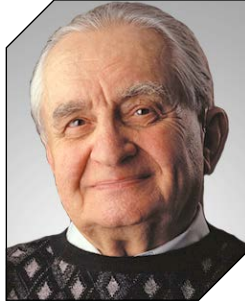


# Faydor L. Litvin 1914–2017

**Dr. Faydor L. Litvin**, a living legend in the gearing industry, died April 26 at age 103. Credited with 25 inventions, three patents and some 300 publications, including (and still in print, see Amazon) *Noncircular Gears — Design and Generation* (with Alfonso Fuentes-Aznar); *Gear Geometry and Applied Theory* (Fuentes); and *Face Gear Drive with Helical Involute Pinion — Geometry, Generation by a Shaper and a Worm, Avoidance of Singularities and Stress Analysis* (NASA Technical Reports).



Dr. Litvin's prolific output was matched only by his genius. Of his patents, it is for "Apparatus and Method for Precision Grinding Face Gears" that he is perhaps best known. His "method" provided a way to reduce the weight of helicopter transmissions by 40 percent—in turn leading to fuel savings, reduced emissions and lower seat prices.

Indeed, Dr. Litvin's patented method revolutionized the grinding of hardened face gears without sacrificing the level of safety typically found in spiral bevel gears. It enabled use of such low-cost, high-capacity gears in applications specific to aerospace, automotive, and shipping manufacturers.

Significantly, Dr. Litvin was equally celebrated for his academic career as a professor teaching the analysis and kinematics of mechanisms; theory of gearing and applications; advanced theory of gearing; dynamics of machinery; analysis and design of manipulators; and special topics in advanced kinematics and dynamics of mechanisms. A Professor of Mechanical Engineering at the University of Illinois at Chicago since 1979, he also served as Director of the university's Gear Research Center. In that role he supervised the research of 84 Ph.D. students.

His academic and research careers both began in his native Russia — beginning with St. Petersburg State Polytechnic University (1947–64) and later at St. Petersburg Institute of Precision Mechanics and Optics (1964–78), where he was professor and department head of mechanisms theory and machine elements.

A partial listing of honors bestowed includes: ASME Fellow; 12 NASA Tech Brief Awards (1984–2004); Inventor of the Year 2001 from the University of Illinois at Chicago; and the Thomas Bernard Hall Prize Award (2002) from the Institution of Mechanical Engineers, U.K. Dr. Litvin also served as associate editor of *Computer Methods in Applied Mechanics and Engineering*, was a member of the honorary editorial advisory board of the journal *Mechanism and Machine Theory*, and served on the editorial board of *Gearing and Transmissions*.

Dr. Litvin was husband of the late Shirfra Litvin, and is survived by two children, four grandchildren and seven great grandchildren.

Reacting to the news of his passing, Dr. Robert F. Handschuh, Chief, Rotating and Drive Systems Branch NASA Glenn Research Center said, "This is very sad news for me as Dr. Litvin was like a 'Technology Father' to me. Part of my Ph.D. was based in using his methodology for gear geometry development. I managed his grant work with NASA/Army over a 25-year period and therefore talked to him very frequently and visited U of I at Chicago a multitude of times. His USA-trained students have now found prominent places to further impact the gearing industry. Many of his ideas are flying today in our latest military and civilian rotorcraft and (in so doing) has made a substantial impact to the gearing industry. Dr. Litvin was a very special person, both professionally and personally. Even though he was from Russia, he became a real American."

## Michael Goldstein RECEIVES AGMA DISTINGUISHED SERVICE AWARD

Dean Burrows, president of Gear Motions, Inc. and chairman of the AGMA Board of Directors presented the Distinguished Service Award to **Michael Goldstein** at the AGMA Annual Meeting, April 1, in Palm Springs, California.

The Distinguished Service Award is bestowed only upon an individual who has advanced the state of the gear industry throughout their notable career, who has advanced the state of the gear industry through many years of dedicated work, and whose efforts and achievements have significantly benefited the gear industry and its end users.

The 2017 recipient is Michael Goldstein, of Goldstein Gear Machinery, publisher and editor-in-chief of both *Gear Technology* magazine, and *Power Transmission Engineering* magazine.

"Michael has been a longtime member and supporter of AGMA, but also importantly he has focused a great deal of energy in helping the gear industry through his publications,"



Left to right: Michael Goldstein, Dean Burrows

Burrows said. "Michael began his career in the gear industry in 1964 when he joined his father at Cadillac Machinery Company. He started *Gear Technology* over 30 years ago, bringing a platform for the gear community when none existed

previously. In recent years, this publication has also been preserved in digital form with the *Gear Technology* Library, featuring a searchable database of over 2,100 technical articles published over the life of the magazine. Michael started *Power Transmission Engineering* magazine in 2008.

“In addition to his work with the gear industry, Michael has held leadership positions in the Machinery Dealers National Association and the European Association of Machine Tool Merchants, where in 2003 he was honored as Fellow — only the second non-European to have been given that award.”

Upon receiving the award, Goldstein made the following remarks:

*When I was a very young boy, my father impressed upon me the idea that we all have an obligation to give back to society. He used to tell me that we would live in a very bleak world if everyone was just a taker. As I grew up, I took note of many individuals who gave generously of their time, knowledge and experience to contribute to various venues in our society.*

*When I joined my father in the used machinery business in 1964, I immediately started to follow in his footsteps by contributing to our association, the Machinery Dealers National Association (MDNA). My father was a past national president of MDNA. After doing work on the chapter level, I quickly went to the national level and joined MDNA's for-profit publishing subsidiary, which published a directory of available used metalworking equipment, called The Locator. The Locator looked like a telephone directory and had had listed over 32,000 used machine tools being for sale, with approximately 5% of which were added or subtracted every month. We printed and mailed 120,000 books every single month. This product still exists today in digital form. Through the years that I was on The Locator's board, and then eventually moving through the chairs as an officer, jobs came up that no one else wanted. When we had to buy a new mini-computer (the PC had not yet been invented), I did the research with our executive director and bought a DEC computer. When we needed a new computerized typesetter, again with our executive director I did the research and bought one. When we needed to negotiate a new printing contract, or a contract for paper, I was, again, the volunteer.*

*With these experiences, I felt I was being trained for something, though at the time I didn't quite know what it was. I was just following my father's standard, volunteering because I recognized an obligation to do so.*

*In the early 70s, I worked for a company called Daldi & Matteucci (DEMM), first in Milan and then, living in Bologna and working in Porreta Terme, up in the mountains between Bologna and Florence. Also, throughout my early career as a used machinery dealer, specializing in gear equipment, I traveled all over the world to inspect and buy inventory and visit customers.*

*During that time, I became aware of and saw important technical writing being done and presented at AGMA's Fall Technical Conferences and in technical magazines and conferences all over the world. However, I recognized that the information presented at those conferences was never widely disseminated. The owner, plant manager or VP of Engineering would attend these events for three days, come home with a large blue binder containing all the technical papers, and return to his desk with three days of work piled up. The blue binder would be put up on the shelf and*

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no one but the attendee would ever know the contents.

When I came out of the presidency of The Locator, in '83, I had the idea that this technical information was extremely valuable to more than just the attendees and, with my publishing background and experience, I thought that this information could be the basis of a magazine for the gear industry, worldwide. This is when I first started to think about the concept of obligation really being an opportunity.

Although I continued on MDNA's board of directors, I started to realize that there were many other benefits that I could see by being involved and active in our association. First, you get to meet a lot of people from all over, all of whom are in the same business as you, but who think differently and react to problems differently. Not better, not worse, but different!

It opened my eyes to how different people solved similar problems in a different way. Also, I got to meet people with expertise in aspects of the used machinery business in which I had no experience or insight (i.e. leasing, financing, etc.). My father had an expression "You don't know what you don't know," and working with a myriad of people in your own industry makes this abundantly clear. Because of the nature of working in an association, you often have to speak in front of groups, whether it's committees or boards or the association itself, which gives you practice in public speaking, a difficult task for everyone. Even Johnny Carson said near the end of his career that he got butterflies before the curtain would open.

When I started, I was newly married and had a child and was trying to build a business just like every young person in industry and I didn't know where I would find the extra time for my association activities. But I found that I quickly became a better time manager. In a short period of time, I was able to include the association activities into my routine without overlooking or denying any other responsibilities.

But I think the most valuable quality that you can learn from association work is people skills. When you have to work with a lot of volunteers, each with distinct personalities, needs and goals—and any one of them can tell you to go stuff it—you're forced to develop the skills necessary to point everybody in the same direction and to work as a team. Those skills translate extremely well when you go back to your company. You're able to direct your people effectively—not because you're the owner or the boss, but because you are a good leader. I believe there is no better place for you to acquire those skills than in association work.

Some years ago, I discussed this very same concept with Dr. Phil Terry, who was then head metallurgist at Lufkin Industries and Buzz Maiuri's predecessor as head of the AGMA Technical Division. He relayed a story about Lufkin's VP of Engineering, who had joined one of the AGMA technical committees as a very young man. At the time, the committee was populated with substantially older and more experienced volunteers. As the youngest guy there, they often gave him the dirty jobs: "research this," "find out that," "write this proposed standard," etc., but he persevered and eventually headed that committee. I asked Phil, "If this young guy did not have those experiences doing the research, writing the standards and dealing with substantially older and more knowledgeable people, is it possible that he would not be the VP of Engineering of Lufkin Industries today?" Phil remarked, "I've never thought of it that way," thought a second and then said,

"Probably not." An obligation that turned into an opportunity.

I was on the board of MDNA for over 40 years. During that time the U.S. representative to the European Association of Machine Tool Merchants (EAMTM) was set to retire and asked if I would work with him on the council and eventually replace him, representing all of the non-European members to the council. Again, I saw an obligation that could turn into a potential opportunity. While I continued to develop my people skills, my speaking skills, etc., and this also gave me an opportunity to see a much broader aspect of the used machinery business and to better understand how the English don't think like the Germans, who don't think like the French, who don't think like the Italians, and who don't think like the Scandinavians, etc. In my case, I represented mostly Americans but also Japanese, Koreans, South Africans, South Americans, an Israeli, etc., which was a whole new experience. Further, my wife, Marsha, and I were required to attend their annual conferences in such places as the Canary Islands, Estoril, in Spain, Santa Margarita, Scotland, Paris, Cannes, Berlin, Villa d'Este in Como, Monte Carlo, Stockholm, Florence, Marbella, Lanzarote, Malta, Barcelona, Jersey, Sorrento, Naxos, Rhodes, Budapest—yes—a tough job! I served on their council for 21 years and was honored as a Life Fellow of the Association, only the 15<sup>th</sup> recipient and second non-European since 1940. An obligation that became an opportunity.

When I first came up with the idea of starting Gear Technology magazine, there were three people/companies that were important in supporting me and my idea, which I would like to acknowledge. First, Marty Woodhouse, Sales Manager at Star Cutter Company was on board before I even had a chance to give him my whole pitch. I said "Marty, don't you want to hear my all my ideas?" He replied "I like the idea, the industry needs this information and you can count on Star Cutter Company for a one-page ad." The second was Henry (Hank) Boehm, President of Liebherr America, which has been a continuous advertiser from day one. The third is David Goodfellow, who at that time was the president of American Pfauter, who has also been an advertiser from our first issue, first with American Pfauter and now with Star SU, and we are and have been David's sole advertising venue to the gear industry, for 34 years.

With what we've heard earlier in the conference about the upcoming challenges of IoT, participating in your association is an efficient and valuable way to, together, learn about these new technologies. We also had a speaker talk about the difficulty in the challenges of engaging millennials, who were born and raised with electronic devices and it's a perfect way to get them interested in our industry, by getting them involved in the association's upcoming IoT offerings, so that they can start in areas that they know and that challenge them so that they can grow into the mechanical parts of the gear manufacturing and bearing industry, as they grow and mature.

I would like to thank and acknowledge my wife, Marsha, as we just celebrated our 50<sup>th</sup> anniversary of our journey together, and she too has always had the same attitude toward obligation being opportunity, and my accomplishments often pale compared to hers.

I have found that obligation and opportunity are often two sides of the same coin and, in life, when you flip a coin with obligation facing up, more often than not, the coin will come down on the side of opportunity.



# Kapp Technologies

## ANNOUNCES PERSONNEL CHANGES

Michael Ruppert joined the Kapp Group in Germany in 2005 and moved to the Boulder, Colorado operation in 2007 to run the tool manufacturing business reporting to Jim Buschy. Ruppert was recently promoted to vice president and general manager. Bill Miller joined Kapp as regional representative in 2000 and was promoted to vice president sales in 2007. Miller has recently been promoted to vice president of sales and service.

Buschy retires after 26 years with the company. The last 10 years he served as vice president and general manager. Buschy's leadership, technical knowledge and experience have been a sustaining force in the growth of the company. Under his guidance a new generation of employees has joined the company and learned the company culture set by his example. No task is beneath anyone including himself in service to customers. Customers know they can count on Kapp to respond in all cases.



Left to right: Michael Ruppert, Jim Buschy, Michael Kapp and Bill Miller.

“It is just what we do when called upon,” said Buschy. The old cliché that “they threw away the mold” after Jim was born, is said of him by longtime customers. Miller and Ruppert lead a great team that will carry on in the same tradition.

Buschy looks forward to enjoying time with his family - especially as his grandchildren are in their formative years. The grandkids are, he says, his most important legacy. He is modest. ([www.kapp-usa.com](http://www.kapp-usa.com))

# LMC Workholding

## RECEIVES GOVERNOR'S CENTURY BUSINESS AWARD

LMC Workholding received the Governor's Century Business Award honoring its 100 years in business and was one of eight Indiana companies recognized by Governor Eric J. Holcomb with such an award. During the ceremony on March 27, 2017, a total of 34 companies were honored, including those receiving the Governor's Half Century Business Award. These awards recognize businesses that have remained in operation for a minimum of 100 or 50 consecutive years and have shown commitment to its employees, community and state.



“Today, we honor Indiana businesses that have withstood the test of time, helping to drive Indiana's economy forward,” Governor Eric J. Holcomb said. “I am thrilled to celebrate this year's honorees and their integral role in building one of the nation's best business climates. Together, I'm confident we will continue to take Indiana to the next level, ensuring Indiana is the best place to start a business, grow a business and get a job.”

LMC Workholding celebrated its 100<sup>th</sup> anniversary in 2016, having provided quality products, services and solutions to the workholding industry for a century. LMC Workholding is the present entity of the Logansport Machine Company which from 1916 to the present has built a reputation for engineering and manufacturing of power chucks, cylinders and special workholding products in Logansport, Indiana. ([www.lmcworkholding.com](http://www.lmcworkholding.com))