

Tarun Mohan Lal

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Current Position and Company. Tarun is a Principal, Outpatient Practice Redesign and Advanced Analytics in Practice Operations at Mayo Clinic. In this role, Tarun is responsible for establishing a team of process improvement engineers and data scientists to solve a broad range of strategic, tactical and operational business problems like care team redesign, access management within the outpatient clinic practices.

Education History. Tarun earned a BS in Industrial Engineering from Manipal University (India) in 2007, MS in Industrial Engineering from Texas A&M University (College Station) in 2008 and is currently pursuing his PhD in Industrial Engineering from the State University of New York, Binghamton while working full time. He is expected to earn his PhD in December 2016.

Summer Internship Experience. Tarun feels very fortunate for getting the opportunity to intern with Mayo Clinic during his PhD program. His internship was with the Management Engineering and Internal Consulting department that provides business strategy and planning, process engineering, quality improvement, electronic system implementation, and business transformation enterprise wide. During his one year internship period, he got exposure to the entire healthcare continuum from primary care services, specialty outpatient clinics, surgery to emergency department and hospital. Some of the projects that he worked on as an intern at included:

- Applied Time-Driven Activity Based Costing methodology in the orthopedics department to identify opportunities for process improvement and task allocation to allied health staff.
- Developed a simulation model to determine the appropriate staffing needs to accommodate the open access model for a pre-operative clinic.
- Staffing analysis for Physical Therapists.
- Conducted capacity planning studies and developed processes using simulation to design space for department of general internal medicine.

Interested in an Internship? Mayo Clinic offers multiple internship and fellowship opportunities for healthcare systems engineers. More details about the internship programs can be found [here](#) and [here](#).

Work History. Tarun joined Mayo Clinic in 2010 and has led several key transformative initiatives related to patient access management, value based population health, sentinel events, outpatient practice redesign and surgical scheduling with significant financial impact at Mayo. He was also instrumental in advocating and

developing the business plan for enhancing systems engineering and operations research infrastructure within the institution. In addition to healthcare, Tarun also has experience working in the manufacturing, IT and supply chain sectors.

Why Healthcare? Since his childhood, Tarun always wanted to be a doctor; however, his aptitude for math and scare of never-ending medical education led him toward engineering. Until Tarun joined his PhD program, he was not aware of opportunities to work in healthcare. It was a class on Industrial Engineering in Healthcare that got him interested in considering a career in healthcare. Tarun feels fortunate about his decision to pursue this career path as it allows him to experience best of both worlds. Tarun really enjoys the people aspect of working in healthcare.

Day to Day. Tarun, in his current role, collaborates with Clinic Operations leadership to define, execute and lead strategies for outpatient practice redesign by use of advanced analytics and process improvement methods with the goal of providing premium care to patients at reasonable costs. He interfaces and builds relationship with physician and administrative leadership to identify and influence use of healthcare systems engineering and data science in decision making. Out of his multiple job responsibilities, he most enjoys managing/coaching the team of practice operations analysts and help them grow in their career.

Society for Health Systems (SHS) Involvement. Tarun got involved with SHS after attending the 2012 Healthcare Systems Process Improvement (HSPI) Conference. Tarun has served SHS in various SHS positions including Conference Track Chair, Conference Reviewer, Student Paper Competition Chair, and Co-Chair of the Membership Recognition Committee. Tarun served as chair of the 2015 HSPI Conference and was responsible for developing the conference strategic and annual work plans. He served as a liaison to the board, operated within budgetary parameters and provided guidance to the preparation of the SHS annual committee budget. Tarun brought about significant innovative changes to the conference, including new initiatives like the SHS YouTube contest and a Young Professionals program to support and align with SHS's strategic plan. Tarun restructured the entire conference to increase attendance to the conference, while also increasing benefit to attendees. His tireless efforts led to the most successful conference in history of SHS with 36% increase in conference registrations. Tarun is also the founding chair of SHS

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Young Professional committee and has established a structure and operating plan to move this group to the next level.

Why SHS? Tarun feels privileged to receive exceptional education and employment opportunities. Being the first engineer in his family, he was heavily dependent on mentors to guide him through his career and SHS has provided that. He considers SHS to be his home where he learns a lot about everything and attributes a lot of his career accomplishments to SHS. He continues to be involved with SHS for the following reasons:

- To stay acquainted/current with delivery science tools/methods/applications
- SHS gives him an opportunity to meet more people that like to do what he does for a profession.
- He gets to stay connected to his mentors that are now friends
- Lastly, he likes to volunteer for SHS to continue building his leadership skills. At the same time, he enjoys engaging with newcomers and motivating them to follow their passion. It throws light to create next generation of engineers and all the different things that we can do for healthcare.

Favorite Memory of SHS. Tarun Mohan Lal enjoys attending the conference as it gives an opportunity for him to connect with several of his friends. But if he has to choose, there are 2 favorite memories of SHS that will stay with him for ever. First, his most exciting time at SHS was in 2015 when he was the chair of 2015 HSPI Conference. He really enjoyed the experience of leading the conference committee for one year as it introduced him to so many engaged and extremely motivated volunteers and members of SHS. It was a breath taking experience to see how all the planning efforts came to be and the conference was such a HUGE success. Second, the 2016 HSPI Conference was also a fun experience as he got the opportunity to get involved with the strategic planning discussions with SHS Board.

Other Professional Organizations. Tarun is a tireless volunteer as evidenced by the broad range of activities he is supporting, not only with SHS but also with other professional societies like IISE and INFORMS. Tarun serves as member of university advisory boards of Dunwoody College of Technology, Industrial Technology Program and University of Minnesota and is helping these programs with a variety of efforts, including ABET accreditation, IISE student chapter initiation and curriculum development.



Passion for Healthcare. Tarun wanted to be a physician but his terrific mathematics performance led him to explore an engineering career. Healthcare systems engineering ended being a perfect combination as it gives him an opportunity to apply his engineering skills to help community and patients. Healthcare is increasing in complexity and lots of moving pieces that need to be put together to provide the best care for the patients. The manufacturing industry in the United States in 1970s faced similar problems of errors, over budget and safety problems and learnt through the process.. it's an exciting time to explore those opportunities in healthcare NOW and he wants to be at its forefront! In a service industry like healthcare, success of an "engineered" service is determined by ease and convenience it offers to the users. In order to deliver such a seamless product/service, an engineer needs to think broad, be a leader, operate in a multi-disciplinary team environment, and possess exceptional emotional intelligence. Absence of these qualities would produce a workman with blunt tools, which is a major source of concern in today's world.

Awards. In 2014, Tarun was named the New Face of Engineering by Discover-E and the National Society for Professional Engineers for his outstanding contributions to engineering and resulting impact on society. He is also the proud winner of the IISE's Early Career Industrial Engineer in Business and Industry award. In the picture above, Tarun (center) received the 2016 SHS President's Award from SHS Presidents Joyce Siegele (left) and Amanda Mewborn (right).

Sharing is Caring. He is a strong believer of dissemination of all the work each of us does. He would like to encourage all industrial engineers to share their work by disseminating it at conferences, professional society meetings, and/or publications. After all, it is a Google world now, and information dissemination keeps people from investing a lot of time and effort on things that already have been created.