as Dean-Planning, took a decision to install a second pumping station in the lake side area and discharge the sewage directly to the nearby municipal line running along the Adi Sankaracharya Marg. This timely action helped in reducing the excessive pressure on the old pumping station behind Hostel-8 and situation improved considerably.
14. Like shortage of hostel rooms for students, the Institute also realized that it lacked faculty housing for the expanding institute. I along with the chosen Architect and the Estate Engineer Mr Mamdapur surveyed the entire institute land for the new housing complexes. To our surprise we found that there was hardly any space available for a large 60 B-type housing complex unless we chose to go for vertical development. By year 2000, the Institute had already given away about 110 acres to NITIE and another very significant and important land pieces in recent years to SAMEER and Kendriya Vidyalaya, there was hardly anything left for future development of the Institute unless we decided to go on the other side of the pipeline and reclaim our land from the encroachers. We managed to locate two parcels of land, one between Vidya Niwas and SAMEER and the other on the hilltop behind Tulsi apartments and two C-type multistorey buildings on the hill side. We decided to construct 60 flats in a building, first of its kind in the campus, with stilt plus 16 upper floors, one floor reserved as a refuse one and each floor having 4 flats of about 1200 sft carpet area each. M/s Hafeez Contractor presented to us 3-4 internal layout of the flats but none of our liking. In the mean time I happened to visit my niece in Pune and I liked the internal layout of their flat. On return from there, I passed on a sketch of the internal layout of flat that I had seen in Pune to the Architect. M/s Hafeez Contractor came up with a revised layout based on the sketch and it was liked by our internal committee that we had formed for this building. And finally the design of the entire building was frozen after getting feedback from the campus community. Lumpsum tenders along with market rates for the item (a lesson learnt from Hostels 12 &13 contract which had no rates of the items) were invited and the contract was awarded to M/s Larsen & Toubro and the

construction started in the second half of 2002. I took part in the Bhoomi Pujan function and continued to look after this construction until foundation work was completed. We had to get one footing demolished completely because of the poor quality of RMC that was used for its construction. I feel sad that I could not see the completion of this project, though I conceived, planned and started it from scratch, because I resigned from the deanship in December 2002 due to a conflict with the then Director.

15. Renovation, expansion and redesigning of eating halls of mess and kitchen areas of Hostels - 6, 7, 10, etc., necessitated by increased students' strength, had been done before I took over as Dean (Planning) by employing Architect Mr. Hafeez Contractor. However, we found that the experience of students and mess staff after these renovations, was not very good. Similar renovation, alteration of mess, kitchen, complete re-casting of roofs of kitchen areas of especially Hostels 9 and 11 due to their deterioration beyond repairs, expansion and construction of additional recreational facilities were required in several other hostels. We decided to take-up these works without employing external Architect and Consulting Engineers. I, as Dean (Planning) took the Estate Office in confidence. With the help of a Hostel Mess Renovation Coordination Team ably led by Prof. S.S. Major of Physics Department and full involvement of the estate office led by Executive Engineer Mr V.B. Mamdapur, the mammoth work of planning, design, drawing, construction, finishing and execution could be taken up in one go totally internally without the involvement of an external Architect and Consulting Engineer, at a cost of about 5.00 Crore, for Hostels 1, 2, 3, 4, 5, 9 and 11 for the first time in the history of IITB through civil contractor M/s Larsen & Toubro, who were already present in the campus and were winding up their set-up after completion of two new Hostels 12 and 13. This successful completion of a mammoth job instilled a lot of confidence in the engineering staff of the estate office of the Institute who were until then involved with only maintenance jobs..
16. The upkeep and maintenance of Institute buildings including housekeeping was not at all satisfactory before I took over as Dean (Planning). I impressed upon the Public Health Officer, Mr. Bhagwan Patil, to employ several dedicated house-keeping agencies, through open tenders, for different buildings with emphasis on total cleanliness and hygiene of entire premises with extra emphasis on toilet blocks' cleaning. The system has succeeded and is continuing even today after a period of over two decades. However it needs proper supervision and monitoring and finally evaluation.
17. For speedy, quality, economical and durable civil maintenance works in academic, residential and hostel areas, enlistment of good contractors for Annual Maintenance Contract by constituting a Task Force of experienced faculty members of the department of civil engineering, though an experiment, was successful.

All the above could be achieved by involving all the stake holders - the Institute functionaries, Heads of Departments, Hostel Wardens, Estate Office led by Mr. V.B. Mamdapur, Public Health Office led by Mr. Bhagwan Patil, Electrical Maintenance Division led by Mr. Subbiah, departmental esteemed colleagues and others in the campus and creating an environment of mutual cooperation and trust.

Research Contributions of Professor Tarun Kant of IIT Bombay

Professor Kant developed interest in computational methods of structural analysis and theories of plates and shells during his Master's study at IIT Kanpur during 1967-'69. His MTech dissertation, which tackled clamped-clamped and clamped-simply supported boundary conditions over curved edges and free conditions over the longitudinal edges of a single and multi-barrel cylindrical shell, quite effectively encouraged him to write his first technical paper and publish which also earned him an award.

Professor Kant was quite ahead of his time when he chose the difficult topic of elastic shells and initiated research on two dimensional (2D) higher order theories for predicting realistic behavior of thick three dimensional (3D) physical shells discarding most of the assumptions in the classical Love shell theory [Ref. Kant, T. (1976), *Thick Shells of Revolution-Some Studies*. Ph.D. Thesis, Indian Institute of Technology Bombay; Kant, T. and Ramesh, C.K. (1976), *Analysis of thick orthotropic shells*, in Proc. IASS World Congress on Space Enclosures, Montreal, Canada, 4-9 July, pp. 401-409]. During the course of this study, for practical analysis, he developed and perfected a numerical integration (NI) technique involving the so-called *segmentation* which could capture the boundary layer effects inherent in the shell equations [Ref. Kant, T. and Ramesh, C.K. (1981), *Numerical integration of linear boundary value problems in solid mechanics by segmentation method*, *International Journal for Numerical Methods in Engineering* **17**, 1233-1256]. Later, he improved on his earlier work and extended it to include composite materials by improving the fundamental deformation models [Ref. Kant, T. (1981), *A higher-order general shell theory*, Rep. C/R/391/81, University of Wales, Swansea; Kant, T. (1981), *A higher-order general laminated shell theory*, Rep. C/R/395/81, University of Wales, Swansea]. These developments were not only significant but are now regarded as pioneering works in the then nascent area of higher order theories of elastic beams, arches, plates and shells – a renaissance, a new beginning in the development and more important, the quantification of the improved response behaviour in the structural elements with higher-order theories.

One of his PhD thesis examiners, Dr. MVV Murthy [of National Aerospace Laboratories (NAL) Bengaluru] got so much influenced by the work that later, as a NASA Fellow, at the NASA Langley Research Centre, wrote a technical note on composite plates that became a forerunner for future research in the area. Later, Prof. Kant got interested in the mechanics of multilayered fibre reinforced polymer composites (FRPCs) and finite element (FE) modelling. A laminate is a multilayered composite made up of several individual layers (laminae), in each of which the fibres are oriented in a predetermined direction to provide efficiently the required strength and stiffness parameters. Development of two dimensional (2D) accurate plate/ shell analytical models, of these physically three dimensional (3D) laminates, has been an area of active research since early 1960s. Prof. Kant has made significant pioneering contributions to the mechanics of FRPCs which has led to better understanding of their behaviour. Realizing the importance of application of these new materials in high technology areas, he initiated a systematic research effort, way back in the year 1980, towards development of both continuum and discrete FE higher order deformation models for improved response characteristics of the laminates in the form of beams, plates and shells. He was the first to derive the consistent mathematical model, based on a displacement based variational principle, for a C^0 higher order plate theory [Kant, T. (1982), *Numerical analysis of thick plates*, *Computer Methods in Applied Mechanics and Engineering* **31**, 1-18]. These efforts were initially directed towards construction of simple C^0 FEs for applications to real life problems. His demonstration of C^0 FE formulation of higher order displacement theories is considered as a pioneering work by his peers and is now being extensively used [Kant, T., Owen, D.R.J. and Zienkiewicz, O.C. (1982), *A refined higher-order C^0 plate bending element*, *Computers and Structures* **15**, 177-183]. He and his co-workers have clearly demonstrated the application of these analytical and computational models to a variety of problems in structural engineering. **He also busted a myth prevalent around the so-called a parallel C^1 formulation for plates in which the free surface conditions are additionally enforced by numerically showing that their C^0 formulation produced most accurate results for displacements and stresses** [Kant, T. and Swaminathan, K. (2002), *Analytical solutions for the static analysis of laminated composite and sandwich plates based on a higher order refined theory*, *Composite Structures* **56**, 329-344]. The accuracy of their C^0 model over C^1 model has also been independently confirmed [Ref. Rohwer, K. (1992), *Application of higher order theories to the bending analysis of layered composite plates*, *International Journal of Solids and Structures* **29**, 105-119; Rohwer, K. and Rolfes, R. (2004), *Stress analysis of laminated structures from fiber-*

reinforced composite materials, Proc. International Congress on Computational Mechanics and Simulation 2004 (ICCMS2004), Vol. 1, IIT Kanpur, 21-42]

Most plate/shell theory solutions in neighbourhood of the boundary are very sensitive to boundary conditions; the solutions vary sharply in the edge zones. This is called boundary layer effect which is present in the solutions of the exact 3D formulations and thus it is a reality. Unfortunately, FE method was not suitable for capturing such steep stress gradients while the experience with the NI technique for such evaluations was extremely encouraging. **Recently, Prof. Kant and his associates have shown, for the first time, the effectiveness of a new partial/semi discretization methodology through marriage of FE and NI approaches** specifically for evaluation of interlaminar stresses in layered composites **and in general indeed an unique semi discretization method, for equilibrium problems** [Kant, T., Pendhari, S.S. and Desai, Y.M. (2007), A general partial discretization methodology for interlaminar stress computation in composite laminates, *Computer Modeling in Engineering & Science* **17**(2), 135-161].

The papers written by Prof. Kant and his associates give not only the mathematical models but also describe the powerful FE computational models as well as the analytical methods for the thermo-mechanical-piezoelectric behaviour of fibre reinforced composite/ functionally graded laminates used in the form of beams, arches, plates and shells for the three types of analyses, i.e., equilibrium, eigenvalue and transient, encountered in practice and in a significant way, highlight the research contributions made to the scientific literature by Professor Tarun Kant and his associates.

Referees

Professor J. Tinsley Oden
Founding Director
Oden Institute for Computational Engineering and Sciences (OICES)
The University of Texas at Austin
Austin, Texas 78712-1229, USA
oden@oden.utexas.edu

Professor Romesh C Batra
Clifton C Garvin Distinguished Professor
Dept of Biomedical Engineering & Engineering Mechanics
VirginiaTech, Blacksburg, VA 24061, USA
+1 540 818 8878; rbatra@vt.edu

Professor Somnath Ghosh
Michael G Callas Chair Professor
Dept of Civil & Systems Engineering
Johns Hopkins University
Baltimore, MD 21218, USA
sghosh20@jhu.edu

Professor P Nithiarasu
Zienkiewicz Centre for Computational Engineering
College of Engineering
Swansea University Bay Campus
Fabian Way, Swansea, SA1 8EN, UK
p.nithiarasu@swansea.ac.uk; pnithiarasu@gmail.com

Professor Tarun Kant

Awards and Recognitions

1975:	Burmah-Shell Best Paper Prize by The Aeronautical Society of India.	--National
1979:	Jawaharlal Nehru Memorial Trust (UK) Scholarship by the Government of India.	--National/ International
1993:	European Commission (EC) Senior Faculty Exchange Fellowship by the Government of India.	--National/ International
1995:	PARAM Second Prize award in the category of scientific & engineering applications by the C-DAC Awards Committee for the work entitled Parallel Finite Element Based Composite Analysis Package on PARAM.	--National
1999:	Elected a Fellow of the Indian National Academy of Engineering (INAE).	--National
2004:	Elected a Fellow of the Indian Academy of Sciences (IASc).	--National
2007:	IIT Bombay conferred the 2006 Professor HH Mathur Award for excellence in research in applied sciences in recognition of his outstanding work in the area of mechanics of composite materials and structures.	--National
2007	Elected a Fellow of the Indian National Science Academy (INSA).	--National
2009:	Khosla National Award for his life time achievement in the field of engineering by the Indian Institute of Technology Roorkee.	--National
2010:	IIT Bombay research paper award.	--National
2011:	Elected a Fellow of the National Academy of Sciences, India (NASI)	--National
2012:	IIT Bombay conferred the 2011 Life Time Achievement Award.	--National
2013:	ICCS17 (17 th International Conference on Composite Structures, Porto, Portugal, 17-21 June 2013) honoured him with a <i>title legend</i> and recognized him as a pioneer in initiating a new direction in mechanics of composites.	--International
2013:	Received <i>APACM Senior Scientist Award</i> of the Asia Pacific Association of Computational Mechanics (APACM): awarded on 12 December 2013 during APCOM2013 in Singapore.	--International
2015	ICCES (International Conference on Computational and Experimental Engineering and Sciences) awarded the Lifetime Achievement Award Medal – 2015 in Reno, Nevada, USA on 23 July 2015 for making seminal contributions to composite materials and to the education of generations of students in India.	--International
2017	IIT Bombay honoured him with the title of Professor Emeritus on 27 Sept. 2017	--National

2018	Birla Institute of Technology & Science, Pilani honoured him with Life time achievement award on 26 February 2018	-National
2019	INSA <i>Professor Brahm Prakash Memorial Medal 2019</i> [Lecture was delivered on 15 th September 2021 at IIT Delhi where medal and citation were received]	-National
2020	<i>Prof Tarun Kant Endowed Chair Professorship</i> was established in department of civil engineering of IIT Bombay on 19 th March 2020	- National
2020	Placed at Rank No. 651 in the top 0.3659% globally in the research field of "materials" in the list of Top 2% global scientists in various fields published by Stanford University in November 2020.	-- International
2021	Vasvik Award for Mechanical & Structural Science & Technology for the year 2020	- National

Professor Tarun Kant

Date of birth: 1 July 1946

Place of birth: Ballia (Uttar Pradesh), India

Parents' names: (Late) Shambhu Nath and (Late) Krishna Devi

Education

High School	1958	Queen's College, Varanasi, UP Board
Intermediate	1960	KE Govt Inter College, Deoria, UP Board
BSc	1962	Allahabad University (Phy, Chem & Maths)
BTech	1967	IITBombay (Civil Engg with Honours)
MTech	1969	IITKanpur (Structural Engineering)
PhD	1977	IITBombay (Thick Elastic Shells)

Employment

March 1969 - August 1969	Research Assistant, IIT Kanpur
August 1969 - January 1971	Sr Design Engineer-cum-Programmer Builders' Associates, Consulting Engineer, Bombay
January 1971 - May 1978	Lecturer, IIT Bombay
May 1978 - May 1986	Assistant Professor, IIT Bombay
October 1979-September 1982	Visitor, University of Wales, Swansea, UK
May 1986 - June 2016	Professor, IIT Bombay
Feb 1993 – Sep 1993	Visiting Professor, Cambridge University, UK
July 2005 – December 2005	Visiting Professor, University of California, Los Angeles, USA
December 2009 – June 2011	Institute Chair Professor
July 2011 – June 2016	Professor (Re-employed)

July 2016 – December 2016	Emeritus Fellow
December 2016 – present	INSA Senior Scientist
September 2017 – Lifetime	Professor Emeritus (Honorary)

Major Administrative Responsibilities Held

Chairman, Joint Entrance Examination-1998 [JEE-98] (June 1997- September 1998)
 Chairman, Central Library Committee [1995 – 1999]
 Head of Department, Civil Engineering [8 March 2000 – 18 January 2002]
 Dean (Planning) of the Institute [18 December 2001 – 3 December 2003]

Significant Honours

- First engineering academic in the country to receive of the prestigious 1979 Jawaharlal Nehru Memorial Trust (U.K) Scholarship Award by the Government of India.
Visiting Faculty at the Department of Civil Engineering, University of Wales, Swansea SA2 8PP, United Kingdom under the auspices of the above from October 1979 to October 1982.
- Recipient of the 1992-'93 European Community (EC) Post-Doctoral (Senior) Fellowship Award by the Government of India.
Visiting Professor at Cambridge University Engineering Department, March-August 1993 under the auspices of the above exchange program.
- Elected a *Fellow of the Indian National Academy of Engineering (INAE)* in 1998.
- Elected a *Fellow of the Indian Academy of Sciences (IASc)* in 2003.
- Elected a *Fellow of the Indian National Science Academy (INSA)* in 2006.
- Recipient of *Professor H.H. Mathur IIT-Bombay Award of Rs. 1.50 lakh and a Citation for Excellence in Research in Applied Sciences* for the year 2006.
- Recipient of IIT Roorkee's *Khosla National Award 2009* of Rs. 51,000, a Citation and a Gold Medal for his Life Time Achievements in the field of Engineering.
- Recipient of *IIT Bombay Research Paper Award for the year 2010*. The award consists of a cash incentive of Rs. 20,000/- and a citation. In addition, the awardee is invited to submit a research proposal up to a maximum of Rupees Five lakhs which will be reviewed by IRCC for possible funding.
- *Elected a Fellow of The National Academy of Sciences, India (NASI)* in 2011.
- Recipient of *Life Time Achievement Award of IIT Bombay* in 2012.
- ICCS17 (17th International Conference on Composite Structures, Porto, Portugal, 17-21 June 2013) honoured him by calling him a *legend* and recognized him as a pioneer in initiating a new direction in mechanics of composites.

- Received *APACM Senior Scientist Award* of the Asia Pacific Association of Computational Mechanics (APACM): awarded on 12 December 2013 during APCOM2013 in Singapore.
- ICCES (International Conference on Computational and Experimental Engineering and Sciences) Lifetime Achievement Award – 2015 Medal for making seminal contributions to composite materials and to the education of generations of students in India at the Awards Function in Reno, Nevada, USA on 23 July 2015.
- IIT Bombay honoured him with the title of *Professor Emeritus* on 27 September 2017.
- Birla Institute of Technology & Science (BITS), Pilani honoured him with *Life Time Achievement Award* on 26 February 2018.
- Honoured with INSA's *Prof Brahm Prakash Memorial Medal 2019*.
- *Prof Tarun Kant Endowed Chair Professorship* was established in the department on 19th March 2020 with an endowment fund of Rupees 115 lakh donated by his students and well-wishers in the industry.
- Placed at Rank No. 651 in the top 0.3659% globally in the research field of “materials” in the list of Top 2% global scientists in various fields published by Stanford University in November 2020.
- Recipient of Vasvik Award for Mechanical & Structural Science & Technology for the year 2020

Other Honours

Research & Citation Standing in terms of h-index of 47 on GoogleScholar (35 on Web of Science, 40 on Scopus)

Total citations of over 8289 on GoogleScholar (4082 on Web of Science, 5113 on Scopus)

Elected *President* of the Indian Society of Theoretical and Applied Mechanics (ISTAM) for the year 1999.

Re-elected *President* of the Indian Society of Theoretical and Applied Mechanics (ISTAM) for the year 2000.

Nominated *Founder Life Member* of International Society for Computational Engineering and Science (ISCES)

Founded the Indian Association for Computational Mechanics (IndACM) on 1 January 2000.

Elected *Founder President* of the Indian Association for Structural Engineering (IASE) on 8 January 2000.

Nominated a member of the National Committee for International Union of Theoretical & Applied Mechanics (IUTAM) by the Indian National Science Academy (INSA) for a period of 3 years with effect from 1 July 2000.

Member of National Committee of IUTAM for a period of 4 years w.e.f. 1 January 2008 (constituted by INSA Council at its meeting on 4 October 2007).

Cited in most of the editions of *Marquis Who's Who in the World* which includes the biographies of most influential and important people in the international community.

Nominated for citation in the 2000 *Outstanding People of the 20th Century* published by the International Biographical Centre in Cambridge, England in late 1998 and in later years.

Nominated a Fellow of The World Innovation Foundation (U.K) in October 2001.

Member, General Assembly of IUTAM [2008 – 2012].

Member, Sectional Committee on Engineering and Technology, Indian Academy of Sciences (IAsC), Bangalore [2009 -2013].

Member, Sectional Committee on Engineering & Technology, Indian National Science Academy (INSA), Delhi [2012].

Convener, Sectional Committee on Engineering & Technology, Indian National Science Academy (INSA), Delhi [2013].

Member of the Governing Council of Dr. Fixit Institute of Structural Protection & Rehabilitation (DFI-SPR) since April 2011.

Member, Joint Science Education Panel of IAsC, INSA and NASI for Summer Research Fellowship (SRF) selections [2008-2014].

Convenor, Sectional Committee on Engineering & Technology, Indian Academy of Sciences (IAsC) [2016-2018].

Chairman, Board of Management, Physics Department, Mumbai University [2018-2020].

Only and first Indian academic-scientist to have been invited to give a Semi-Plenary Talk at world famous WCCM-APCOM (in 2016, Seoul, South Korea) International Congress.

Mentoring

Has mentored two post-doctoral, 3 post-graduate, and 6 under-graduate students of other institutions in their career path.

Awards

Recipient of the Burmah Shell Best Paper Award for a contribution in the Journal of The Aeronautical Society of India (1975).

Recipient of PARAM Second Prize Award in the category of Scientific & Engineering Applications on 1 April 1995 by the C-DAC Awards Committee for the work entitled *Parallel Finite Element Based Composite Analysis Package on PARAM*

Technology Transfer

Through a *Technology Transfer* scheme of IIT Bombay, the outcome of his research on *Composite Mechanics* has been ported on PARAM systems of C-DAC Pune in the form of a computer code FEMCOMP which is being used by several organizations in the country and Russia.

Endowment Fund

Raised single handedly an *Endowment Fund* of about 125 Lakh through small contributions from alumni, friends in industry and well-wishers of the department in a period of about 19 years with a view to establish an Endowed Chair.

Plenary/Keynote Talks at International Conferences

ICCS17 (17th International Conference on Composite Structures, Porto, Portugal, 17-21 June 2013)
ICCMS2016 (6th International Congress on Computational Mechanics & Simulation, Mumbai, 28 June -01 July 2016)
WCCM2016 (World Conference on Computational Mechanics, Seoul, Korea, 24-29 July 2016)
SEC2016 (Structural Engineering Convention 2016, SERC, Chennai, December 2016)
SEC2018 (Structural Engineering Convention 2018, Jadhavpur University, Kolkata, 19-21 December 2018)
ADMAT2019 (International Conference on Advanced Materials and Processes for Defence Applications, Hyderabad, 23-25 September 2019)
ICCMS2019 (7th International Congress on Computational Mechanics & Simulation, IIT Mandi, 11-13 December 2019)
ICRACEM2020 (International Conferenece on Recent Advances in Computational and Experimental Mechanics, IIT Kharagpur, 4-6 September 2020)

Establishment of a Centre for Computational Engineering and Science (CCES)

His efforts have helped in establishing a *Centre for Computational Engineering and Science (CCES)* for interdisciplinary research initially with the help of Department of Atomic Energy.

Members of Editorial Boards of Scientific Journals

Member, Editorial Advisory Board, Computational Mechanics - An International Journal (Retired).
Member, Editorial Board, Structural Engineering and Mechanics - An International Journal, Techno Press, Daejeon, Korea.
Member, Board of Editors, International Journal for Engineering Analysis and Design.
Member, Board of Editors, Computer Modeling in Engineering Sciences (CMES), Tech Science Press, Forsyth, GA, USA.
Member, Editorial Board, International Journal for Computational Methods in Engineering Science and Mechanics (CMESM).
Member, Editorial Board, Advances in Civil Engineering – An Open Access Journal, Hindawi Publishing Corp.
Member, Editorial Board, International Journal of Computational Methods, World Scientific, New Jersey.

Editor, Advances in Civil Engineering, Hindawi Publishing Corp.

Editor, Engineering & Technology Section of Proceedings of Indian National Science Academy (ProclNSA)

Participation in Conferences and Invited Talks

Participated and gave talks, including plenary and keynote, at several conferences, visited and lectured at universities and research laboratories within and outside the country including United Kingdom, France, Germany, Switzerland, United States, Canada, Thailand, Japan, Korea, Singapore, Australia, Hungary and Greece.

Experience

50 years of teaching & research experience. Supervised 27 PhD and 75 MTech students. Refereed over 95 PhD theses. Published over 160 technical papers in refereed international journals. Presented over 182 papers at national/ international conferences and which are published in conference proceedings.

Taught Engineering Mechanics, Solid Mechanics, Structural Mechanics, Matrix & Finite Element Methods, Computational Mechanics and Design courses to undergraduate students.

Taught Numerical Methods, Plates, Shells, Finite Element Methods, Elasticity, Nonlinear Analysis and Stability courses to postgraduate students.

Organized short term courses on *Numerical Analysis of Plates and Shells* on 9-28 May 1977, *Finite Element Methods* on July-September 1996 and 1-5 December 1997, an International Conference on *Finite Elements in Computational Mechanics* on 2-6 December 1985, the 2nd *Structural Engineering Convention (SEC-2000)* on 5-8 January 2000 and the 3rd *International Congress on Computational Mechanics and Simulation (ICCMS09)* on 1-5 December 2009.

Completed 10 major sponsored, over 50 consultation projects and a significant consultation project on finite element analysis of fibre reinforced composite laminates involving transfer of technology under which a FEMCOMP software is being marketed by C-DAC, Pune. Two on-going sponsored projects including an USIF funded one with an outlay of Rs 55.25 lacs over a period of ten years.

Member of Government Appointed Committees

Member of HighRise Committee appointed by Government of Maharashtra (June07-June10).

Member of State Expert Appraisal Committee (SEAC) constituted by Environment Department, Government of Maharashtra (7 July 2011-) on behalf of Ministry of Environment and Forest (MOEF), Government of India.

Member of Joint Technical Committee constituted by Government of Maharashtra under Resolution No. ENV-2011/CR-55/TC3 dated 30th June 2011 (July11- Dec11) for Mumbai feasibility of western coastal road in Mumbai.

Member of the Building Sub-Committee of Reserve Bank of India (2013-2017).

Professional Affiliations

Fellow, The Institution of Engineers

Fellow, The Aeronautical Society of India

Member, The Indian Society of Theoretical & Applied Mechanics

Member, The Indian Society for Technical Education

Founder Member, Indian Association for Structural Engineering

Founder Member, Indian Association for Computational Mechanics

Member, International Association for Computational Mechanics

Founder Member, International Society for Computational Engineering and Science

Reviewer, International Journal for Numerical Methods in Engineering, Finite Elements in Analysis & Design,

International Journal of Solids and Structures, Journal of Sound and Vibration, European Journal of Solid

Mechanics: A Solids, Communications in Applied Numerical Methods, Engineering Computations: An

International Journal, Composites Engineering, International Journal for Engineering Analysis and Design,

ASME Journal of Applied Mechanics, Structural Engineering and Mechanics - An International

Journal, Computational Mechanics, Journal of Partial Differential Equations, SADHANA, Proceedings of INSA,

Advances in Civil Engineering – An International Open Access Journal, etc.

Executive Committee Member, The Aeronautical Society of India (1985-'86)

Hon. Secretary, The Aeronautical Society of India (1986-'94) Bombay Branch)

Vice President, The Aeronautical Society of India (1994-'95) Bombay Branch)

Committee Member: Research Council of Structural Engineering Research Centre, Madras (1991-94), Building and Works Committee, National Institute of Industrial Engineering, Bombay 1994-present, VASVIK Awards Selection Committee (1993-1999, 2011-present), AERB Safety Research Programmes (2000-present), Expert on the Selection Committees for faculty appointments of IITs at Delhi, Guwahati, Kanpur and Madras and universities/NITs at Bombay, Nagpur and Indore. Advisory Board Member of many national and international conferences, Chairman/Member of several AICTE-NBA accreditation committees, Member of many UPSC committees, Member of high powered High Rise committee of Government of Maharashtra (2006-'10), Member of a DST committee, Member of Sectional Committee of Indian Academy of Sciences (2008-present), Member of IUTAM General Assembly, Member of the Promotions and Assessment Committee (PAC), Indian Institute of Science Bangalore (2014-2017), Member of the Sectional Committee of INSA (2012-present), Convenor of the Sectional Committee of INSA (2013-present), Member of Sectional Committee of IASc (2012-2018), Convenor of Sectional Committee of IASc (2016-2018), Chairman of Board of Management of the Physics Department of Mumbai University (2018- present).

Academic Administration

Coordinator, Illyr seminars	1972-'74
Coordinator, Illyr works and visits	1971-'73
Member, Departmental UG Curriculum Development Committee	1972-'73
Member, Departmental PG Curriculum Development Committee	1973-'74
Faculty Adviser, UG Programme	1973-'78
Coordinator, BTech Projects	1974-'75
Member, Institute's First Accommodation Advisory Committee	1975-'77
Secretary, Departmental Faculty Meetings	1977-'78
Incharge, Heavy Structures' Laboratory	1977-'79, 2007-'08
Coordinator, Structures' Group Laboratories	1978-'79
Faculty Adviser, PG Programme	1983-'84
Member, Departmental committee charged with the task of preparing a report on rotating heads of departments	1984
Member, Departmental Staff Student Committee	1984-'85
Incharge, Departmental XEROX Facility	1984-'93
Secretary, Departmental Faculty Meetings	1984-'85
Member, Departmental committee charged with the task of preparing a report on administrative reforms in IIT-B	1985
Member, Departmental UG Committee	1986
Member, Departmental PG Committee	2009, 2011
Member, Departmental Staff Student Committee	1986-'87
Faculty Adviser, PG Programme	1986-'88, 2007-
Coordinator, Structures' Group	1977-'79, 1986-'88, 2007-
Incharge, Experimental Mechanics Laboratory	1986-'88, 1997-'99, 2003-'05
Departmental Coordinator for Central Computing Cyber System	1987-'93
Member, Institute Committee for Tendering - Building & Works	
Member, Energy Systems Interdisciplinary Group	1989-'95
Convenor, Departmental Coordination Committee for Civil Works	1992-'95
Member, Accommodation Advisory Committee	1993-'95
Member, Institute's Training & Placement Committee	1994-'96

Chairman, Central Library Committee 1995-1999. Responsible for introducing Journals' Resource Sharing amongst BARC, IITs and TIFR. Also instrumental in the introduction of submissions of dissertations and theses in electronic form ETD.	1995-'99
Convenor and Incharge, Departmental Computing and Communication Facility Revamped and developed the Departmental Computer Laboratories for UG-PG, RS and Faculty	1994-'98
Convenor of a committee to give recommendations for staff structure to provide administrative and technical support at the departmental level	April 1995
Chairman, Joint Entrance Examination	1998
Head of Department	2000-2002
Member, Institute Committee for Parking of 2 & 4 Wheeler Vehicles in in the Campus	2001
Member, Institute Task Force for the Restoration of the Glory of the Powai Lake	2001
Dean (Planning)	2001-2003
Member/Convenor, Senate Nominations Committee	2006-2009
Member, IRCC Advisory Committee	2005-pres
Member, IRCC Awards Committee	2006-2008
Convenor, Department Review Committee	2008-2009
Incharge, Heavy Structures' Laboratory	2007-2008
Structures'Group Coordinator	2007-2010
Chairman, IRCC Awards 2007 & 2008	2009-2010
Member of Infrastructure Planning Advisory Committee	Jan2010-
Member, Department UG Program Review Committee	2012-2013
Member, Higher Academic Grade (HAG) Evaluation Committee	2011

Corporate Activities

General Secretary, Hall-4, IIT-K	1968-1969
General Secretary, Staff Hostel, IIT-B	1971-1974
Joint Secretary, First Executive	1976-1978
Committee, Faculty Forum, IIT-B	1980-1982
Member, Executive Committee, Swansea & Overseas Society	1985-1987
Secretary, Faculty Forum, IIT-B	1986-1987
Vice President, Staff Club, IIT-B	1994

Professor Tarun Kant

Papers in Refereed Journals

1. Kant, T. and Setlur, A.V. (1973), Computer analysis of clamped-clamped and clamped supported cylindrical shells, Journal of The Aeronautical Society of India 25, 47-55. RECIPIENT of BURMAH SHELL PRIZE Award
2. Ramesh, C.K., Kant, T. and Jadhav, V.B. (1974), Elastic analysis of cylindrical pressure vessels with various end closures, International Journal of Pressure Vessels and Piping 2, 143-154.
3. Kant, T. (1978), Stress analysis of pressure vessels, Chemical Age of India 29, 319-322.
4. Kant, T. and Ramesh, C.K. (1981), Numerical integration of linear boundary value problems in solid mechanics by segmentation method, International Journal for Numerical Methods in Engineering 17, 1233-1256.
5. Kant, T. (1981), Numerical analysis of elastic plates with two opposite simply supported ends by segmentation method, Computers and Structures 14, 195-203.
6. Kant, T. (1982), Numerical analysis of thick plates, Computer Methods in Applied Mechanics and Engineering 31, 1-18.
7. Kant, T., Owen, D.R.J. and Zienkiewicz, O.C. (1982), A refined higher-order C^0 plate bending element, Computers and Structures 15, 177-183.
8. Kant, T. and Hinton, E. (1983), Mindlin plate analysis by segmentation method, ASCE Journal of Engineering Mechanics 109, 537-556.
9. Kant, T. and Kulkarni, P.B. (1986), A C^0 continuous linear beam/bilinear plate flexure element, Computers and Structures 22, 413-425.
10. Pandya, B.N. and Kant, T. (1987), A consistent refined theory for flexure of a symmetric laminate, Mechanics Research Communications 14, 107-113.
11. Pandya, B.N. and Kant, T. (1988), A refined higher-order generally orthotropic C^0 plate bending element, Computers and Structures 28, 119-133.
12. Pandya, B.N. and Kant, T. (1988), Flexure analysis of laminated composites using refined higher-order C^0 plate bending elements, Computer Methods in Applied Mechanics and Engineering 66, 173-198.
13. Kant, T. and Pandya, B.N. (1988), A simple finite element formulation of a higher-order theory for unsymmetrically laminated composite plates, Composite Structures 9, 215-246.
14. Kant, T., Ravichandran, R.V., Pandya, B.N. and Mallikarjuna (1988), Finite element transient dynamic analysis of isotropic and fibre-reinforced composite plates using a higher-order theory, Composite Structures 9(4), 319-342.
15. Pandya, B.N. and Kant, T. (1988), Finite element stress analysis of laminated composite plates using a higher-order displacement model, Composite Science and Technology 32, 137-155.
16. Pandya, B.N. and Kant, T. (1988), Higher-order shear deformable theories for flexure of sandwich plates : finite element evaluations, International Journal of Solids and Structures 24(12), 1267-1286.
17. Kant, T. and Gupta, A. (1988), A finite element model for a higher-order shear-deformable beam theory, Journal of Sound and Vibration 125(2), 193-202.
18. Mallikarjuna and Kant, T. (1988), Dynamics of laminated composite plates with a higher-order theory and finite element discretization, Journal of Sound and Vibration 126(3), 463-475.

19. Kant, T. and Manjunatha, B.S. (1988), An unsymmetric FRC laminate C^0 finite element model with 12 degrees of freedom per node, *Engineering Computations* 5(4), 300-308.
20. Mallikarjuna and Kant, T. (1989), Free vibration of symmetrically laminated plates using a higher-order theory and finite element technique, *International Journal for Numerical Methods in Engineering* 28(8), 1875-1889.
21. Kant, T. and Mallikarjuna (1989), A higher-order theory for free vibration of unsymmetrically laminated composite and sandwich plates - finite element evaluations, *Computers and Structures* 32(5), 1125-1132.
22. Kant, T. and Mallikarjuna (1989), Vibrations of unsymmetrically laminated plates analyzed by using a higher-order theory with a C^0 finite element formulation, *Journal of Sound and Vibration* 134(1), 1-16.
23. Mallikarjuna and Kant, T. (1989), Finite element formulation of a higher-order theory for dynamic response of laminated composite plates, *Engineering Computations* 6(3), 198-208.
24. Kant, T. and Mallikarjuna (1989), Transient dynamics of composite sandwich plates using 4-, 8-, 9-noded isoparametric quadrilateral elements, *Finite Elements in Analysis and Design* 6, 307-318.
25. Kant, T. and Menon, M.P. (1989), Higher-order theories for composite and sandwich cylindrical shells with C^0 finite elements, *Computers and Structures* 33(5), 1191-1204.
26. Kant, T. and Manjunatha, B.S. (1989), Refined theories for composite and sandwich beams with C^0 finite elements, *Computers and Structures* 33(3), 755-764.
27. Butalia, T.S., Kant, T. and Dixit, V.D. (1990), Performance of Heterosis element for bending of skew rhombic plates, *Computers and Structures* 34(1), 23-50.
28. Singh, R.K., Kant, T. and Kakodkar, A. (1990), Efficient partitioning schemes for fluid-structure interaction problems, *Engineering Computations* 7(2), 101-115.
29. Kant, T. and Manjunatha, B.S. (1990), Higher-order theories for symmetric and unsymmetric fibre reinforced composite beams with C^0 finite elements, *Finite Elements in Analysis and Design* 6, 303-320.
30. Kant, T. and Patel, S. (1990), Transient/pseudo-transient finite element small/large deformation analysis of two-dimensional problems, *Computers and Structures* 36(3), 421-427.
31. Kant, T., Varaiya, J.H. and Arora, C.P. (1990), Finite element transient analysis of composite and sandwich plates based on a refined theory and implicit time integration schemes, *Computers and Structures* 36(3), 401-420.
32. Mallikarjuna and Kant, T. (1990), Analysis of anisotropic composite/sandwich shells using a new displacement model with the super-parametric element, *Journal of Structural Engineering* 17(3), 91-100.
33. Mallikarjuna and Kant, T. (1990), Finite element transient response of composite and sandwich plates with a refined higher-order theory, *ASME J. Applied Mechanics* 57(4), 1084-1086.
34. Kant, T. and Patil, H.S. (1991), Buckling loads of sandwich columns with a higher-order theory, *J. Reinforced Plastics and Composites* 10(1), 102-109.
35. Kant, T. and Menon, M.P. (1991), Estimation of interlaminar stresses in fibre reinforced composite cylindrical shells, *Computers and Structures* 38(2), 131-147.
36. Singh, R.K., Kant, T. and Kakodkar, A. (1991), Coupled shell-fluid interaction problems with degenerate shell and three dimensional fluid elements, *Computers and Structures* (Elsevier) **38**(5/6), 515-528.
37. Kant, T. and Mallikarjuna (1991), Nonlinear dynamics of laminated plates with a higher-order theory and C^0 finite elements, *International Journal of Non-Linear Mechanics* (Elsevier) **26**(3/4), 335-343.
38. Kant, T. and Marur, S.R. (1991), A comparative study of C^1 and C^0 elements for linear and nonlinear transient dynamics of building frames, *Computers and Structures* 40(3), 659-676.

39. Singh, R.K., Kant, T. and Kakodkar, A. (1991), Three-dimensional transient analysis of a single submerged cylindrical shell, *Engineering Computations* 8(3), 195-213.
40. Mallikarjuna and Kant, T. (1991), Dynamics of fibre reinforced unsymmetrically laminated composite-sandwich plates using a refined theory with C^0 finite elements, *Journal of Structural Engineering* 18(3), 89-98.
41. Mallikarjuna and Kant, T. (1992), A general fibre reinforced composite shell element based on a refined shear deformation theory, *Computers and Structures* 42(3), 381-388.
42. Singh, R.K., Kant, T. and Kakodkar, A. (1992), Three-dimensional transient analysis of two coupled submerged cylindrical shells, *Engineering Computations* 9, 39-48.
43. Mallikarjuna, Kant, T. and Fafard, M. (1992), Transient response of isotropic, orthotropic and anisotropic composite-sandwich shells with the superparametric element, *Finite Elements in Analysis and Design* 12, 63- 73.
44. Manjunatha, B.S. and Kant, T. (1992), A comparison of 9 and 16 node quadrilateral elements based on higher-order laminate theories for estimation of transverse stresses, *J. Reinforced Plastics and Composites* 11, 968-1002.
45. Kant, T. and Kommineni, J.R. (1992), Geometrically non-linear analysis of doubly curved laminated and sandwich fibre reinforced composite shells with a higher order theory and C^0 finite elements, *Journal of Reinforced Plastics and Composites* 11, 1048-1076.
46. Kant, T., Arora, C.P. and Varaiya, J.H. (1992), Finite element transient analysis of composite and sandwich plates based on a refined theory and mode superposition method, *Composite Structures* 22, 109-120.
47. Kant, T. and Kommineni, J.R. (1992), C^0 finite element geometrically nonlinear analysis of fibre reinforced composite and sandwich laminates based on a higher-order theory, *Computers and Structures* 45(3), 511-520.
48. Mallikarjuna and Kant, T. (1992), Effect of cross-sectional warping of anisotropic sandwich laminates due to dynamic loads using a refined theory and C^0 finite elements, *International Journal for Numerical Methods in Engineering* 35(10), 2031-2047.
49. Kant, T. and Kommineni, J.R. (1993), Pseudo-transient large-deflection elastic analysis of fibre reinforced composite plates, *Engineering Computations* 10, 159-173.
50. Manjunatha, B.S. and Kant, T. (1993), New theories for symmetric/ unsymmetric composite and sandwich beams with C^0 finite elements, *Composite Structures* 23(1), 61-73.
51. Manjunatha, B.S. and Kant, T. (1993), Different numerical techniques for the estimation of multiaxial stresses in symmetric/ unsymmetric composite and sandwich beams with refined theories, *Journal of Reinforced Plastics and Composites* 12, 2-37.
52. Kommineni, J.R. and Kant, T. (1993), Pseudo-transient analysis of composite shells including geometric and material non-linearities, *Journal of Reinforced Plastics and Composites* 12, 101-126.
53. Kant, T. and Menon, M.P. (1993), A finite element-difference computational model for stress analysis of layered composite cylindrical shells, *Finite Elements in Analysis and Design* 14, 55-71.
54. Kommineni, J.R. and Kant, T. (1993), Geometrically non-linear transient C^0 finite element analysis of composite and sandwich plates with a refined theory, *Structural Engineering and Mechanics* 1(1), 87-102.
55. Kommineni, J.R. and Kant, T. (1993), Large deflection elastic and in-elastic transient analyses of composite and sandwich plates with a refined theory, *Journal of Reinforced Plastics and Composites* 12(11), 1150-1170.
56. Manjunatha, B.S. and Kant, T. (1993), On evaluation of transverse stresses in layered symmetric composite and sandwich laminates under flexure, *Engineering Computations* 10(6), 499-518.
57. Mallikarjuna and Kant, T. (1993), A critical review and some results of recently developed refined theories of fibre-reinforced laminated composites and sandwiches, *Composite Structures* 24, 293-312.

58. Kant, T. and Kommineni, J.R. (1994), Large deflection inelastic pseudo-transient analysis of laminated composite plates, *International Journal for Numerical Methods in Engineering* 37, 37-48.
59. Kant, T. and Kommineni, J.R. (1994), Geometrically non-linear analysis of symmetrically laminated composite and sandwich shells with a higher order theory and C^0 finite elements, *Composite Structures* 27, 403-418.
60. Kant, T. and Khare, R.K. (1994), Finite Element thermal stress analysis of composite laminates using a higher-order theory, *Journal of Thermal Stresses* 17, 229-255.
61. Kant, T. and Kommineni, J.R. (1994), Large amplitude free vibration analysis of cross-ply composite and sandwich laminates with a refined theory C^0 finite elements, *Computers and Structures* 50(1), 123-134.
62. Kant, T., Kumar, S. and Singh, U.P. (1994), Shell dynamics with three-dimensional degenerate finite elements, *Computers and Structures* 50(1), 135-146.
63. Kant, T. and Kommineni, J.R. (1994), Nonlinear analysis of angle-ply composite and sandwich laminates, *ASCE Journal of Aerospace Engineering* 7(3), 342-352.
64. Kant, T. and Manjunatha, B.S. (1994), On accurate estimation of transverse stresses in multilayer laminates, *Computers and Structures* 50(3), 351- 365.
65. Marur, S.R. and Kant, T. (1994), A stress correction procedure for the analysis of inelastic frames under transient dynamic loads, *Computers and Structures* 50(5), 603-613.
66. Marur, S.R. and Kant, T. (1994), A modified form of the central difference predictor scheme for damped nonlinear systems, *Computers and Structures* 50(5), 615-618.
67. Kant, T. and Kommineni, J.R. (1994), Geometrically nonlinear pseudo-transient analysis of laminated composite shells, *Journal of Structural Engineering* 21(1), 37-48.
68. Kant, T. and Kommineni, J.R. (1994), Geometrically non-linear transient analysis of laminated composite and sandwich shells with a refined theory and C^0 finite elements, *Computers and Structures* 52(6), 1243-1259.
69. Kommineni, J.R. and Kant. (1995), Pseudo transient large deflection analysis of composite and sandwich shells with a refined theory, *Computer Methods in Applied Mechanics and Engineering* 123, 1-13.
70. Marur, S.R. and Kant, T. (1996), Free vibration analysis of fiber reinforced composite beams using higher order theories and finite element modelling, *Journal of Sound and Vibration* 194(3), 337-351.
71. Marur, S.R. and Kant, T. (1997), On the performance of higher-order theories for transient dynamic analysis of sandwich and composite beams, *Computers and Structures* 65(5), 741-759.
72. Kant, T. and Khare, R.K. (1997), A higher-order facet quadrilateral composite shell element, *International Journal for Numerical Methods in Engineering* 40, 4477-4499.
73. Kant, T., Marur, S.R. and Rao, G.S. (1998), Analytical solution to the dynamic analysis of laminated beams using higher order refined theory, *Composite Structures* 40(1), 1-9.
74. Goswami, S. and Kant, T. (1998), Shape control of intelligent composite stiffened structures using piezoelectric materials- A finite element approach, *Journal of Reinforced Plastics and Composites* 17(5), 446-461.
75. Marur, S.R. and Kant, T. (1998), A higher order finite element model for the vibration analysis of laminated beams, *ASME Journal of Vibration and Acoustics* 120(3), 822-824.
76. Marur, S.R. and Kant, T. (1998), Transient dynamics of laminated beams: an evaluation with a higher-order theory, *Composite Structures* 41(1), 1-11.
77. Babu, C.S. and Kant, T. (1998), Enhanced elastic buckling loads of composite plates with tailored thermal residual stresses, *ASME J. Appl. Mech.* 65(4), 1070-1071.

78. Mukherjee, A., Ramana, V.P.V., Kant, T., Dutta, P.K. and Desai, Y.M. (1998), Behavior of concrete columns confined by fiber composites, *ASCE J. Structural Engineering* 124(9), 1094-1095.
79. Goswami, S. and Kant, T. (1998), Active vibration control of intelligent stiffened laminates using smart piezoelectric materials by the finite element method, *Journal of Reinforced Plastics and Composites* 17(16), 1472-1493.
80. Babu, C.S. and Kant, T. (1999), Two shear deformable finite element models for buckling analysis of skew fibre-reinforced composite and sandwich panels, *Composite Structures* (Elsevier) 46(2), 115-124.
81. Shah, M.S. and Kant, T. (1999), Finite element analysis of fibre reinforced polymer shells using higher-order shear deformation theories on parallel distributed memory machines, *Int. J. Computer Applications in Technology* 12(2/3/4/5), 206-210.
82. Goswami, S. and Kant, T. (1999), Large amplitude vibration of polymer composite stiffened laminates by finite element method, *Journal of Reinforced Plastics and Composites* 18(5), 421-436.
83. Babu, C.S. and Kant, T. (2000), Refined higher-order finite element models for thermal buckling of composite laminates and sandwich plates, *J. Thermal Stresses* 23(2), 111-130.
84. Kant, T. and Swaminathan, K. (2000), Estimation of transverse/ interlaminar stresses in laminated composites-a selective review and survey of current developments, *Composite Structures* (Elsevier) 49, 65-75.
85. Kant, T. and Babu, C.S. (2000), Thermal buckling analysis of skew fibre-reinforced composite and sandwich plates using shear deformable finite element models, *Composite Structures* (Elsevier) 49, 77-85.
86. Ramana, V.P.V., Kant, T., Morton, S.E., Dutta, P.K., Mukherjee, A. and Desai, Y.M. (2000), Behavior of CFRPC strengthened reinforced concrete beams with varying degrees of strengthening, *Composites: Part B* (Elsevier) 31, 461-470.
87. Kant, T. and Swaminathan, K. (2000), Analytical solutions using a higher order refined theory for the stability analysis of laminated composite and sandwich plates, *Structural Engineering and Mechanics: An International Journal* 10(4), 337-357.
88. Chitnis, M.R., Desai, Y.M. and Kant, T. (2000), Edge vibrations in composite laminated sandwich plates by using a higher order displacement based theory, *Journal of Sound and Vibration* 238(5), 791-807.
89. Kant, T. and Swaminathan, K. (2001), Free vibration of isotropic, orthotropic, and multilayer plates based on higher order refined theories, *Journal of Sound and Vibration* 241(2), 319-327.
90. Kant, T. and Swaminathan, K. (2001), Analytical solutions for free vibration of laminated composite and sandwich plates based on a higher-order refined theory, *Composite Structures* 53, 73-85.
91. Kant, T. and Swaminathan, K. (2002), Analytical solutions for the static analysis of laminated composite and sandwich plates based on a higher order refined theory, *Composite Structures* 56, 329-344.
92. Kant, T. and Gadgil, M.G. (2002), Analysis of orthotropic plates based on three theories by segmentation method, *Mechanics of Advanced Materials and Structures* 9(3), 189-239.
93. Khare, R.K., Kant, T. and Garg, A.K. (2003), Closed-form thermo-mechanical solutions of higher-order theories of cross-ply laminated shallow shells, *Composite Structures* (Elsevier) 59(3), 313-340.
94. Kulkarni, S.C., Desai, Y.M., Kant, T., Reddy, G.R., Parulekar, Y. and Vaze, K.K. (2003), Uniaxial and biaxial ratchetting study of SA333 Gr.6 steel at room temperature, *International Journal of Pressure Vessels and Piping* (Elsevier) 80, 179-185.
95. Chitnis, M.R., Desai, Y.M., Shah, A.H. and Kant, T. (2003), Comparisons of displacement-based theories for waves and vibrations in laminated and sandwich composite plates, *Journal of Sound and Vibration* (Elsevier) 263, 617-642.

96. Chitnis, M.R., Desai, Y.M. and Kant, T. (2003), Scattering of waves in laminated composite plates, *Advances in Vibration Engineering* 2(3), 245-258.
97. Khare, R.K., Kant, T. and Garg, A.K. (2004), Free vibration of composite and sandwich laminates with a higher-order facet shell element, *Composite Structures* (Elsevier) 65 (3-4), 405-418.
98. Kulkarni, S.C., Desai, Y.M., Kant, T., Reddy, G.R., Prasad, P., Vaze, K.K. and Gupta, C. (2004), Uniaxial and biaxial ratcheting in piping materials – experiments and analysis, *International Journal of Pressure Vessels and Piping* (Elsevier) 81(7), 609-617.
99. Chitnis, M.R., Desai, Y.M., Shah, A.H. and Kant, T. (2005), Elastodynamic Green's function for reinforced concrete beams, *International Journal of Solids and Structures* (Elsevier) 42(15), 4414-4435.
100. Khare, R.K., Garg, A.K. and Kant, T. (2005), Free vibration of sandwich laminates with two higher-order shear deformable facet shell element models, *Journal of Sandwich Structures and Materials* 7(3), 221-244.
101. Garg, A.K., Khare, R.K. and Kant, T. (2006), Free vibration of skew fiber-reinforced composite and sandwich laminates using a shear deformable finite element model, *Journal of Sandwich Structures and Materials* 8(1), 33-53.
102. Garg, A.K., Khare, R.K. and Kant, T. (2006), Higher-order closed-form solutions for free vibration of laminated composite and sandwich shells, *Journal of Sandwich Structures and Materials* 8(2), 95-124.
103. Garg, A.K., Khare, R.K. and Kant, T. (2006), Higher-order closed-form solutions for free vibration of laminated composite and sandwich shells, *Journal of Sandwich Structures and Materials* 8(3), 205-235.
104. Pendhari, S.S., Kant, T. and Desai, Y.M. (2006), Non-linear analysis of reinforced concrete beams strengthened with polymer composites, *Structural Engineering and Mechanics- An International Journal* 24(1), 1-18.
105. Marur, S.R. and Kant, T. (2007), On the angle ply higher order beam vibrations, *Computational Mechanics* 40, 25-33.
106. Khante, S.N., Rode, V. and Kant, T. (2007), Nonlinear transient dynamic response of damped plates using a higher order shear deformation theory, *Nonlinear Dynamics* 47, 389-403.
107. Kant, T., Pendhari, S.S. and Desai, Y.M. (2007), A general partial discretization methodology for interlaminar stress computation in composite laminates, *Computer Modeling in Engineering & Science* 17(2), 135-161.
108. Kant, T., Pendhari, S.S. and Desai, Y.M. (2007), On accurate stress analysis of composite and sandwich narrow beams, *International Journal for Computational Methods in Engineering Science and Mechanics* 8(3), 165-177.
109. Kant, T., Pendhari, S.S. and Desai, Y.M. (2007), A new partial finite element model for statics of sandwich plates, *Journal of Sandwich Structures and Materials* 9(5), 487-520.
110. Kant, T., Pendhari S.S. and Desai Y.M. (2007), A novel finite element-numerical integration model for composite laminates supported on opposite edges, *ASME Journal of Applied Mechanics* 74, 1114-1124.
111. Kant, T., Pendhari, S.S. and Desai, Y.M. (2007), Two dimensional stress analyses of laminates under thermal load, *Proceeding of the Indian National Science Academy* 73(3), 137-145.
112. Kant, T., Desai Y.M. and Pendhari, S.S. (2008), Stress analyses of laminates under cylindrical bending, *Communications in Numerical Methods in Engineering* 24, 15-32.
113. Kant T., Gupta, A.B., Pendhari, S.S. and Desai, Y.M. (2008), Elasticity solution of cross-ply composite and sandwich plates, *Composite Structures* 83, 13-24.
114. Kant, T., Pendhari, S.S. and Desai, Y.M. (2008), An efficient semi-analytical model for composite and sandwich plates subjected to thermal load, *Journal of Thermal Stresses* 31, 77-103.
115. Marur, S.R. and Kant, T. (2008), Free vibration of higher-order sandwich and composite arches, Part I: Formulation, *Journal of Sound and Vibration* 310, 91-109.

116. Marur, S.R. and Kant, T. (2008), Free vibration of higher-order sandwich and composite arches, Part II: Frequency spectra analysis, *Journal of Sound and Vibration* 310, 110-133.
117. Pendhari, S.S., Kant, T. and Desai, Y.M. (2008), Application of composite materials in civil engineering: A general review, *Composite Structures* 84(2), 114-124.
118. Kant, T. and Shiyekar, S.M. (2008), Cylindrical bending of piezoelectric laminates with a higher order shear and normal deformation theory, *Computers and Structures* 86, 1594-1603.
119. Kant, T., Pendhari, S.S. and Desai, Y.M. (2008), A new partial discretization methodology for narrow composite beams under plane stress condition, *International Journal of Computational Methods* 5(3), 381-401.
120. Garg, A.K., Khare, R.K. and Kant, T. (2008), Free vibration of laminated composite and sandwich folded plates using a higher-order shear deformable finite element model, *CSVTU Research Journal* 1(2), 22-33.
121. Marur, S.R. and Kant, T. (2009), On the flexural analysis of sandwich and composite arches through an isoparametric higher-order model, *ASCE Journal of Engineering Mechanics* 135(7), 614-631.
122. Shiyekar, S.M. and Kant, T. (2010), An electromechanical higher order model for piezoelectric functionally graded plates, *International Journal of Mechanics and Materials in Design* 6(2), 163-174.
123. Pendhari, S.S., Kant, T., Desai, Y.M. and Subbaiah, C.V. (2010), On deformation of functionally graded narrow beams under transverse loads, *International Journal of Mechanics and Materials in Design* 6(3), 269-282.
124. Kant, T. and Desai, P. (2010), Two-dimensional axisymmetric electromechanical response of piezoelectric, functionally graded and layered composite cylinders, *Journal of Solid Mechanics* 2(4), 403-417.
125. Marur, S.R. and Kant, T. (2011), Transient dynamic analysis of higher order sandwich and composite arches, *Composite Structures* 93(4), 1201-1216.
126. Desai, P. and Kant, T. (2011), On accurate stress determination in laminated finite length cylinders subjected to thermo elastic load, *International Journal of Mechanics and Solids (IJM&S)* 6(1), 7-26.
127. Kant, T. and Deasi, P. (2011), On numerical analysis of finite length cylinders under pressure: An elastostatic computational approach, *International Journal of Applied Computational Science and Mathematics* 1(1), 1-22.
128. Shiyekar, S.M. and Kant, T. (2011), Higher order shear deformation effects on analysis of laminates with piezoelectric fibre reinforced composite actuators, *Composite Structures* 93, 3252-3261.
129. Desai, P. and Kant, T. (2011), Stress analysis of finite length cylinders of layered media, *Applied and Computational Mechanics* 5(2), 129-142.
130. Desai, P. and Kant, T. (2012), A mixed semi analytical solution for functionally graded (FG) finite length cylinders of orthotropic materials subjected to thermal load, *International Journal of Mechanics and Materials in Design* 8(1), 89-100.
131. Pendhari, S.S., Kant, T., Desai, Y.M. and Venkata Subbaiah, C. (2012), Static solutions for functionally graded simply supported plates, *International Journal of Mechanics and Materials in Design* 8(1), 51-69.
132. Desai, P. and Kant, T. (2012), Accurate stresses in laminated piezoelectric finite length cylinders subjected to electro-thermo-mechanical loadings, *Current Science* 102(1), 50-60.
133. Jha, D.K., Kant, T. and Singh, R.K. (2012), Higher order shear and normal deformation theory for natural frequency of functionally graded rectangular plates, *Nuclear Engineering and Design* 250, 8-13.
134. Desai, P. and Kant, T. (2012), Accurate numerical modeling for functionally graded (FG) cylinders of finite length subjected to thermo mechanical load, *Journal of Structural Engineering* 39(3), 277-290.
135. Kant, T. and Shiyekar, S.M. (2013), An assessment of a higher order theory for composite laminates subjected to thermal gradient, *Composite Structures* 96, 698-707.

136. Jha, D.K., Kant, T. and Singh, R.K. (2013), Free vibration response of functionally graded thick plates with shear and normal deformations effects, *Composite Structures* 96, 799-823.
137. Jha, D.K., Kant, T. and Singh, R.K. (2013), A critical review of recent research on functionally graded plates, *Composite Structures* 96, 833-849.
138. Jha, D.K., Kant, T. and Singh, R.K., (2013), Free vibration of functionally graded plates with a higher order shear and normal deformation theory, *International Journal of Structural Stability and Dynamics* 13(1), 1350004:1-26 .
139. Desai, P. and Kant, T. (2013), On numerical analysis of composite and laminated cylinders of finite length subjected to partially distributed load, *International Journal of Pressure Vessels and Piping* 111-112, 321-330.
140. Kant, T., Tripathi, R.K. and Rode, V. (2013), Elastic-plastic behavior of thick plates with a higher-order shear deformation theory, *Proceedings of the Indian National Science Academy* 79(4), 563-574.
141. Jha, D.K. Kant, T. and Singh, R.K. (2013), Stress analysis of transversely loaded functionally graded plates with a higher order shear and normal deformation theory, *ASCE Journal of Engineering Mechanics* 139(12), 1663-1680.
142. Jha, D.K., Kant, T., Srinivas, K. and Singh, R.K. (2013), An accurate higher order displacement model with shear and normal deformations effects for functionally graded plates, *Fusion Eng. Des.* **96**, 799-823.
143. Kant, T., Jha, D.K. and Singh, R.K. (2014), A higher-order shear and normal deformation functionally graded plate model: some recent results, *Acta Mechanica* **225**(7), 2865-2876.
144. Jha, D.K., Kant, T., Srinivas, K. and Singh, R.K. (2014), An accurate two-dimensional theory for deformation and stress analyses of functionally graded thick plates, *International Journal of Advanced Structural Engineering (IJASE)* **6**(2), 1-11.
145. Jha, D.K., Srinivas, K., Kant, T. and Singh, R.K. (2014), Assessment of Higher Order Shear and Normal Deformations Theories for Stress Analysis and Free Vibration of Functionally Graded Plates, *BARC Newsletter*, Issue No. 340, 13-21.
146. Reddy, K.S.K. and Kant, T. (2014), Three dimensional elasticity solution for free vibrations of exponentially graded plates, *ASCE Journal of Engineering Mechanics* **140**, 1-7.
147. Desai, P. and Kant, T. (2015), On numerical analysis of axisymmetric thick cylindrical shells based on higher order shell theories by segmentation method, *Journal of Sandwich Structures and Materials* **17**(2) (2015) 130-169.
148. Kosteski, L.E., Riera, J.D., Iturrioz, I., Singh, R.K. and Kant, T. (2015), Analysis of reinforced concrete plates subjected to impact employing the truss-like discrete element method, *Fatigue & Fracture of Engineering Materials & Structures (FFEMS)* **38**(3) (2015): 276-289.
149. Kosteski, L.E., Riera, J.D., Iturrioz, I., Singh, R.K. and Kant, T. (2015), DEM based assessment of empirical formulas for prediction of the effects of projectile impact on concrete structures, *Fatigue & Fracture of Engineering Materials & Structures (FFEMS)* **38**(8) (2015): 948-959.
150. Pendhari, S.S., Mahajan, M. and Kant, T. (2017), Static analysis of functionally graded laminates according to power law variation of elastic modulus under bidirectional bending, *International Journal of Computational Methods* **14**(5), - .
151. Kant, T. and Punera, D. (2017), A refined higher order theory for statics and dynamics of doubly curved shells, *Proceedings of the Indian National Science Academy* **83**(3), 611-630.
152. Punera, D. and Kant, T. (2017), Free vibration of functionally graded open cylindrical shells based on several refined higher order displacement models, *Thin-Walled Structures* **119C**, 707-726.
153. Punera, D. and Kant, T. (2017), Elasto-statics of laminated and functionally graded sandwich cylindrical shells with two refined higher order models, *Composite Structures* **182**, 505-523.
154. Punera, D., Kant, T. and Desai, Y.M. (2018), Thermo-elastic analysis of laminated and functionally graded sandwich cylindrical shells with two refined higher order models, *Journal of Thermal Stresses* **41**(1), 54-79.

155. LomtePatil, Y.T., Kant, T., Desai, Y.M. (2018), Comparison of three dimensional elasticity solutions for functionally graded plates, *Composite Structures* **202**, 424-435.
156. Punera, D. and Kant, T. (2019), A critical review of stress and vibration analyses of functionally graded shell structures, *Composite Structures* **210**, 787-809, Elsevier.
157. Alam, M., Mishra, S.K. and Kant, T. (2020), Scale dependent critical external pressure for buckling of spherical shell based on nonlocal strain gradient theory, *International Journal of Structural Stability and Dynamics*, doi: 10.1142/S0219455421500036.
158. Sawarkar, S., Pendhari, S., Desai, Y. and Kant, T. (2020) Electro-elastic analysis of simply supported functionally graded, laminated and sandwich piezoelectric plates, *International Journal for Computational Methods in Engineering Science and Mechanics* (Taylor & Francis) **21**(6), 312-330, DOI: [10.1080/15502287.2020.1841333](https://doi.org/10.1080/15502287.2020.1841333)
159. Punera, D. and Kant, T. (2021), Two dimensional kinematic models for CNT reinforced sandwich cylindrical panels with accurate transverse interlaminar shear stress estimation, *Thin-Walled Structures* (Elsevier) **164**, July 2021, 107881.
160. Punera, D. and Kant, T. (2021), An assessment of refined hierarchical kinematic models for the bending and free vibration analyses of laminated and functionally graded sandwich cylindrical panels, *Journal of Sandwich Structures and Materials* (Sagepub) [IF:5.015], First Published March 13, 2020; <https://doi.org/10.1177/1099636220909826>, **23**(6), 2506-2546.

Professor Tarun Kant

Papers in Proceedings of Seminars, Symposia and Conferences

1. Ramesh, C.K. and Kant, T. (1973). Influence of anisotropy and other time dependent properties on fibre reinforced plastic (FRP) pressure vessels - a status report, *Proc. National Seminar on Materials Science and Technology*, The Institution of Engineers (India), Madras, India, 18-20 February.
2. Ramesh, C.K., Kant, T. and Jadhav, V.B. (1973). Elastic analysis of cylindrical pressure vessels with various end closures, in *Proc. Symposium on Nuclear Science and Technology*, Bhabha Atomic Research Centre, Bombay, India, 13-17 March.
3. Ramesh, C.K., Kant, T. and Samant, L.N. (1973). Thermal creep in prestressed concrete nuclear pressure vessels, in *Proc. Symposium on Nuclear Science and Technology*, Bhabha Atomic Research Centre, Bombay, India, 13-17 March.
4. Ramesh, C.K. and Kant, T. (1974). Teaching project management - lineage, literature and limitations, in *Proc. IFAC International Symposium on Systems Engineering Education in Developing Nations*, The Institution of Engineers (India), New Delhi, India, 4-7 November.
5. Ramesh, C.K., Buragohain, D.N., Gurujee, C.S., Kant, T. and Belkune, R.M. (1975). Automated design of structural engineering systems - role, rigour and relevance, in *Proc. Tenth Annual Convention*, The Computer Society of India, Ahmedabad, India, January.
6. Kant, T. and Ramesh, C.K. (1975). A unified method of analysis for beams, plates and shells, in *Proc. Symposium on Structural Mechanics*, Bhabha Atomic Research Centre, Bombay, India, 20-22 March.
7. Kant, T. and Ramesh, C.K. (1976). Analysis of thick orthotropic shells, in *Proc. IASS World Congress on Space Enclosures*, Montreal, Canada, 4-9 July, pp. 401-409.
8. Kant, T. and Parekh, H.V. (1977). Computer aided design of concrete footings, in *Proc. International Conference on Computer Applications in Developing Countries*, Asian Institute of Technology, Bangkok, Thailand, 22-25 August, pp. 1045-1058.
9. Kant, T. and Ramesh, C.K. (1978). On construction of higher-order linear elastic shell theories for composite pressure vessel design, in *Proc. Third International Symposium on Newer Fibres and Composites*, SASMIRA, Bombay, India, 20-24 February.
10. Sherief, N.A., Ramesh, C.K. and Kant, T. (1978). A finite element application to composite pressure vessels, in *Proc. Third International Symposium on Newer Fibres and Composites*, SASMIRA, Bombay, India, 20-24 February.
11. Kant, T. (1978). Stress analysis of pressure vessels, in *Proc. Seminar on Design and Fabrication of Chemical Equipments*, Chemical Engineering Association, Indian Institute of Technology, Bombay, India, 17 March.
12. Kant, T., Bairagi, N.K. and Malvadkar, C.B. (1979). Teaching of a first course in solid mechanics, in *Proc. Seminar on Teaching of Physics, Engineering Mechanics and Solid Mechanics to Undergraduate Engineering Students*, Curriculum Development Programme, Indian Institute of Technology, Bombay, India, 15 September.
13. Kant, T. (1980). A stable wiggle-free numerical solution of the advection-diffusion equation by segmentation method, in *Proc. International Conference on Boundary and Interior Layers-Computational and Asymptotic Methods (BAIL 1)*, Trinity College, Dublin, Ireland, 3-6 June.
14. Kant, T. (1981). On numerical integration of heat conduction / conduction-convection equation, in *Numerical Methods in Thermal Problems* by R. W. Lewis, K. Morgan and B. A. Schrefler (editors), Pineridge Press, Swansea, U. K.

15. Kant, T. (1981). Thermoelasticity of thick laminated orthotropic shells, in *Trans. Sixth International Conference on Structural Mechanics in Reactor Technology (SMiRT-6)*, Paper M 11/6, North-Holland Publishing Company, Amsterdam, Netherlands.
16. Kant, T. (1982). On finite element discretization of a higher-order shell theory, in *Mathematics of Finite Elements and Applications IV* by J. R. Whiteman (editor), Academic Press, London, pp. 209-217.
17. Kant, T. (1982). On evaluation of two thick plate theories - finite element solutions, in *Mathematics of Finite Elements and Applications IV* by J. R. Whiteman (editor), Academic Press, London, p. 527.
18. Kant, T. (1983). An appraisal of computational techniques for transient heat conduction equation, in *Trans. Seventh International Conference on Structural Mechanics in Reactor Technology (SMiRT-7)*, Chicago, U.S.A., Paper B 2/5, North-Holland Publishing Company, Amsterdam, The Netherlands.
19. Kant, T. (1984). The use of reinforced composites in commercial aircrafts, in *Proc. Seminar on Flight Safety*, The Aeronautical Society of India (Bombay Branch), Bombay, India, 11 & 12 May.
20. Kant, T. and Kulkarni, P.B. (1985). A C^0 continuous linear beam / bilinear plate flexure element, in *Trans. Eighth International Conference on Structural Mechanics in Reactor Technology (SMiRT-8)*, Brussels, Belgium, Paper B 9/6, North-Holland Publishing Company, Amsterdam, The Netherlands.
21. Kant, T. and Sahani, N.P. (1985). Fibre reinforced plates - some studies with 9-noded Lagrangian / Heterosis element, in *Trans. Eighth International Conference on Structural Mechanics in Reactor Technology (SMiRT-8)*, Brussels, Belgium, Paper B 8/7, North-Holland Publishing Company, Amsterdam, The Netherlands.
22. Kumar, R.R., Rajaiah, K., Belkune, R.M. and Kant, T. (1985). An accurate finite element for stress concentration problems in shells, in *Finite Elements in Computational Mechanics* by T. Kant (editor), Pergamon Press, Oxford, England.
23. Kant, T. (1986). Two shear deformable theories vis-a-vis two discrete methods, in *Computational Mechanics '86: Theory and Applications* by G. Yagawa and S. N. Atluri (editors), Springer-Verlag, Tokyo.
24. Kant, T. and Pandya, B.N. (1987). Finite element evaluation of interlaminar stresses based on first and higher-order theories, Invited Lecture, in *Proc. Workshop-cum-Seminar on Delaminations in Composites*, Indian Institute of Science, Bangalore, India, 19 & 20 March, pp. 85-103.
25. Kant, T. and Galagali, J.T. (1987). Finite element elasto-plastic analysis of axisymmetric structures by parilinear and other two dimensional elements, Paper J 9/5, in *Trans. Ninth International Conference on Structural Mechanics in Reactor Technology (SMiRT-9)*, Lausanne, Switzerland, 17-21 August, A. A. Balkema, Rotterdam, The Netherlands, pp. 315-324.
26. Kant, T., Mallikarjuna and Pandya, B.N. (1987). Recent developments in mechanics of fibre reinforced composite plates, in *Proc. 32nd Congress of The Indian Society of Theoretical and Applied Mechanics (32nd ISTAM)*, Indian Institute of Technology, Bombay, India, 17-20 December.
27. Kant, T. (1987). A higher-order general shell theory, in *Proc. 32nd Congress of The Indian Society of Theoretical and Applied Mechanics (32nd ISTAM)*, IIT-Bombay, India, 17-20 December.
28. Kant, T. and Pandya, B.N. (1988). Finite element stress analysis of unsymmetric laminated composite plates based on a refined higher order theory, in *Composite Materials and Structures* by K. A. V. Pandalai and S. K. Malhotra (editors), Tata McGraw-Hill, New Delhi, pp.373-380.
29. Kant, T. and Mallikarjuna (1988). Finite element evaluations for transient dynamics of sandwich plates, in *Proc. Seminar on Finite Element Applications for Practical Problems and ASKA Users' Conference*, National Aeronautical Laboratory, Bangalore, India, 28 & 29 January, pp. VI 3.1-12.
30. Mallikarjuna and Kant, T. (1988). On transient response of laminated composite plates based on a higher-order theory, in *Proc. 3rd International Conference on Recent Advances in Structural Dynamics*, Southampton, U.K., 18-22 July.

31. Kant, T. (1988). Finite element models of plates and shells, Invited Lecture, in *Proc. Advanced Study Institute (NSF)*, Indian Institute of Technology, Madras, India, 1-10 August.
32. Kant, T. (1988). Micro-mechanics of FRP composite material structures, Invited Keynote Lecture, in *Proc. 40th Annual General Meeting, The Aeronautical Society of India*, Indian Institute of Technology, Madras, India, 19-21 December.
33. Kant, T. and Mallikarjuna (1989). Impulse response of anisotropic composite plates with a higher-order theory and finite element discretization, Invited Paper B/0070, in *Trans. Tenth International Conference on Structural Mechanics in Reactor Technology (SMiRT-10)*, Anaheim, U.S.A., 14-18 August., A. H. Hadjian, Editor, Published by The American Association for Structural Mechanics in Reactor Technology, Los Angeles, pp. 209-220.
34. Kant, T. and Mallikarjuna (1989). On the transient response of fibre reinforced composite laminates - some new results, in *Proc. Seminar on Science and Technology of composites, Adhesives and Sealants*, Bangalore, India, 28-30 September, pp. 257-263.
35. Kant, T. and Manjunatha, B.S. (1989). On estimation of interlaminar stresses in a FRC laminate with a refined theory and C^0 finite elements, in *Engineering Software*, edited by C.V. Ramakrishnan, A. Varadarajan and C.S. Desai, in *Proc., Int. Conf. on Engineering Software (ICENSOFT)*, New Delhi, 4-7 December, Narosa Publishing House, New Delhi, 1989, pp. 799-806.
36. Kant, T. and Mallikarjuna (1989). A software system for elasto-statics/dynamics of FRC laminates, in *Engineering Software*, edited by C.V. Ramakrishnan, A. Varadarajan and C.S. Desai, in *Proc., Int. Conf. on Engineering Software (ICENSOFT)*, New Delhi, 4-7 December, Narosa Publishing House, New Delhi, 1989, pp. 597-603.
37. Singh, R.K., Kant, T. and Kakodkar, A. (1989). Studies on shell-fluid interaction problems, in *Engineering Software*, edited by C. V. Ramakrishnan, A. Varadarajan and C. S. Desai, in *Proc., Int. Conf. on Engineering Software (ICENSOFT)*, New Delhi, 4-7 December 1989, Narosa Publishing House, New Delhi, 1989, pp. 865-871.
38. Kant, T. and Mallikarjuna (1990). On importance of transverse shear deformation effects in macro-mechanics of composites, in *Proc. Int. Conf. on Advances in Composite Materials (ICACM 90)*, Bombay, 15-18 January.
39. Kant, T. and Mallikarjuna (1990). Some advances in dynamics of composite laminates with refined theories, in *Proc. National Seminar on Aero Structures (NASAS 1990)*, NAL-Bangalore, 4 & 5 April.
40. Singh, R.K., Kant, T. and Kakodkar, A. (1990). Optimum partitioning schemes for fluid structure interaction problems, in *Advances in Structural Testing, Analysis and Design*, edited by V. S. Arunachalam, et al., in *Proc., International Conference on Structural Testing, Analysis and Design (ICSTAD)*, Bangalore, 29 July - 3 August 1990, Tata McGraw-Hill, New Delhi, 1990, pp.954-959.
41. Kant, T. and Manjunatha, B.S. (1990). A new approach for the evaluation of transverse stresses in composite and sandwich laminates, in *Advances in Structural Testing, Analysis and Design*, edited by V. S. Arunachalam, et al., in *Proc., Int. Conf. on Structural Testing, Analysis and Design (ICSTAD)*, Bangalore, 29 July- 3 August 1990, Tata McGraw-Hill, New Delhi, 1990, pp.87-92.
42. Kant, T. and Menon, M.P. (1990). Refined multilayered composite cylindrical shell elements, in *Advances in Structural Testing, Analysis and Design*, edited by V. S. Arunachalam, et al., *Proc., Int. Conf. on Structural Testing, Analysis and Design (ICSTAD)*, 29 July- 3 August 1990, Tata McGraw-Hill, New Delhi, 1990, pp.533-538.
43. Kant, T. (1990). Vibration of fibre reinforced composite laminates: recent developments, Invited Lecture, in *Proc. First International Conference on Vibration Problems of Mathematical Elasticity and Physics*, held at A.C. College, Jalpaiguri-735 101, India, 20-23 October 1990.
44. Kant, T. (1991). An appraisal of recent developments in computational mechanics of fibre reinforced laminated composite material systems under static and dynamic conditions, Paper 5a-2, in *Proc. International Aerospace Congress 1991*, World Congress Centre, Melbourne, Australia, 12-16 May 1991.

45. Mallikarjuna and Kant, T. (1991). A refined theory with the superparametric element for laminated composite-sandwich shells, in *Proc. Eighth International Conference on Composite Materials (ICCM-91)*, Stanford University, California, U.S.A., 14-19 July 1991.
46. Singh, R.K., Kant, T. and Kakodkar, A. (1991). Coupled shell dynamic analysis with 2D degenerate shell elements, Paper B 12/2, in *Trans. Eleventh International Conference on Structural Mechanics in Reactor Technology (SMiRT-11)*, Tokyo, Japan, 18-23 August 1991.
47. Singh, R.K., Kant, T. and Kakodkar, A. (1991). Transient analysis of submerged coupled cylindrical tubes, Paper J 06/2, in *Trans. Eleventh International Conference on Structural Mechanics in Reactor Technology (SMiRT-11)*, Tokyo, Japan, 18-23 August 1991.
48. Mallikarjuna and Kant, T. (1991). Dynamics of composite structures using a first order shear deformation theory with the superparametric element, in *Trans. Eleventh International Conference on Structural Mechanics in Reactor Technology (SMiRT-11)*, Tokyo, Japan, 18-23 August 1991.
49. Kant, T., Manjunatha, B.S., Menon, M.P. and Kommineni, J.R. (1991). Refined higher order laminate theories: a historical perspective, in *Proc. Thirty Sixth Congress of The Indian Society of Theoretical and Applied Mechanics*, held at the Indian Institute of Technology Bombay, 19-22 December 1991.
50. Kant, T. and Menon, M.P. (1992). Fibre reinforced composite shells: elastostatics and free vibration with refined theories and finite elements, in *Proc. The Second International Symposium on Composite Materials and Structures*, held at Beijing, China, 3-7 August 1992.
51. Kant, T. and Kommineni, J.R. (1992). An unified large deflection elasto-statics and -dynamics of composite laminates, in *Proc. International Conference on Computational Methods in Engineering*, Singapore, 11-13 November 1992.
52. Kommineni, J.R. and Kant, T. (1992). Higher order C^0 finite element models for linear and non-linear analysis of composite laminates, in *Proc. National Conference on Composites: Science & Technology*, Indian Institute of Technology, Bombay, 17-18 September 1992.
53. Kant, T. and Kommineni, J.R. (1992). An unified large deflection transient and pseudo-transient elastic and inelastic analyses of composite and sandwich shells with a refined theory, in *Proc. International Symposium on Advances in Aerospace Science and Engineering*, Vol. 2, Indian Institute of Science, Bangalore, 12-15 December 1992.
54. Patil, H. and Kant, T. (1994). Buckling loads of a symmetric sandwich / laminated plate using C^0 finite element formulation based on a higher order shear deformation theory, in *Proc. Third Regional Conference on Computer Applications in Civil Engineering (RCCACE'94)*, 2-4 August 1994, University Teknologi Malaysia, Johor Bahru.
55. Kant, T., Shah, M.S. and Ramesh, K.S. (1994). Composite materials analysis on parallel supercomputer, in *Proc. Second Conference on Indian Transputer User Group (ITUG'94)*, 8-10 December 1994, University of Hyderabad, Hyderabad-500 134.
56. Kant, T. (1994). Recent advances in computational mechanics of multilayered fibre reinforced composite laminates, in *Computational Structural Mechanics* by P. K. Sinha and S. Parthan (editors), in *Proc. National Seminar on Aero Structures-94 (NASAS-94)*, 8-9 December 1994, IIT-Kharagpur, Allied Publishers, New Delhi, 1994, pp.441-452.
57. Patil, H., Sreedhar, J. and Kant, T. (1995). Critical load of a sandwich column with a higher-order theory, in *Proc. National Conference on Civil Engineering Materials and Structures (NC-CEMS'95)*, 19-21 January 1995, University College of Engineering, Osmania University, Hyderabad-500 007, pp. 221-225.
58. Patil, H. S., Kant, T. and Sreedhar, J. (1995). Buckling loads of a sandwich / laminated plate using a higher order theory, in *Proc. International Conference on Stability of Structures (ICSS-95)*, 7-9 June 1995, PSG College of Technology, Coimbatore-641 004, pp. 543-549.

59. Patil, H. S. and Kant, T. (1995). Uniaxial / biaxial buckling loads of multilayered plates using a C^0 based higher-order theory, in *Proc. International Conference on Mechanics of Solids and Materials Engineering*, 5-7 June 1995, Singapore.
60. S.Kale, Kant, T. and Desai, Y. (1995). Numerical modelling of reinforced concrete in plates and shells, in *Proc. Symposium on BRNS Projects*, Bhabha Atomic Research Centre, Bombay, July 1995.
61. Kant, T. and Shah, M.S. (1995). Finite element analysis of structures of composite materials on parallel supercomputer, in *Proc. International Conference on High Performance Computing*, 27-30 December 1995, New Delhi.
62. Kale, S. Kant, T. and Desai, Y. (1996). Inelastic finite element analysis of reinforced concrete thick plates and shells using a higher order shear deformation theory, Keynote lecture, in *Proc. First National Conference on Computer Aided Structural Analysis & Design (NC-CASAD'96)*, 3-5 January 1996, Hyderabad.
63. Kant, T., Khare, R.K. and Gupta, J.P.K. (1996). A higher-order facet quadrilateral finite element formulation for general composite shells, in *Proc. First National Conference on Computer Aided Structural Analysis & Design (NC-CASAD'96)*, 3-5 January 1996, Hyderabad.
64. Kale, S., Kant, T. and Desai, Y. (1996). Improved material nonlinear behaviour of plates and shells, in *Proc. TPDM-96*, 24-25 July 1996, Board of Research in Nuclear Sciences, Bhabha Atomic Research Centre, Bombay.
65. Kant, T. (1996). An appraisal of analytical and computational models for composite laminates - A personal view, Invited Lecture, in *Proc. The Third Asian-Pacific Conference on Computational Mechanics (APCOM'96)*, C.K. Choi, C.B. Yun and D.G. Lee (editors), 16-18 September 1996, Seoul, Korea.
66. Kale, S., Kant, T. and Y. Desai (1996). An improved layered model for elastoplastic analysis of reinforced concrete plates and shells, in *Proc. The Third Asian-Pacific Conference on Computational Mechanics (APCOM'96)*, C.K. Choi, C.B. Yun and D.G. Lee (editors), 16-18 September 1996, Seoul, Korea.
67. H.S. Patil, Sreedhar, J. and Kant, T. (1996). Buckling analysis of laminated/sandwich plates using a higher-order theory, in *Proc. The Third Asian-Pacific Conference on Computational Mechanics (APCOM'96)*, C.K. Choi, C.B. Yun and D.G. Lee (editors), 16-18 September 1996, Seoul, Korea, pp. 503-508.
68. Kant, T. and Srivastava, A.K. (1997). Nonlinear analytical models for composite laminates, in *Proc. Structural Engineering Convention 1997*, 12-14 February 1997, IIT-Madras, Tata McGraw-Hill, New Delhi, pp. 73-86.
69. Kant, T., Ramana, V.P.V., Dutta, P.K., Mukherjee, A. and Desai, Y. (1997). Construction applications of fiber reinforced polymer composites: a survey, in *Proc. Seventh International Offshore and Polar Engineering Conference (ISOPE-97)*, 25-30 May 1997, Honolulu, Hawaii, USA, pp. 657-663.
70. Kant, T. (1997). Mechanics of composite laminates, in *Proc. 42nd ISTAM Congress*, Karunesh Memorial Lecture, 28-31 December 1997, Surat.
71. Kale, S., Kant, T. and Desai, Y. (1998). Improved material nonlinear behaviour of plates and shells, in *Proc. Technical Programme Discussion Meeting on BRNS Projects*, 2-3 November 1998, BARC-Mumbai.
72. Kant, T. and Swaminathan, K. (1998). Comparison of shear deformation theories for the bending analysis of laminated composite plates, in *Proc. International Conference on Theoretical, Applied, Computational and Experimental Mechanics (ICTACEM98)*, 1-5 December 1998, IIT-Kharagpur.
73. Kant, T. and Babu, C.S. (1998). Stability behaviour of laminated composite plates using refined higher-order finite element models, in *Proc. International Conference on Theoretical, Applied, Computational and Experimental Mechanics (ICTACEM98)*, 1-5 December 1998, IIT-Kharagpur.
74. Kale, S., Kant, T. and Desai, Y. (1998). A higher order theory based layered formulation for reinforced concrete structures, in *Proc. International Conference on Theoretical, Applied, Computational and Experimental Mechanics (ICTACEM98)*, 1-5 December 1998, IIT-Kharagpur.

75. Kant, T. (1998). An assessment of a few higher-order laminate theories, in *Proc. 43rd ISTAM Congress*, Invited Lecture, 16-19 December 1998, PSG College of Technology, Coimbatore.
76. Kant, T. (1999). Composite materials' computational mechanics today, in *Computational Mechanics for the Next Millennium*, Edited by C.M. Wang, K.H. Lee and K.K. Ang, Elsevier, Singapore, pp. 237-242. (Proc. APCOM'99: Fourth Asia-Pacific Conference on Computational Mechanics, 15-18 December 1999).
77. Kant, T. and Swaminathan, K. (1999). Few higher order displacement models for stretching-bending behaviour of sandwiches, in *Computational Mechanics for the Next Millennium*, Edited by C.M. Wang, K.H. Lee and K.K. Ang, Elsevier, Singapore, pp. 261-266. (Proc. APCOM'99: Fourth Asia-Pacific Conference on Computational Mechanics, 15-18 December 1999).
78. Kant, T. and Babu, C.S. (1999). On thermo-mechanical buckling of sandwich panels with higher-order theories, in *Computational Mechanics for the Next Millennium*, Edited by C.M. Wang, K.H. Lee and K.K. Ang, Elsevier, Singapore, pp. 285-290. (Proc. APCOM'99: Fourth Asia-Pacific Conference on Computational Mechanics, 15-18 December 1999).
79. Kant, T., Tripathi, G. and Singh, R.K. (1999). Evaluation of different analysis methods for aseismic design of liquid storage rectangular tanks, in *Computational Mechanics for the Next Millennium*, Edited by C.M. Wang, K.H. Lee and K.K. Ang, Elsevier, Singapore, pp. 1373-1378. (Proc. APCOM'99: Fourth Asia-Pacific Conference on Computational Mechanics, 15-18 December 1999).
80. Kant, T. (1999). Mechanics of layered composites-last four decades of developments, Presidential Lecture, in *Proc. 44th Congress of Indian Society of Theoretical and Applied Mechanics*, Regional Engineering College, Warangal, 22-25 December 1999.
81. Kant, T. (2000). Composite mechanics in the last 40 years, Invited Lecture, in *Proc. SEC-2000: 2nd Structural Engineering Convention*, IIT-Bombay, 5-8 January 2000.
82. Chitnis, M.R., Desai, Y.M. and Kant, T. (2000). Wave propagation through fiber reinforced laminated composite plates, in *Advances in Structural Engineering*, Y. Desai, T. Kant and A. Mukherjee (Editors), in Proc. SEC-2000: 2nd Structural Engineering Convention, 5-8 January 2000, IIT-Bombay, Quest Publications, Mumbai, pp. 23-28.
83. Patil, H.S. and Kant, T. (2000). Elastic buckling of symmetric sandwich laminates using a higher-order theory, in *Advances in Structural Engineering*, Y. Desai, T. Kant and A. Mukherjee (Editors), in Proc. SEC-2000: 2nd Structural Engineering Convention, 5-8 January 2000, IIT-Bombay, Quest Publications, Mumbai, pp. 95-100.
84. Ramana, V.P.V., Kant, T., Dutta, P.K., Morton, S.E., Mukherjee, A. and Desai, Y.M. (2000). Experimental investigations on flexural behaviour of reinforced concrete beams strengthened with CFRPC laminates, in *Advances in Structural Engineering*, Y. Desai, T. Kant and A. Mukherjee (Editors), Proc. SEC-2000: 2nd Structural Engineering Convention, 5-8 January 2000, IIT-Bombay, Quest Publications, Mumbai, pp. 125-130.
85. Shah, M.S. and Kant, T. (2000). Higher-order shear deformation theories for the stress analysis of composite shell structures on parallel machines, in *Advances in Structural Engineering*, Y. Desai, T. Kant and A. Mukherjee (Editors), Proc. SEC-2000: 2nd Structural Engineering Convention, 5-8 January 2000, IIT-Bombay, Quest Publications, Mumbai, pp. 159-164.
86. Kant, T. (2000). On developments in mechanics of polymer composites in the last three decades, Invited lecture, in *Proc. Seventh Annual International Conference on Composites Engineering (ICCE7)*, Adam's Mark Hotel, Denver, Colorado, U.S.A., 2-8 July 2000.
87. Kant, T. and Desai, Y.M. (2000). An improved degenerate element for elasto-plastic response of reinforced concrete plates and shells, in *Advances in Computational Engineering and Sciences*, S.N. Atluri and F.W. Brust (Editors), Proc. International Conference on Computational Engineering and Sciences (ICES'2K), Los Angeles, USA, 21-25 August 2000, Tech Science Press, Palmdale, 2000, pp. 464-469.
88. Kant, T. and Swaminathan, K. (2000). Basic composite mechanics-recent results, in *High Temperature Fibre Composite Materials*, V.K. Srivastava (Editor), in Proc. Indo-German Workshop on High Temperature Fibre Composite Materials, 11-15 September 2000, BHU-Varanasi, Allied Publishers, New Delhi, 2000, pp. 147-161.

89. Chitnis, M.R., Desai, Y.M. and Kant, T. (2000). Guided waves in laminated composite plates, in *Proc. First International Conference on Vibration Engineering and Technology of Machinery*, Indian Institute of Science, Bangalore, October 2000, Paper No. CP089.
90. Kant, T. (2000). Segmentation numerical integration technique for plates and shells, Presidential Lecture, in *Proc. 45th Congress of Indian Society of Theoretical and Applied Mechanics (ISTAM 2000)*, Mepco Schlenk Engineering College, Sivakasi, 26-29 December 2000.
91. Kant, T. and Gadgil, M.G. (2001). Segmentation method in mechanics of polymer composites, Invited Keynote Lecture, in *Proc. International Conference on Civil Engineering (ICCE-2001)*, Indian Institute of Science, Bangalore, 23-25 July 2001.
92. Chitnis, M.R., Desai, Y.M. and Kant, T. (2001), Wave propagation in laminated composite plates using higher order theories, in *Proc. Structural Engineering Convention (SEC-2001)*, Indian Institute of Technology Roorkee, 29-31 October 2001.
93. Kant, T. (2001), Structural mechanics of beams, plates and shells-an overview of research, Invited Lecture, in *Proc. 46th Congress of the Indian Society of Theoretical and Applied Mechanics-An International Meet (46th ISTAM)*, Regional Engineering College Hamirpur (H.P), 19-22 December 2001.
94. Kant, T. (2002), Reflections on shell theories, Plenary Lecture, in *Advances in Civil Engineering*, J.N. Bandyopadhyay and D. Nagesh Kumar (Editors), in *Proc. International Conference (ACE-2002)*, Indian Institute of Technology Kharagpur, 3-5 January 2002, Allied Publishers, New Delhi, pp. 757-769.
95. Kulkarni, S.C., Desai, Y.M. and Kant, T. (2002), Development of GUI based software package for elastic-plastic static and dynamic analysis of piping systems, in *Proc. Technical Programme Discussion Meeting of BRNS Projects (TPDM-2002)*, Board of Research in Nuclear Sciences, Bhabha Atomic Research Centre Mumbai, 14-16 February 2002.
96. Kant, T. (2002), Computational mechanics of isotropic and composite plates and shells, Invited Lecture, in *Proc. International Workshop on Computational Mechanics and Optimisation (IWCMO 2002)*, Department of Aerospace Engineering, Indian Institute of Technology Kharagpur, 4-10 October 2002.
97. Kant, T. (2002), Computational techniques for transient dynamic analysis, Invited Lecture, in *Proc. International Workshop on Computational Mechanics and Optimisation (IWCMO 2002)*, Department of Aerospace Engineering, Indian Institute of Technology Kharagpur, 4-10 October 2002.
98. Kant, T., Desai, Y.M. and Kulkarni, S.C. (2003), An improved nonlinear three dimensional plate and shell element, in *Proc. 8th International Conference on Impact Mechanics and Plasticity (IMPLAST-2003)*, New Delhi, 17-18 March.
99. Kulkarni, S.C., Desai, Y.M., Kant, T., Reddy, G.R., Prasad, P., Vaze, K.K. and Khushawaha H.S. (2003), Ratchetting failure of piping components subjected to seismic loading- experimental and numerical studies, in *Proc. National Seminar on Seismic Design of Nuclear Power Plants*, Chennai, 21-22 February.
100. Singh, R.K., Singh, R.K. and Kant, T. (2003), A comparison of plasticity theories with first order shear deformation and higher order shear deformation kinematics for reinforced concrete shells, in *Proc. 8th International Conference on Impact Mechanics and Plasticity (IMPLAST-2003)*, New Delhi, 17-18 March.
101. Kant, T. (2003), Analytical models for thermal stress evaluations in composite and sandwich laminates, in *Thermal Stresses '03*, L. Librescu and P. Marzocca (Editors), in *Proc. 5th International Congress on Thermal Stresses and Related Topics (Thermal Stresses '03)*, Virginia Polytechnic Institute and State University, Blacksburg, VA, USA, 8-11 June, pp. MA-10-1-1:4.
102. Kant, T. (2003), Advances in Analytical and Computational Solid and Structural Mechanics, Invited Talk, in *Proc. Structural Engineering Convention – 2003 (SEC-2003)*, Indian Institute of Technology Kharagpur, 12-14 Decemner.

103. Kant, T. (2003), Progress in mechanics of laminated composites, Invited Talk, in *Proc. 48th Congress of the Indian Society of Theoretical and Applied Mechanics – An International Meet (48th ISTAM)*, Birla Institute of Technology, Mesra (Ranchi), 18-21 December.
104. Desai, Y.M., Kant, T., Kulkarni, S.C., Reddy, G.R., Vaze, K.K., Kushwaha, H.S., Gupta, C. and Chakravarthy, J.K. (2004), Development of GUI based software package for elasto-plastic static and dynamic analysis of piping systems, in *Proc. Technical Programme Discussion Meeting of BRNS Projects (TPDM-2004)*, Board of Research in Nuclear Sciences, Bhabha Atomic Research Centre, Mumbai, 2 February 2004.
105. Kant, T. (2004), On two-dimensional modeling of fibre reinforced composite laminates, in *Proc. Fifteenth Mid-Year Meeting of the Indian Academy of Sciences*, Bangalore, 2-3 July 2004.
106. Kant, T. (2004), On two-dimensional modeling of fibre reinforced composite laminates, in *Proc. National Conference on Structural Engineering and Mechanics (SEM-04)*, Birla Institute of Technology and Science, Pilani-333 031 (Rajasthan), 24-25 September 2004.
107. Pendhari, S.S., Kalani, M. and Kant, T. (2004), Fiber reinforced polymer composites for rehabilitation of structures, in *Proc. Seminar on Coastal Area Construction Management*, K.S. Mukhopadhyay, D. Chaturvedi and Seema Ambastha (Editors), Chief Engineer (Navy) Mumbai, 1-2 November 2004, pp. 218-224.
108. Kant, T. and Subbaiah, C.V. (2004), Analytical and computational mechanics of functionally graded beams, plates and shells, Invited Talk, in *Proc. International Congress on Computational Mechanics and Simulation (ICCMS-04)*, N.G.R. Iyengar and Ashwini Kumar (Editors), Indian Institute of Technology Kanpur and Indian Association for Computational Mechanics, 9-12 December 2004, pp.86-95.
109. Singh, Rajesh K., Singh, R.K. and Kant, T. (2004), Nonlinear finite element analysis of deep reinforced concrete beams using various plasticity and shear deformation kinematics theories, in *Proc. International Congress on Computational Mechanics and Simulation (ICCMS-04)*, N.G.R. Iyengar and Ashwini Kumar (Editors), Indian Institute of Technology Kanpur and Indian Association for Computational Mechanics, 9-12 December 2004, pp. 294-299.
110. Kant, T. (2004), Thermomechanics of polymer composites, Invited Presentation, in *Proc. Recent Advances in Composite Materials*, Department of Mechanical Engineering, Banaras Hindu University, Varanasi-221 005, 17-19 December 2004.
111. Rao, M.K., Desai, Y.M. and Kant, T. (2004), A comparison of displacement and mixed models for elasto-statics of composite plates, Keynote Talk, in *Proc. Third International Conference on Theoretical, Applied, Computational and Experimental Mechanics (ICTACEM 2004)*, S.K. Bhattacharyya and Somnath Ghosh (Editors), Department of Aerospace Engineering, Indian Institute of Technology Kharagpur, 28-30 December 2004, p. 37.
112. Singh, Rajesh K., Singh, R.K., Kant, T., Jain, R.C., Ramanujam, S., Ghosh, A.K. and Kushwaha, H.S. (2004), Shear failure in beams with second order shear deformation and 3D plasticity theory, in *Proc. Third International Conference on Theoretical, Applied, Computational and Experimental Mechanics (ICTACEM 2004)*, S.K. Bhattacharyya and Somnath Ghosh (Editors), Department of Aerospace Engineering, Indian Institute of Technology Kharagpur, 28-30 December 2004, p. 481.
113. Pendhari, S.S., Kant, T. and Desai, Y.M. (2005), Modelling of reinforced concrete beams strengthened with composites, in *Proc. International Conference on Structural and Road Transportation Engineering (START 2005)*, J.N. Bandyopadhyay and Bhargab Maitra (Editors), Department of Civil Engineering, Indian Institute of Technology Kharagpur, 3-5 January 2005, Elite Publishing House Pvt Ltd, New Delhi, p. 79.
114. Kant, T. and Subbaiah, C.V. (2005), A précis on computational mechanics of functionally graded beams, plates and shells, in *Proc. Third MIT Conference on Computational Fluid and Solid Mechanics*, K.J. Bathe (Editor), Massachusetts Institute of Technology, Cambridge, MA 02139, USA, 14-17 June 2005, p. 179.
115. Kant, T. (2005), A novel and an accurate finite element-numerical integration technique for evaluation of interlaminar stresses in laminates, Invited Talk, in *Proc. International Conference on Computational and Experimental Engineering and Sciences (ICCES'05)*, Indian Institute of Technology Madras, Chennai-600 036, 1-6 December 2005.

116. Kant, T., Pendhari, S., Desai, P., Gadgil, M. and Desai, Y. (2005), On a semi-discretization method for three dimensional boundary value problems, Invited Talk, in *Proc. Structural Engineering Convention-2005 (SEC-2005)*, J.M. Chandra Kishen and D. Roy (Editors), Indian Institute of Science, Bangalore-560 012, 14-16 December 2005, p. 267.
117. Kant, T., Pendhari, S., Desai, P. and Desai, Y.M. (2006), On a novel partial discretization methodology in anisotropic elasticity, in *Proc. Seventh World Congress on Computational Mechanics (WCCM VII)*, Los Angeles, California, 16-22 July 2006.
118. Kant, T. (2006), A large deflection higher order theory for laminated composite and sandwich plates, Invited Talk, in *Proc. Indo-Russian Workshop on Problems in Nonlinear Mechanics of Solids with Large Deformation*, N.K. Gupta and V.N. Kukudzhanov (Coordinators), Department of Applied Mechanics, Indian Institute of Technology Delhi, 22-24 November 2006, pp. 115-119.
119. Kant, T. and Pendhari, S.S. (2006), Keynote Lecture, in *Proc. Second International Congress on Computational Mechanics and Simulation (ICCMS-06)*, D. Maity and S. K. Dwivedy (Convenors), Indian Institute of Technology Guwahati, 8-10 December 2006.
120. Kant, T., Desai, Y.M. and Pendhari, S.S. (2006), Analysis of laminates under cylindrical bending using numerical integration, in *Proc. Second International Congress on Computational Mechanics and Simulation (ICCMS-06)*, D. Maity and S.K. Dwivedy (Convenors), Indian Institute of Technology Guwahati, 8-10 December 2006.
121. Kant, T. and Desai, P. (2006), A numerical integration technique for elastic analysis of thick orthotropic axisymmetric circular cylinders of finite length, in *Proc. Second International Congress on Computational Mechanics and Simulation (ICCMS-06)*, D. Maity and S.K. Dwivedy (Convenors), Indian Institute of Technology Guwahati, 8-10 December 2006.
122. Garg, A.K., Khare, R.K. and Kant, T. (2006), Free vibration of laminated folded plates using a shear deformable finite element model, in *Proc. Second International Congress on Computational Mechanics and Simulation (ICCMS-06)*, D. Maity and S.K. Dwivedy (Convenors), Indian Institute of Technology Guwahati, 8-10 December 2006.
123. Singh, Rajesh K., Singh, R.K. and Kant, T. (2006), Nonlinear analysis of reinforced concrete structures using fracture and damage mechanics constitutive models, in *Proc. Second International Congress on Computational Mechanics and Simulation (ICCMS-06)*, D. Maity and S.K. Dwivedy (Convenors), Indian Institute of Technology Guwahati, 8-10 December 2006.
124. Kant, T. and Pendhari, S.S. (2007), An unified and general dimensional reduction procedure in anisotropic elasticity, Keynote Lecture, in *Proc. International Conference on Civil Engineering in the New Millennium: Opportunities and Challenges*, Department of Civil Engineering, Bengal Engineering and Science University, Shibpur, Howrah-711 103, 11-14 January 2007.
125. Garg, A.K., Khare, R.K. and Kant, T. (2007), Free vibration of laminated folded plates using a higher-order shear deformable finite element model, in *Proc. National Conference on Recent Advances and Trends in Civil Engineering*, Bhilai Institute of Technology, Durg, 16-17 March 2007, pp. 1-8.
126. Kant, T. and Pendhari, S.S. (2007), Layered composite mechanics-a status report, in *Proc. National Conference on Emerging Technology and Developments in Civil Engineering*, Department of Civil Engineering, Government College of Engineering, Amravati-440 604, 22-23 March 2007, pp. IL 1-24.
127. Kant, T. and Pendhari, S.S. (2007), Partial finite element discretization in elastostatics – a new concept, in *Proc. 21st Canadian Congress of Applied Mechanics (CANCAM 2007)*, Department of Mechanical & Industrial Engineering, Ryerson University, Toronto, Ontario, Canada, 3-7 June 2007.
128. Kant, T. (2007), A recent advance in computational mechanics of laminated composites, Keynote Lecture, in *Proc. International Conference on Recent Developments in Structural Engineering (RDSE-2007)*, H.R. Dhananjaya and A. Krishnamoorthy (Editors), Department of Civil Engineering, Manipal Institute of Technology, Manipal-576 104, 30 August – 1 September 2007, pp. 16-30.

129. Desai, P. and Kant, T. (2007), Thermoelastic solutions for finite length functionally graded axisymmetric orthotropic cylinders, in *Proc. International Conference on Recent Developments in Structural Engineering (RDSE-2007)*, H.R. Dhanjaya and A. Krishnamoorthy (Editors), Department of Civil Engineering, Manipal Institute of Technology, Manipal-576 104, 30 August – 1 September 2007, p.185.
130. Kant, T. and Pendhari, S.S. (2008), A partial discretization in elastostatics for layered media, in *Proc. International Conference on Multiscale Modeling and Simulation (ICMMS-08)*, Indian Institute of Science, Bangalore-560 012, 2-4 January 2008.
131. Kant, T. (2008), Macro-thermo-mechanics of polymer composite laminates, Keynote Lecture, in *Proc. National Conference on Emerging Trends in Civil Engineering for Infrastructure Development*, National Institute of Technology Raipur, 15-16 February 2008.
132. Kant, T. and Desai, P. (2008), A higher-order linear laminated composite shell theory, Invited Lecture, in *Proc. Indo-Russian Workshop on Solid Mechanics*, Birla Institute of Technology, Panaji, Goa, 11-12 November 2008.
133. Shah, M., Khare, R.K. and Kant, T. (2008), Transient analysis of FRP composite structures using higher-order flat facet elements on parallel computers, in *Proc. Indo-Russian Workshop on Solid Mechanics*, Birla Institute of Technology, Panaji, Goa, 11-12 November 2008.
134. Kant, T. and Shiyekar, S.M. (2008), Stress analysis of functionally graded plates with a higher order theory, in *Proc. IUTAM Symposium on Multi-functional Material Structures and Systems*, Indian Institute of Science, Bangalore-560 012, 10-13 December 2008.
135. Kant, T., Pendhari, S.S. and Shiyekar, S.M. (2008), Advances in computational mechanics: state-of-the-art review, Keynote Lecture, in *Proc. Sixth Structural Engineering Convention (SEC-2008)*, Structural Engineering Research Centre Madras, Chennai-600 113, 18-20 December 2008.
136. Kant, T. and Desai, P. (2009), Electro-thermo-mechanical elasticity of laminated piezoelectric finite length cylinders, in *Proc. 8th International Congress on Thermal Stresses (Thermal Stresses 2009)*, University of Illinois at Urbana-Champaign, Illinois, USA, 1-4 June 2009.
137. Kant, T. and Shiyekar, S.M. (2009), Effect of thermal gradient on the stress analysis of laminated composites with a higher order theory, in *Proc. 8th International Congress on Thermal Stresses (Thermal Stresses 2009)*, University of Illinois at Urbana-Champaign, Illinois, USA, 1-4 June 2009.
138. Kant, T., Pendhari, S.S. and Shiyekar, S.M. (2009), Review and assessment of various smeared single layer theories for modeling of composite laminates, Invited Talk, in *Proc. 10th US National Congress on Computational Mechanics (USNCCM-10)*, Columbus, Ohio, USA, 16-19 July 2009.
139. Desai, P. and Kant, T. (2009), An exact stress analysis of a functionally graded sphere under mechanical load, in *Proc. 3rd International Congress on Computational Mechanics & Simulation (ICCMS09)*, Indian Institute of Technology Bombay, 1-5 December 2009.
140. Kant, T. (2009), A novel partial discretization methodology in elastostatics, Keynote Lecture, in *Proc. International Conference on Advances in Mechanical and Building Sciences in the 3rd millennium (ICAMB-2009)*, VIT University, Vellore, 14-16 December 2009.
141. Kant, T. (2011), Computational mechanics in the last five decades – a personal view, Invited Lecture, in *Proc. 23rd Canadian Congress of Applied Mechanics (CANCAM'11)*, The University of British Columbia (UBC), Vancouver, BC, Canada, 5-9 June 2011.
142. Desai, P. and Kant, T. (2011), Analysis of cylindrical shells based on four shell theories by segmentation method, in *Proc. 21st International Conference on Structural Mechanics in Reactor Technology (SMiRT21)*, New Delhi, India, 6-11 November 2011, pp. 57-58.
143. Singh, R.K., Singh, R.K. and Kant, T. (2011), Nonlinear analysis of reinforced concrete structures using fracture and damage mechanics constitutive models, *Proc. 21st International Conference on Structural Mechanics in Reactor Technology (SMiRT21)*, New Delhi, India, 6-11 November 2011, pp. 253-254.

144. Jha, D.K., Kant, T. and Singh, R.K. (2011), On development and evaluation of theories based upon Reissner's mixed variational theorem for deformation and stress analysis of FGM structures, *Proc. 21st International Conference on Structural Mechanics in Reactor Technology (SMiRT21)*, New Delhi, India, 6-11 November 2011, pp. 18 -19 .
145. Kant, T., Jha, D.K. and Singh, R.K. (2012), Vibrations of functionally graded plates, Plenary Lecture, in *Proc. 4th International Conference on Structural Stability and Dynamics*, Jaipur, India, 4-6 January 2012, pp. 534-537.
146. Shiyekar, S.M. and Kant, T. (2012), Assessment of smeared plate theories in thermal stress analysis of laminated composites, in *A.J.M. Ferreira and E. Carrera (editors), Proc. Symposium on Thermo-Mechanical Analysis of Composite and Advanced Structures*, Politecnico di Torino, 18-20 June 2012.
147. Kant, T. (2012), Estimation of interlaminar stresses in laminated composites, Invited Lecture, *Proc. Workshop on Recent Advances in Aerospace Structures (WORAAS)* (in honour of Professor B. Dattaguru at his 70th birth day), Indian Institute of Science, Bangalore, 22 June 2012.
148. Kant, T. (2012), A higher order shear and normal deformation theory for cylindrical bending of laminates with actuators and sensors, Keynote Lecture, in *Proc. Workshop on Structural Health Monitoring and Rehabilitation*, Birla Institute of Technology, Pilani, India, 19-20 September 2012, pp. 1-15.
149. Kant, T. (2012), Composite mechanics in the last fifty years, Plenary Lecture, in *Proc. Asian Conference on Mechanics of Functional Materials and Structures (ACMFMS 2012)*, IIT Delhi, 5-8 December 2012.
150. Kant, T., Jha, D.K. and Singh, R.K. (2012), An assessment of functionally graded plate theories: Some recent results, in *Proc. Asian Conference on Mechanics of Functional Materials and Structures (ACMFMS 2012)*, IIT Delhi, 5-8 December 2012.
151. Kant, T. (2012), Some reflections on composite laminates, Plenary Lecture, in *Proc. International Congress on Computational Mechanics and Simulation (ICCMS 2012)*, IIT Hyderabad, 9-11 December 2012.
152. Jha, D.K., Kant, T. and Singh, R.K. (2012), Stress analysis of functionally graded plates with a higher order shear and normal deformations theory, in *Proc. International Congress on Computational Mechanics and Simulation (ICCMS 2012)*, IIT Hyderabad, 9-11 December 2012.
153. Desai, P. and Kant, T. (2012), Comparisons of shell and elasticity theory solutions for finite length axisymmetric cylinder of diaphragm support, in *Proc. International Congress on Computational Mechanics and Simulation (ICCMS 2012)*, IIT Hyderabad, 9-11 December 2012.
154. Desai, P. and Kant, T. (2012), On free vibration analysis of elastic isotropic cylinders of finite length, in *Proc. International Congress on Computational Mechanics and Simulation (ICCMS 2012)*, IIT Hyderabad, 9-11 December 2012.
155. Jha, D.K., Kant, T. and Singh, R.K. (2012), Free vibration of functionally graded plates with a higher order shear and normal deformations theory, in *Proc. Structural Engineering Convention-an International Meet (SEC 2012)*, SVNIT Surat, 19-21 December 2012.
156. Kant, T. (2013), Higher order shear and normal deformation theories for composite, sandwich, piezoelectric and functionally graded plates, Plenary Lecture, in *Proc. 17th International Conference on Composite Structures (ICCS17)*, Porto, Portugal, 17-21 June 2013.
157. Kant, T. (2014), Mechanics of composite laminates – a historical perspective, Plenary Lecture, in *Proc. Fifth International Congress on Computational Mechanics and Simulation 2014 (ICCMS2014)*, held at Structural Engineering Research Centre (SERC) Chennai-600 113, 10-13 December 2014.
158. Kant, T. (2014), A partial discretization methodology in elastostatics, in *Proc. Fifth International Congress on Computational Mechanics and Simulation 2014 (ICCMS2014)*, held at Structural Engineering Research Centre (SERC) Chennai-600 113, 10-13 December 2014.

159. Desai, P. and Kant, T. (2014), On numerical analysis of elastostatic plate with a hole, in *Proc. Fifth International Congress on Computational Mechanics and Simulation 2014 (ICCMS2014)*, held at Structural Engineering Research Centre (SERC) Chennai-600 113, 10-13 December 2014.
160. Kant, T. (2014), Structural mechanics of composite laminates – developments in last five decades, Plenary Lecture, in *Proc. 9th. Structural Engineering Convention 2014 – An International Meet (SEC2014)*, held at Indian Institute of Technology Delhi (IIT Delhi), Delhi-110 016, 22-24 December 2014.
161. Jha, D.K., Kant, T.K. and Singh, R.K. (2014), On accurate analyses of rectangular plates made of functionally graded materials, in *Proc. 9th. Structural Engineering Convention 2014 – An International Meet (SEC2014)*, held at Indian Institute of Technology Delhi (IIT Delhi), Delhi-110 016, 22-24 December 2014.
162. Pendhari, S.S., Kant, T. and Desai, Y.M. (2014), Two dimensional stress analysis of a functionally graded beam under static loading condition, in *Proc. 9th. Structural Engineering Convention 2014 – An International Meet (SEC2014)*, held at Indian Institute of Technology Delhi (IIT Delhi), Delhi-110 016, 22-24 December 2014.
163. Desai, P. and Kant, T. (2014), On derivations of stress field in bipolar coordinate system, in *Proc. 9th. Structural Engineering Convention 2014 – An International Meet (SEC2014)*, held at Indian Institute of Technology Delhi (IIT Delhi), Delhi-110 016, 22-24 December 2014.
164. Kant, T. (2014), Bending and free vibrations of functionally graded laminates, Keynote Lecture, in *Proc. Sixth International Conference on Theoretical, Applied, Computational and Experimental Mechanics (ICTACEM2014)*, Keynote Lecture, Indian Institute of Technology Kharagpur (IIT Kharagpur), Kharagpur-721 302, 29-31 December 2014.
165. Kant, T. (2015), My journey into research and a précis on advances in composite mechanics, in *Proc. Research Scholars' Conclave*, Department of Civil Engineering, Indian Institute of Technology Kharagpur (IIT Kharagpur), Kharagpur-721 302, 16 February 2015.
166. Kant, T. (2015), Mechanics of composite laminates since 1960, Award Lecture, in *Proc. International Conference on Computational and Experimental Engineering and Sciences (ICCES'15)*, Reno, Nevada, USA, 20-24 July 2015.
167. Kant, T. (2015), Composite mechanics – significant events in the last five decades, Keynote Lecture, in *Proc. International Conference on Innovations in Structural Engineering (IC-ISE-2015)*, Department of Civil Engineering, Osmania University, Hyderabad, 9-12 December 2015.
168. Kant, T. (2015), Composite mechanics and history of ISTAM, Special Technical Lecture, *Proc. 60th Congress of Indian Society of Theoretical and Applied Mechanics (An International Conference)*, Malaviya National Institute of Technology (MNIT) Jaipur, 16-19 December 2015.
169. Kant, T. (2016), Milestones in composite mechanics, Plenary Lecture, *Proc. Sixth International Congress on Computational Mechanics and Simulation (ICCMS2016)*, Indian Institute of Technology Bombay, 27 June-1 July 2016.
170. Punera, D. and Kant, T. (2016), Thermal stress analysis of functionally graded plates and open cylindrical shells, *Proc. Sixth International Congress on Computational Mechanics and Simulation (ICCMS2016)*, Indian Institute of Technology Bombay, 27 June-1 July 2016.
171. Punera, D. and Kant, T. (2016), Free vibration analysis of functionally graded open cylindrical panels using a higher order shear and normal deformation theory, *Proc. XII World Congress on Computational Mechanics and VI Asia Pacific Congress on Computational Mechanics (WCCM2016 & APCOM2016)*, Seoul, Korea, 24-29 July 2016.
172. Kant, T. (2016), Evolution of macro-mechanics of laminated composites, Semi Plenary Lecture, *Proc. XII World Congress on Computational Mechanics and VI Asia Pacific Congress on Computational Mechanics (WCCM2016 & APCOM2016)*, Seoul, Korea, 24-29 July 2016.

173. LomtePatil, Y.T., Kant, T. and Desai, Y.M. (2016), A comparison of three dimensional elasticity solutions for functionally graded plates, *Proc. 10th Structural Engineering Convention (SEC2016)*, Structural Engineering Research Centre, Chennai, 21-23 December 2016.
174. LomtePatil, Y.T., Kant, T. and Desai, Y.M. (2017), Three-Dimensional Elasticity Analysis of Sandwich laminate by Semi Analytical Approach, *Proc. 20th International Conference on Composite Structures (ICCS20)* Paris, France, 4-7 September 2017.
175. Punera, D., Kant, T. and Desai, Y.M. (2017), Free vibration of laminated and FG sandwich panels using higher order shear and normal deformation theory, *Proc. International Conference on Composite Materials and Structures*, IIT Hyderabad, 27-29 December 2017.
176. LomtePatil, Y.T., Kant, T. and Desai, Y.M. (2017), Three- Dimensional Elasticity Analysis of Orthotropic Circular Cylindrical Shell by Semi Analytical Approach, *Proc. International Conference on Composite Materials and Structures*, IIT Hyderabad, 27-29 December 2017.
177. LomtePatil, Y.T., Kant, T. and Desai, Y.M. (2018), Three- Dimensional Elasticity Analysis of Functionally Graded Plates by Semi Analytical Approach, *Proc. 4th International Conference on Mechanics of Composites*. Madrid, Spain, 9-12 July 2018.
178. LomtePatil, Y.T., Kant, T. and Desai, Y.M. (2018), Three Dimensional Elasticity Analysis of Functionally Graded Material Shells using Semi Analytical Approach, *Proc. 21st International Conference on Composite Structures (ICCS21)* Bologna, Italy, 4-7 September 2018.
179. Kant, T. (2018), Challenges Faced in Composite Mechanics in the Last Six Decades – A Personal View, Plenary Talk, *Proc. Structural Engineering Convention – 2018*, Jadhavpur University, Kolkata, 19-21 December 2018.
180. Kant, T. (2019), Six decades of macro-mechanics of composites – a personal view, Keynote Talk, *Proc. International Conference on Advanced Materials and Processes for Defence Applications (ADMAT-2019)*, Hyderabad, 23-25 September 2019.
181. Kant, T. (2019), Evolution of macro-mechanics of laminated composites, Plenary Talk, *Proc. 7th International Congress on Computational Mechanics and Simulation (ICCMS-2019)*, IIT Mandi, HP, 11-13 December 2019.
182. Punera, D. and Kant, T. (2019), Reflections on hierarchical kinematic shell theories with application to CNT reinforced composites, *Proc. 7th International Congress on Computational Mechanics and Simulation (ICCMS-2019)*, IIT Mandi, HP, 11-13 December 2019.
183. Kant, T. (2020), Origin of introduction of higher order displacement polynomials through thickness in the theories of beams, plates and shells, Inaugural Keynote Lecture, *Proc. International Conference on Recent Advances in Computational and Experimental Mechanics 2020 (ICRACEM2020)*, IIT Kharagpur, 4-6 September 2020.
184. Khan, P., Talha, M. and Kant, T. (2021), Influence of hygrothermal environment on frequency behaviour of functionally graded beams by employing various theories, *Proc. 8th International Congress on Computational Mechanics and Simulation (ICCMS-2021)*, IIT Indore, December 2021.

Professor Tarun Kant

Chapters Contributed to Edited Books

1. Kant, T. (1988), A consistent higher-order theory for laminated composite shells, in *Advances in Aerospace Structures and Allied Fields*, Edited by T.K. Varadan, A commemorative volume in honour of Professor K.A.V. Pandalai, Mass Prints, Madras, pp. 61-69.
2. Kant, T. and Datye, D. (1989), Finite elements available for the analysis of curved thin-walled structures, in *Finite Element Applications to Thin-Walled Structures*, Edited by J.W. Bull, Elsevier Applied Science, London, pp. 1-40.
3. Kant, T., Shiyekar, S.M. and Subbaiah, C.V. (2010), Higher order theories of functionally graded beams and plates, in *IUTAM Symposium on Multi-Functional Material Structures and Systems* (Proc. IUTAM Symposium on Multi-Functional Material Structures and Systems, Bangalore, 10-12 December 2008), Edited by B. Dattaguru, S. Gopalakrishnan and V.K. Aatre, Springer, Dordrecht, pp. 65-74.
4. Kant, T., Swaminathan, K. and Jha, D.K. (2012), Laminates: Static Strength, in *Encyclopedia of Composites*, vol. 3, 2nd Edition, Edited by Luigi Nicolais and Assunta Borzacchiello, John Wiley & Sons, Hoboken, New Jersey, pp. 1451-1463, ISBN (printed set): 978-0-470-12828-2.
5. Kant, T. and Pendhari, S.S. (2012), Thick laminated composite plates, Reissner-Mindlin theory, in *Encyclopedia of Thermal Stresses*, Edited by B. Hetnarski and T. Tauchert, Springer, Dordrecht.
6. Kant, T. and Pendhari, S.S. (2012), High-order theory, Composite laminated plates, in *Encyclopedia of Thermal Stresses*, Edited by B. Hetnarski and T. Tauchert, Springer, Dordrecht.

Professor Tarun Kant

Books

1. Kant, T. [Editor] (1985), *Finite Elements in Computational Mechanics*, Vol. 1, Pergamon Press, Oxford (ISBN 0-08-031682-1).
2. Kant, T. [Editor] (1985), *Finite Elements in Computational Mechanics*, Vol. 2, Pergamon Press, Oxford (ISBN 0-08-031682-2).
3. Desai, Y., Kant, T. and Mukherjee, A. [Editors] (2000), *Advances in Structural Engineering*, Quest Publications, Mumbai (ISBN 81-87099-08-9).
4. Kant, T., Eldho, T.I. and Banerjee, S. [Editors] (2009), *Proceedings, 3rd International Congress on Computational Mechanics & Simulation*, Department of Civil Engineering, IIT Bombay.

Professor Tarun Kant

Supervision of PhD thesis students

1. L N SAMANT {jointly with Professor CK Ramesh}, Finite element analysis of concrete pressure vessels (1975)
2. N A SHERIEF {jointly with Professor CK Ramesh}, Some studies on the analysis of pressure vessels (1976)
3. P V FADNIS {jointly with Professor K Rajaiah}, Thin plate and Mindlin's analyses of continuously and discontinuously supported orthotropic plates (1982)
4. B N PANDYA (844306), Higher-order theories and finite element evaluations for multilayer composite plates (submitted- December 1987; defended- May 1988)
5. MALLIKARJUNA BENNUR (864303), Refined theories and Co finite elements for free vibration and transient dynamics of anisotropic composite and sandwich plates (submitted- 15 November 1988; defended- 16 March 1989)
6. S R MARUR (844307) {jointly with Professor CS Gurujee}, Co and C₁ finite elements for transient dynamics of building frames (submitted-November 1989; defended- 2 June 1990)
7. R K SINGH (854303) {jointly with Mr. Anil Kakodkar of BARC}, Efficient C₀ finite elements for two and three dimensional fluid-structure interaction problems (submitted- 27 August 1990; defended- 18 January 1991)
8. B S MANJUNATHA (87404004), Evaluation of transverse and interlaminar stresses in fibre reinforced composite and sandwich laminates based on refined theories (submitted- 12 June 1991; defended- 31 December 1991)
9. M P MENON (86404003), Refined theories and finite element evaluations for multilayered composite shells (submitted- 11 November 1991; defended- 10 March 1992)
10. J R KOMMINENI (90404005), Geometric and material non-linear static and dynamic analyses of composite and sandwich plates and shells with a refined theory (submitted- 17 September 1992; defended- 22 February 1993)
11. HEMANT S PATIL (87404301), Elastic buckling of fibre reinforced composite and sandwich laminates with a higher-order shear deformation theory (submitted- 27 November 1992; defended- 11 November 1993)
12. VIJAY RODE (87404302), Finite element incremental elasto-plastic analysis of thick plates with a higher-order deformation theory (submitted- May 1995; defended- 12 March 1996)
13. RAKESH KUMAR KHARE {jointly with Dr JP Shrivastava of GSITS-Indore}, Thermal stresses in fibre reinforced composite plates and shells-some studies (submitted- June 1996; defended- November 1996)
14. SHIRISH RAMAJI BHATE (89404704) {jointly with Mr Anil Kakodkar of BARC}, Thermal postbuckling of composite laminates--some studies (submitted- December 1997; defended- 9 April 1999)
15. SHRISH SHRINIVAS KALE (94404601) {jointly with Dr Yogesh Desai}, Pseudo three-dimensional methodology for inelastic analysis of reinforced concrete plates and shells (submitted- May 1999; defended- 28 January 2000)
16. K SWAMINATHAN (96404302), Analytical evaluation of higher order theories for stress, free vibration and buckling analyses of cross-ply composite and sandwich plates (submitted- December 1999; defended- 12 June 2000)
17. CHENNAREDDY SARATH BABU (96404003), Thermomechanical buckling of fibre-reinforced composite and sandwich plates and shells with higher order theories (submitted- January 2000; defended- 11 June 2001)

18. VELAGAPUDI POORNA VENKATA RAMANA (95404602) {jointly with Prof A. Mukherjee and Dr Yogesh M. Desai}, Mechanics of concrete structural elements utilizing fibre reinforced polymer composites as external reinforcement (submitted- November 1999; defended- 11 November 2002)
19. SANDEEP C KULKARNI (00404603) {jointly with Prof Yogesh M Desai}, Uniaxial and biaxial ratcheting of piping systems (submitted- 2004; defended- 04 March 2005)
20. MAHESH R CHITNIS (98404006) {jointly with Prof Yogesh M Desai}, Wave scattering analysis of laminated composite plates and beams: Application to civil engineering structures (submitted- December 2004; defended- 06 April 2005)
21. SANDEEP SHIVRAM PENDHARI (02040901) {jointly with Prof Yogesh M Desai}, A new partial discretization technique in elasto-statics with special reference to laminated composites and sandwiches (submitted- December 2006; defended- 28 July 2007)
22. PAYAL DESAI (03404007), Stress analysis of finite length cylinders – some studies (submitted– 30 May 2008; defended– 29 July 2008)
23. SANDEEP MUKUND SHIYEKAR (04404801), A higher order coupled theory for piezoelectric and functionally graded composite plates (submitted– 05 January 2009; defended– 13 May 2009)
24. RAJESH KUMAR SINGH (04404702) {jointly with Dr R K Singh of BARC}, Nonlinear analysis of reinforced concrete structures with fracture and damage mechanics constitutive models (submitted- November 2008; defended- 08 March 2010)
25. DHIRENDRA KUMAR JHA (07404702) {jointly with Dr R K Singh of BARC}, Stress analysis and free vibration of functionally graded plates with higher order shear and normal deformations theories (submitted- 28 May 2012; defended- 15 September 2012)
26. SAMEER SUBHASH SAWARKAR (124048001) {jointly with Prof Yogesh M Desai and Dr Sandeep Pendhari of VJTI}, Semi-analytical solutions for static analysis of smart composite materials (defended – 19 July 2017)
27. DEVESH PUNERA (144048002) {jointly with Prof Yogesh M Desai}, Refined thermos-mechanical stress and free vibration analyses of laminated and functionally graded sandwich plates and shells (defended – 28 March 2018)

Professor Tarun Kant

Supervision of MTech Dissertation Students

1. V B JADHAV (1972) (jointly with Professor CK Ramesh),
Analysis of cylindrical pressure vessels with various end closures
2. K S JANGDE (1975),
Analysis of shells of revolution by finite element method
3. S S JUNGHARE (1977),
Numerical analysis of layered cylindrical shells
4. S R PATIL (1979),
Analysis of pressure vessels with various shell theories
5. S V PRABHU (1979) (jointly with Prof SC Lakkad),
Analysis of rectangular layered plates by numerical integration method
6. D J MULAY (1979) (jointly with Prof VD Dixit),
Analysis of skew plates by numerical integration
7. J N SHETH (1980) (jointly with Prof DN Buragohain),
Analysis of shells by mixed finite element method
8. R A OGALE (1984),
9. S KUMAR (1984),
Elasto-plastic analysis of plates
10. N P SAHANI (1984),
Static and free vibration analysis of layered composite plates
11. P B KULKARNI (1984),
Design of a safe plate element
12. C A BIRAJDAR (1984),
Finite element analysis of shells
13. N JAIN (1984),
Analysis of soil-structure interaction problems
14. S J PATEL (1984),
Pseudo-transient analysis of two-dimensional problems
15. E J KEEN (1984),
Analysis of off-shore pipelines
16. B H SHARMA (1984),
17. BHADRESH SHAH (1984) (jointly with Prof S Suryanarayan),
Vibration analysis of prestressed plates and shells by finite element method
18. P S PATNI (1985),

19. S T KENGHE (1985) (jointly with Prof S Suryanarayan)
Dynamics of prestressed plates and shells
20. A S BOOKWALA (1985),
Finite element thermal analysis of layered composite plates
21. D V DATYE (1986),
Finite element stress analysis of stiffened shells with junctions
22. R V RAVICHANDRAN (1986),
Finite element transient analysis of isotropic and fibre reinforced composite plates using a higher order theory
23. J T GALGALI (1986),
Finite element elasto-plastic analysis of thin/thick axisymmetric structures and computer graphics applications
24. P K MEGOTIA (1986),
Fibre reinforced composite plates
25. C K SUBBAKRISHNAYYA (1986),
Earthquake analysis of tall slender structures
26. R K INGLE (1986) (jointly with Prof VD Dixit),
Analysis of free standing staircase
27. R K AGRAWAL (1987),
Thermal stresses in fibre reinforced plastic plates: finite element method
28. S SHARMA (1987),
Finite element discretization by a higher order theory for fibre reinforced composite axisymmetric shells
29. S A KHAN (1987),
Thermal stresses in box-girder bridges
30. K SRINIVAS (873301) (1988) (jointly with Prof BV Rao),
Finite element analysis of wave forces on off-shore gravity structures
31. A B BARAGUNDI (1988),
Free vibration analysis of fibre reinforced composite plates using a refined higher order theory
32. J H VARAIYA (873362) (1988),
Dynamic analysis of fibre reinforced composite/sandwich plates by implicit time integration scheme using a higher-order shear deformation theory
33. C P ARORA (873355) (1988),
Finite element transient analysis of composite and sandwich plates based on a higher-order theory using mode superposition method
34. T S BUTALIA (1988) (jointly with Prof VD Dixit),
Finite element analysis of skew rhombic plates in bending
35. S A NADGAUDA (883334) (1989),
AutoCAD based analysis and design of framed structures
36. S A MAHAPATRA (1989) (jointly with Dr P Banerjee),
Seismic analysis of chimneys and water tanks
37. B N REDDY (8910010) (1990) (jointly with Dr HC Dhariwal),
Finite element analysis of internal combustion engine components
38. U P SINGH (1990),

- Shell dynamics using direct integration method
39. SUNIL KUMAR (1990),
Shell dynamics using mode superposition method
 40. AVANI BHUSHAN GUPTA (1990),
Evaluation of transverse stresses in fibre reinforced composite laminates
 41. S S ROY (90304046) (1991),
Three-dimensional elasto-plastic analysis of fibre reinforced composite laminates
 42. T S REDDY (90304401) (1991),
Three-dimensional elasto-static analysis of fibre reinforced composite laminated shells
 43. KOLLEGAL MANOHAR GOPALASWAMY (1992),
Three-dimensional free vibration analysis of composite laminates
 44. MITAL M SHAH (93304022) (1995),
Analytical solutions of a higher-order theory for symmetric composite laminates and sandwiches
 45. SEEMA G PANDIT (93304025) (1995),
Analytical solutions of a higher-order theory for general composite laminates and sandwiches
 46. POTANA KUMAR GUPTA JAMILI (94304045) (1996),
Finite element analysis of composite material general shells based on a higher-order shear deformation theory
 47. RAJESH V PANCHAL (94304030) (1996),
Propagating buckles in offshore pipelines
 48. R RADHAKRISHNA MURTHY (94304405) (1996),
Geometrically non-linear behaviour of beams based on different displacement fields
 49. AJAY KUMAR SRIVASTAVA (95304035) (1997),
Analytical large deflection solutions of higher-order theories for cross-ply laminates and sandwiches
 50. SHANKAR R. GOUNDER (95304028) (1997),
Computer aided design of system supported warehouse
 51. GEETA TRIPATHI (96304020) (1998) (jointly with Dr. R.K. Singh of BARC),
Some studies on fluid-structure interaction problems
 52. DONGARA VENKATESWARLU (97304016) (1999),
A comparison of mixed and displacement finite elements for fibre reinforced composite laminates
 53. KISHOR SHASHIKANT CHAVAN (97304044) (1999) (jointly with Prof. Dr.-Ing. P. Wriggers of Hannover),
Model adaptivity using bending indicator for membrane and bending general shell elements
 54. AMIT THAWANI (98304008) (2000),
Failure analysis of laminated composite plates
 55. GIRISH KANDI (2001) (jointly with Dr. Y.M. Desai),
Experimental investigations on durability of bond in FRPC beams
 56. RAJESH KUMAR SINGH (99304035) (2001),
Material nonlinear finite element analysis of reinforced concrete shells
 57. KALI BABU KATNAM (99304406) (2002),
Finite element analysis of circular and annular plates for flexure and free vibration using a higher order theory
 58. VIJAYA RAGHAV AMBATI (00304005) (2002),

- Analysis of axisymmetric laminated circular cylindrical shells using segmentation method
59. MAHESH PRASAD CHOUDHURY (00304901) (2002),
An assessment of higher order theories for static analysis of simply supported layered composite and sandwich cylindrical shells
 60. MILIND NARAYAN DESAI (01304902) [2003],
Analytical solution for thermal stresses in laminated composite open circular cylindrical shells
 61. C. VENKATA SUBBIAH (03304031) [2005],
Mechanics of functionally graded beams and plates
 62. BHARAT M. GANGAN (05304405) [2007],
Finite element analysis of rafts using higher order shear-deformation theory
 63. ABHISHEK JAIN (02D04007) [2007],
Finite element analysis of functionally graded plates
 64. NRIPENDRA KIMAR ROY (05304803) [2007],
A finite element-numerical integration technique for elastic plates
 65. S. JAYARAMAN (05310414) [2007] {jointly with Prof P Seshu},
Finite element vibration analysis of prestressed functionally graded plates using a refined higher order theory
 66. SACHIN NARAYANRAO NAIK (06304028) [2008],
Semi-analytical elasticity solutions for arches and cylindrical shells
 67. RAMJIBHAI M. PARMAR (06304813) [2008],
Finite element analysis of high strain rate problem for reinforced concrete nuclear containment structures
 68. KAMAL SINGH (09304021) [2011],
3-D finite element analysis of solids in cylindrical coordinates
 69. SUNMUKH SANGODE (06D04010) [2011],
Design and analysis of chimney in Abaqus
 70. ABHAY SINGHAL (06D04018) [2011] {jointly with Prof K M Bajoria},
Performance of rectangular, trapezium and Y-shaped concrete columns confined with fibre reinforced composites
 71. KOTHA SHRAVAN KUMAR REDDY (10304037) [2012],
Bending and free vibrations of functionally graded plates – exact and finite element formulations
 72. VINOD KUMAR MEENA (07D04026) [2012],
Analysis of carbon nanotubes
 73. DEVESH PUNERA () [2014],
Analysis of functionally graded open cylindrical shells
 74. SORAV MEHTON (133040047) [2015] {jointly with Prof Ravi Sinha},
Seismic performance and vulnerability assessment of reinforced concrete building typology in India considering material variability, horizontal and vertical irregularity
 75. SREENATH VEMULA (143040042) [2016],
Finite elements for circular composite plates with different theories

Professor Tarun Kant

Major Sponsored Projects Undertaken

1. Funding Agency : Board of Research in Nuclear Sciences,
Department of Atomic Energy
Grant No. : BRNS/ENGG/17/75
Title : Development of a system of computer programmes for the analysis
and design of pressure vessels and pressure vessel components
Sanctioned Funds : Rs. 2.00 lakhs
Status : Completed in 1979
2. Funding Agency : Department of Science & Technology
Grant No. : HCS/DST/198/76
Title : Thermal stresses in thick non-homogeneous shells of revolution
Sanctioned Funds : Rs. 0.79 lakh
Status : Completed in 1979
3. Funding Agency : Crompton Greaves Limited, Bombay
Grant No. : Sponsored MTech Project
Title : Development of a finite element code for the analysis of transformer
tank
Sanctioned Funds : Rs. 25,000/=
Status : Completed in 1986
4. Funding Agency : Aeronautics Research & Development Board,
Ministry of Defence
Grant No. : Aero/RD-134/100/10/83-84/362
Title : Transient dynamics of laminated anisotropic composite plates
Sanctioned Funds : Rs 1.98 lakh
Status : Completed in 1988
5. Funding Agency : Aeronautics Research & Development Board,
Ministry of Defence
Grant No. : Aero/RD-134/100/10/88-89/518
Title : Some studies in stability/buckling behaviour of FRP laminated
composite plates using higher-order shear deformation theories
Sanctioned Funds : Rs 2.68 lakhs
Status : Completed in 1994
6. Funding Agency : Aeronautics Research & Development Board
Ministry of Defence

- Grant No. : Aero/RD-134/100/10/88-89/534
 Title : Study of delamination in composite material laminates using higher-order theories
 Sanctioned Funds : Rs 2.39 lakhs
 Status : Completed in 1994
7. Funding Agency : Aeronautics Research & Development Board,
 Ministry of Defence
 Grant No. : Aero/RD-134/100/10/94-95/801
 Title : Large deflection elastic behaviour of fibre reinforced composite and sandwich laminates
 Sanctioned Funds : Rs 4.29 lakhs
 Status : Completed in 1995
8. Funding Agency : Centre for Development of Advanced Computing (C-DAC), Pune-411 007
 Grant No. : DRD/CE/TK-2/94-95
 Title : Parallel Finite Element Based Composite Analysis Package on PARAM
 (A collaborative project under transfer of technology)
 Sanctioned Funds : Rs. 3.00 lakhs
 Status : Completed in 1995
9. Funding Agency : Board of Research in Nuclear Sciences,
 Department of Atomic Energy
 Grant No. : 36/3/95-R&D-II/662 dated 21 June 1995
 Title : Improved material nonlinear behaviour of plates and shells
 Sanctioned Funds : Rs 4.73 lakhs
 Status : Completed in 1999
10. Funding Agency : Indo-US Collaborative Research under USIF funding
 Grant No. : 95IND104 (95IU001)
 Title : Performance of fibre reinforced polymer composites as structural reinforcements in hot, cold and humid environment
 Sanctioned Funds : Rs 55.25 lakhs
 Status : in progress
11. Funding Agency : Council of Scientific & Industrial Research
 (Extramural Research Division)
 Grant No. : 9/87(181)/95-EMR-I dated 16 November '95
 Title : Award of CSIR Research Associateship to Mr. Sanjib Goswami
 (formerly of IIT-Kh)
 Sanctioned Funds : Rs 57,870/= x 2 years
 Status : RA joined on 29-01-96; Completed in 1998
12. Funding Agency : Godrej & Boyce Mfg. Co. Ltd.
 Grant No. : MTech Sponsored Project
 Title : System Supported Warehouses

Sanctioned Funds : Rs 63,000/=
Status : Completed in 1997

13. Funding Agency : C-DAC, Pune
Grant No. : 01SP010
Title : Parallel Computing in Finite Element Method
Sanctioned Funds : Rs 83,000
Status : Completed
14. Funding Agency : Atomic Energy Regulatory Board
Grant No. : AERB/SRP/25/03
Title : Geometrically nonlinear analysis of plates and shells
Sanctioned Funds : Rs. 70,000
Status : Completed