# **3M CARLTON SOCIETY - Members**

# 1963 (Charter Members)



**Bert S. Cross** – For his tireless and unflagging drive to achieve and to provide improved and new products, and particularly for his early contributions to coated abrasives.



**Richard G. Drew** – For his invention of pressure-sensitive masking tape and pressure-sensitive cellophane tape.



**Lloyd A. Hatch** – For his philosophy and guidance in research and development; for the development of an air classification process for uniform grading of abrasive minerals; and for his work with roofing granules.



**Clifford L. Jewett** – For his contributions and continued support of the 3M technical organization, and for the development of the modern roofing granule.



**E. M. Johnson** – For the introduction of sound engineering principles and improved mechanical equipment for manufacturing, primarily in the areas of tape and coated abrasives. (Awarded posthumously.)



**E. Waldo Kellgren** – For his contributions toward the development of rubber resin backing treatments for pressure-sensitive tapes, and for developing superior paper backings for waterproof sandpaper.



**Joseph H. Kugler** – For his inspiration and encouragement to others; for the introduction and extension of synthetic resin technology; and for his work on the electrostatic coating process used in the manufacture of coated abrasives.



**Harvey J. Livermore** – For numerous contributions in many fields, and for his work on water-dispersed adhesives.



**Leonard R. Nestor –** For developing and improving manufacturing processes for coated abrasives, and for his work on coated abrasives products.



**George P. Netherly** – For his development of gluebond sandpaper.



**Francis G. Okie** – For his contributions to the early experimental philosophy, and for the invention of waterproof sandpaper.



**A. E. Raymond** – For advancement of processes for producing coated abrasives, and for improvements to coated abrasive products.



**Henry N. Stephens** – For key contributions in the development of water-dispersed adhesives and, under R. P. Carlton, for the organization and development of 3M's Central Research Laboratories.



**George W. Swenson** – For early laboratory scientific studies, and for the invention of colored ceramic-coated roofing granules.



**Hubert J. Tierney** – For broadening and improving the entire line of pressure-sensitive tapes, and for his contributions to the development of modern manufacturing processes.

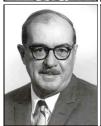
# 1964



**William E. Lundquist** – For his dedicated and knowledgeable application of organic chemistry to such important 3M product developments as pressure-sensitive adhesives, tape backings, and plastic film.



**Carl S. Miller** – For his conception and reduction to practice of the principles of thermographic office copying and for his dedication to its development as a major product technology in 3M's growth.



**Wilfred W. Wetzel** – For early contributions to the instrumental study of elasticity in pressure-sensitive adhesives, and for the technical leadership which established magnetic tape as the world's principal medium for electronic recording and 3M as the world's principal supplier of such tape.

# 1965



**George V. D. Tiers** – For fundamental scientific research in nuclear magnetic resonance spectroscopy which enables rapid structural analysis of organic compounds and fluorochemicals; for many publications in that field which have helped to establish 3M's reputation as a leader in research; and for numerous discoveries in fluorine chemistry.

# 1966



**Warren R. Beck –** For fundamental research, invention, and development in glass, glass bead, and glass bubble technology, particularly with glasses of high refractive index which are essential components of retroreflective materials, thereby making possible 3M's commercial development of reflective signs, license plates, and related products.



**Philip V. Palmquist** – For major contributions in the invention and development of all-weather reflective sheeting, reflective and antireflective coatings and finishes, and other related areas of great commercial significance to 3M.



**Thomas S. Reid** – For inventions and leadership in many areas of organic chemistry, including basic research in fluorine chemistry, leading to fluorochemical oil- and water-repellent finishes; for his work on adhesion promoters for polymer films and low-adhesion backsizes for tapes; and for the initiation and direction of research in medicinal chemistry.



**Erwin W. Ulrich –** For his work in the field of polyacrylate adhesives, vital components in industrial, retail, and medical tapes, and reflective products.

### 1968



**Alvin W. Boese** – For originating and developing nonwoven web technology in 3M, which has led to a wide variety of important commercial products ranging from decorative materials to protective face masks and surgical tape.



**Carl A. Dahlquist** – For invention and development of low adhesion backsizes, which are widely used in pressure-sensitive tapes; and for fundamental research on adhesion and on visco-elastic materials.



**Matthew W. Miller** – For dedication to scientific and technical achievement; for fulfilling those efforts as a builder of men and laboratories; for developing the scientific and technical communications department; and for major contributions to the Abrasives Laboratory and to 3M's Central Research Laboratories.



**A. Farley Thomson** – For development of neoprene elastomer materials having unique adhesiveness to a wide variety of surfaces, and which have contributed greatly to 3M's leadership in adhesives; for joint invention of a new encapsulated adhesive technology; and for contributions at all stages of adhesives development.

#### 1969



**Thomas J. Brice** – For fundamental research in fluorine chemistry, including the joint discovery of fluorocarbon sulfonic acids which are essential to 3M's successful commercial development of fluorochemicals; and for initiating and supporting research on aromatic and epoxy polymers and prepolymers, ethyleneimine derivatives, polysulfonamides, and light-sensitive compounds.



**Samuel Smith** – For the development of commercially successful oil- and water-repellent fluorochemical textile finishes; for prediction and realization of soil release in permanent-press fabrics, a major advance in textile technology; and for discovery of a unique catalyst system for cationic polymerization.

#### 1970



**Joseph F. Abere** – For his technical contributions in the development of 3M<sup>™</sup> Scotchpak<sup>™</sup> Packaging Films, reactive bisamide polymers, and 3M<sup>™</sup> Scotchtab<sup>™</sup> Can Sealing Systems; and for his interests in composite systems.



**James R. Johnson** – For his involvement in the fields of nuclear products, ceramics, and refractory metals; for his role in organizing and staffing 3M's Physical Sciences Research Laboratory from which numerous new products have emerged; and for his authorship or coauthorship of 31 technical publications.



George M. Rambosek – For an unusually broad list of technical and chemical developments, many of which have resulted in commercially successful products including Addent™ dental adhesive structural epoxy adhesives for high performance of honeycomb panels; adhesive drying processes; moisture-curing one-part alkalineimine adhesives; 3M™ Tartan™ surfacing; oleophobic papers prepared with perfluoronated materials; aerosol spray adhesives; 3M™ Podiasin™, a new podiatry material;and a polyisocyanurate catalyst.



**Charles W. Walton** – For his technical leadership and contributions to the development of structural adhesives which led to the revitalization and new growth of the Adhesives, Coatings, and Sealers Division; for his great perception in recognizing technical opportunities and guiding them through to successful commercial products; and for his unflagging support and encouragement of 3M Research and Development efforts.

### 1971



**Arthur H. Ahlbrecht** – For his technical contributions in the development of 3M's fluorochemical program, especially in the design and synthesis of the critical monomers for the first commercial textile treatments; and for his many patents on the basic compositions for 3M™ Scotchgard™ Fabric Finishes and Fluorochemical Surfactants.



**Roger H. Appeldorn** – For his technical contributions in the fields of materials and optical equipment for the overhead projection system; and for his many patents in the fields of copying and image projection.



**E. Wayne Bollmeier** – For his research and development of basic mechanical connecting techniques and insulating materials for communications and electrical distribution; and for his many patents in these fields.

# 1972



**Bryce L. Clark** – For his technical contributions to the development of copying processes, particularly heat imageable papers, opaque backcoat for infrared copy papers, and electrosensitive recording paper.



**Wesley R. Workman** – For his technical contributions to the dual spectrum process and the related dry photo technologies, the photochemistry of diazo sensitized printing plates; and for his many contributions in the reprographic field.

### 1973



**James O. Hendricks** – For his contributions to the understanding and development of pressuresensitive adhesives, particularly physical characterization of adhesives, and development of release coatings or low adhesion backsizes.



**Robert A. LePage** – For his contributions to the development of 3M<sup>™</sup> Scotch-Brite<sup>™</sup> low density abrasives and 3M<sup>™</sup> Scotch-Tred<sup>™</sup> non-slip products. He has been the technical leader in the commercialization of these materials.



**Walter C. O'Leary** – For his contributions in the field of aircraft structural bonding film adhesives. He has been the leader in establishing 3M's position in this important area.



**John W. Pearson** – For his many contributions in the field of engineering at 3M and particularly in plastic film extrusion. His accomplishments include the design of the important polyester film manufacturing process at 3M.



**Benjamin L. Shely** – For his contributions in the graphic products area. He has made basic discoveries in electrophotography, dry silver, and the electropower technology known as 3M's Magne-Dynamic process.

# 1974



**Ernest J. Duwell** – For his original research on the wear process involved in sliding a hard mineral on a metal surface and the application of this knowledge to grinding, and his further work on the chemistry of grinding.



**Patsy O. Sherman** – For her surface energy research leading to the development of the 3M<sup>™</sup> Scotchgard <sup>™</sup> Fabric Protectant, and for her research in fluorochemical polymerization and synthesis of polymers.



**Harold G. Sowman** – For his contributions to the development of the nuclear reactor materials program and powder metallurgy, and for his pioneering in the chemical ceramics program which has led to many new business programs.



**William A. Vievering –** For his pioneering efforts in establishing 3M's laboratory and quality control operations, requiring developing both test methods and standards which have resulted in the company's reputation for quality.

### 1975



**Edward E. Leach** – For his original research and development in the field of electrical connectors, including the "U" contact and flat cable principles, wire forming and precision for metal stamping that has led to the development of new products for the telecommunication and electronics industries.



**John T. Mullin** – For his pioneering work in establishing magnetic tape recording in the United States, the invention and development of both the differential capstan tape drive and the isoloop drive, and his leadership in the development of video, instrumentation and audio recorders.



**Ambrose F. Schmelzle** – For his creative research on the fundamentals of adhesion; for the development of new polymeric materials; and the application of this knowledge to adhesives, release coatings, paper saturants and films resulting in products such as pressure-sensitive tapes, magnetic tape, and reflective sheeting.

# 1976



**Francis W. Brown** – For his significant and major contributions to the advancement of acrylic adhesive technology; especially in those areas involving pressure-sensitive, aerosol, plasticizer-resistant, high solids, and UV-curing adhesive applications which constitute broad and basic product lines.



**Melvin O. Kalleberg** – For his creative work in building the technical foundations for double-coated tapes and for adhesives transfer products; and for his dedicated development of the process methods for related product lines.



**Murray Olyphant, Jr.** – For his pioneering work in developing and evaluating the electrical applications of fluorochemicals, epoxy resins, copper clad laminates, and electromagnetic shielding tapes; as well as for his internationally recognized expertise in the field of electrical phenomena.



**Robert A. von Behren** – For his leadership in the advancement of magnetic tape technology, but especially for his efforts in the field of particle orientation and pigment binders yielding significantly higher magnetic performance and longer wearing tapes and, more recently, for his development of the data cartridge for computer applications.

### 1977



**Luigi Franchi** – For his outstanding contributions in the field of amateur photographic films, especially his technical leadership in the development of high quality color films; his innovative emulsion technology; and for teaching photographic science to many 3M scientists.



**Richard A. Guenthner** – For his significant and major contributions to the development of basic fluorochemical materials; for his technical leadership in synthesis and characterization of fluorochemical surfactants; and for his significant assistance to other 3M divisions.



**Douglas L. Johnson** – For his many creative contributions and his technical leadership in the development of 3M's polyester film capability; and for his continuing development of innovative film concepts and manufacturing processes.



**David A. Morgan** – For his outstanding contributions in imaging products, especially the invention and continuous development of 3M's dry silver process; and for his creative efforts in the improvement and expansion of electrolytic electrophotographic products for the microfilm industry.



**Richard G. Riedesel** – For his creative work in developing precision belt sanding equipment and related coated abrasive products; for his innovative developments in fibers and fabrication techniques which led to expansion of several nonwoven fiber product lines; and his pioneering work in acoustical materials.



**George H. Smith, Jr.** – For his pioneering work and technical leadership in the development of new photopolymer technology which has broad application in basic product lines; for establishing a 3M patent position in chemical crosslinkers for sealants; and for early contributions to fluorochemical technology.

### 1978



**Dennis J. Enright** – For his outstanding achievement in the development of electronic wire connecting and handling systems; for his contributions in methodology; and for his technical leadership in nurturing the growth of these products and innovations.



**Arthur R. Kotz** – For his many contributions and innovations in the field of graphic reproduction, including electron beam recording, 3M<sup>™</sup> Magni-Dry<sup>™</sup> product development, and electronic reproduction systems; for his technical leadership in encouraging the development of pioneering technologies; for his achievements in developing the technical and creative talents of his colleagues.



**Wilbur H. Pearlson** – For his technical contributions in the field of fluorine chemistry; for his leadership and innovativeness which led to growth of 3M's fluorochemical business; for his pioneering spirit and dedication in promoting these technologies.



**Joseph W. Shepard –** For his pioneering research and development in establishing electrophotographic and dry silver technologies in 3M; for his technical leadership in directing these products to fruition; for his dedication and leadership in establishing 3M as a leader in imaging technologies.

# 1979



**Paul E. Hansen** – For his contribution to the development of materials for medical and surgical products, and for his persistent faith and pioneering work in nonwoven webs and specialty fibers.



**Robert D. MacDonald, Jr.** – For his laboratory and commercial development of a variety of unique tape backings, and for his visionary research on solvent and pollution-free adhesive coatings.



**Ronald A. Mitsch** – For his leadership in directing 3M into unique areas of research, the initiation and direction of many diverse new product programs, and for his tireless efforts in the development of people as 3M's most important resource.

# 1980



**Walter L. Krueger** – For his pioneering work in thermoplastic extrusion including acetate films for filament tapes and the acetate matte finish process; and for his continued leadership and contributions in technology of polymer processing.



**Andrew H. Persoon** – For his pioneering work on low noise iron oxide which provided the technical base for manufacture of magnetic materials over the past thirty years; and for his continued leadership in magnetic recording technology.



**Chi Fang Tung** – For his significant technical contributions to glass bead technology including tungo beads used in many reflective products; and for his continued technical leadership in new glass compositions of commercial importance.

#### 1981



**Patrick H. Carey, Jr.** – For his innovative work on binder fibers which provided the technical base for 3M<sup>™</sup> molded mask products; and for his continued leadership in identifying new products utilizing nonwoven fiber technology.



**R. Allan Matthew**s – For his pioneering work on coiled web development, which provided the technical base for many 3M<sup>™</sup> surface maintenance and abrasive products; and for his continued leadership in fiber science and technology.



**Wayne A. Severson** – For his many contributions in developing processes for the manufacture of chemicals used in a wide variety of 3M products, and for his continued leadership in chemical process development technology.

# 1982



**George F. Duffin** – For his many contributions in applying photographic science to the development of 3M products including the patented anti-fog materials and emulsion stabilizers, and for his technical leadership in directing the development of X-ray and micrographic products.



**Tore Eikvar** – For his development of the 3M<sup>™</sup> Camera Plate System and 3M<sup>™</sup> Scotchprint<sup>™</sup> technology, and for his continued technical leadership in the development of printing and duplicating systems.



**Gaylord L. Groff** – For his pioneering work in the development of electrical insulating pressuresensitive tapes, liquid resins, nonwoven insulation, corrosive protective coatings, and flexible printed circuits for the electrical electronic industry; and for his continued effort of applying new technologies to develop products for existing markets.



**Donald J. Newman** – For his innovative work in developing visual transparency making systems and his recognition of new business opportunities for these systems, and for his work on the recycle process for polyester resin and films.

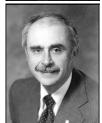


**Charles G. Thiel –** For the development of metered-dose aerosol valves, aerosol devices for the delivery of drugs, and formulations for the metered-dose devices; and for his contributions in the development of processes for the manufacture of drugs.

1983



**Robert M. Adams** (Honorary Member) – For his leadership and dedication to the 3M technical organization, with special concern for the people who serve it, and his support of the Dual Ladder concept; for his efforts in promoting the interchange of ideas through the 3M Technical Council and the 3M Technical Forum; for his development of the interchange of the 3M technology worldwide; and for his role in the establishment of the Carlton Society, which has become a nationally recognized award for excellence in corporate research.



**Arthur L. Fry** – For novel and creative approaches to the development of products based on repositionable adhesives and for his tenacious dedication and commitment to the programs which resulted in Post-it® Note Products.



**Carl L. Sandberg** – For his contributions to polymer science, and especially for his contributions to 3M polymer technology in free-radical processes, pressure-sensitive adhesives, weatherable coatings and related areas.



**Spencer F. Silver** – For his creative research in polymers and pressure-sensitive adhesives, for his invention of microsphere adhesives, and for his persistence in seeking to apply his science to marketable products.

### 1984

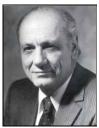


**Melvin H. Sater** – For his pioneering approaches in developing unique binder systems for magnetic tape technology; and for his leadership in recognizing the significance of surface characteristics and developing test procedure that led to significantly improved magnetic tapes.

#### 1985



**Robert W. H. Chang** – For his pioneering leadership and technology development in the dental field, particularly dental restoration; for his research in chemisorption of biological surfaces such as enamel and dentin; and for his development of methods for preventing plaque with fluorochemicals.



**Louis A. Errede** – For the development of novel membranes having potential in gas adsorbent, wound dressing, and horticultural applications; for the development of improved X-ray films; and for elaborating the photochemical mechanism whereby certain films can be laminated in commercially significant processes.



**Robert J. Koshar** – For the synthesis of novel fluorochemical monomers, polymers, and polymerization catalysts -- most notably the class of fluoroalkyl sulfones; for the synthesis of high energy nitrogen-fluorine compounds having merit as rocket propellants; and for important contributions in the area of controlled release surfaces.



**Roman U. Schoenherr** – For his expert analyses and innovative designs of many manufacturing processes relating to film extrusion, fiber blowing, web transport, and the drying and curing of coatings which have led to improved quality and reduced cost for many key products.



**Robert B. Snell** – For his leadership and pioneering work in 3M's development of electrical and industrial plastic tapes; his persistence and innovation in guiding his ideas through manufacturing; and his role in developing low-stretch industrial tapes, linerless self-fusing tapes, and 3M<sup>™</sup> Scotchfil<sup>™</sup> products.



**Richard L. Talbott** – For his work in fluorinated fluoroxy compounds and peroxides; the development of novel block copolymer pressure-sensitive adhesive systems including hot melt; for his leadership in the development of biaxially oriented polypropylene film.



**Albert D. Wedekind** – For his leadership and pioneering in electronic interconnect products employing insulation displacement connector (IDC) technology; his dedication to the development of Electronic Products' 3M<sup>™</sup> Scotchflex<sup>™</sup> products; and his innovative work for the electronic connector industry.

# 1986



**Harvey L. Anderson** – For his leadership in the technical development of innovative dental materials and products and for his contributions to the growth of the 3M dental products business which has helped to shape the practice of dentistry.



**Robert C. Brown** – For the development of new tape products and new technologies for pressure-sensitive tapes, including a broad line of filament tapes; for contributions to early versions of box sealing and diaper closure tapes; for the discovery of a broad line of novel adhesives with specific adhesion characteristics.



**Donald F. Hagen** – For his many creative contributions utilizing analytical chemistry in support of research, product, and process development throughout 3M; for innovative research in hybrid and phosphatide fluorochemicals, ion mobility, and microwave plasma detection; for application of unique analytical methods to complex matrices involving fluorochemicals, silver soaps, crosslinked polymers, magnetic lubricants, environmental contaminants, and biological metabolites.



**Tsuto Ishigaki** – For his contributions to the early research, development, and manufacture of magnetic recording products in Sumitomo 3M; for his major role in the organization of the Sumitomo 3M corporate technical department and in the establishment and staffing of the E&IT Sector Laboratory in Japan; for his continuing encouragement and mentoring of the young technical employees of Sumitomo 3M.



**Donald C. Kvam** – For his leadership and technology development in the field of biological evaluation and pharmacology; his perseverance in thorough scientific discipline and evaluation; his breadth and depth of knowledge in the science of human testing of pharmaceuticals and his total dedication to defining, finding, and exploring major advances in pharmaceutical therapeutics.

### 1987



**Robert A. Elm** – For his development of the first electrical flat cabling system utilizing round conductors with insulation displacement connectors and his leadership support for 3M<sup>™</sup> MS2<sup>™</sup> Products; for representing 3M on technical standards committees at the national and international levels.



**Jack L. Evans** – For his establishment of basic silicone liner technology, for his role in the creation of differential release, and for transmitting his knowledge widely throughout 3M.



**J. Donald LaZerte** – For his leadership in guiding the development of novel fluorochemical products and businesses; for his creation and support of effective product teams and their utilization of unique resources.



**Bernard A. Lea** – For his creative organic synthesis of photographic stabilizers, antihalation and sensitizing dyes which contributed to 3M's commercial successes of X-ray, microfilm and dry silver products.



**John A. Leys** – For his many contributions to the science of surface analysis and its utilization in characterizing 3M products and understanding their performance; for his role in establishing 3M as a recognized leader in surface science.



**John A. Martens** – For his recognition of the key parameters in electron beam and other radiation processes, and establishment of facilities for bulk polymerization based on these parameters to create novel 3M materials and products.



**David P. Sorensen** – For his co-invention of dry silver technology, dye sensitization of inorganic photoconductors, and contribution to imaging research; for his keen assessment of 3M laboratory programs leading to the preeminence of the Technical Audit System.

# 1988



**W. Karl Bingham** – For contributions to the technology of retroreflective elements and their development into novel reflective sheeting materials for safety, security and traffic applications.



**Robert E. Kolb** – For the development of novel and useful curing systems leading to increased sales for fluorochemical elastomers and for sharing his knowledge and skills in ways that enhance the technical service image of 3M.



**William K. Leonard** – For creation of innovative solventless coating processes and equipment, which have impacted 3M products ranging from pressure-sensitive adhesive tapes to coated abrasives.



**Francis J. Marentic** – For recognizing and translating customer's needs into novel products by blending the technologies of microsurface replication and precise image production with durable film constructions yielding decorative and drag reducing functional surfaces.



**George F. Vesley** – For contributions to radiation processing technologies including catalyst selection, process control systems, and novel three-dimensional structures capable of color and strength variations.

#### 1989



**Eugene L. Baratto** – For bringing to 3M his drive to solve problems and create products; for leading and inspiring others to do the same; and for his innovative adaptation of pressure-sensitive technology to coated abrasive products.



**Richard D. Danielson** – For process improvements to electrochemical fluorination leading to higher yields of inert fluids and for his successful application efforts with a variety of customers resulting in expanded use of  $3M^{TM}$  Fluorinert Liquids as effective heat transfer media.



**Richard S. Fisch** – For problem-solving contributions to 3M's Silver Halide Technology and for sharing his expertise and experience with new employees and peers. For his publications and presentations establishing 3M as an important leader in imaging technology.



**Lester C. Krogh** – For discovery of the first practical priming method for polyester film, for his creation of the 3M Technical Audit System, for leading the solid growth and diversification of the 3M Chemical Divisions, and for his outstanding contributions to 3M's image through his participation in professional societies and industrial associations.



**Charles W. Taylor** – For successful application of polymer technology to the unique requirements of in-vivo adhesion on the dental and skin environments, and for his unassuming and effective counsel to new employees and colleagues in this field of adhesion science.

#### 1990



**David L. Braun** – For his development of technologies and materials for absorption, filtration, and respiratory protection and the creation of life protecting products based on these technologies.



**Lawrence M. Clemens** – For his leadership in adapting photochemistry and molecular architecture to the creation of materials and processes yielding novel repair, priming and adhesive products.

### 1991



**James F. Dyrud** – For building on 3M's nonwoven technologies to create new levels of face mask utility and then working with factory personnel and regulatory agencies to insure quality and acceptance for his products.



**George G. I. Moore** – For applying the principles of synthetic chemistry to the creation of many novel compounds ranging from pharmaceuticals to fluorochemicals and for his inspiring, contagious enthusiasm stimulating his peers, both within and outside of 3M.



**Geoffrey C. Nicholson** – For leading the commercialization of Press 'N Peel until it became the Post-it® Brand and then later encouraging the growth and stature of 3M international laboratories as major contributors for continued growth.



**Robert J. Youngquist** – For major contributions to the first digital audio recording system, for his continuing effort toward gigabyte data recording, and for effectively representing 3M as a leader in the recording industry.

#### 1992



**Richard P. Fields** – For his technological vision and entrepreneurial leadership in the development and commercialization of numerous dental products and systems that have revolutionized the dental industry, and for his tireless efforts in establishing centers for dental research which enhance 3M's leadership.



**Dennis L. Krueger** – For championing the use of morphology in describing polymer properties, for his leadership in the development of coextrusion and polymer blend technology, and for his innovative application of these technologies to numerous 3M products ranging from backing material to stretch-activated elastics.



**Albert F. Martin** – For his leadership and pioneering work in developing a basic understanding and expertise in the behavior of polymers, for the development of structural adhesives, for championing and implementing the use of environmentally compatible solventless adhesives and polymer systems, and for his technical support to 3M's domestic and international businesses.

#### 1993



**Charles M. Leir** – For his outstanding creative skills and inspirational leadership in the development of novel and highly productive chemical syntheses that have provided 3M technological leadership, including revolutionary manufacturing processes for pharmaceuticals such as 3M<sup>™</sup> Tambocor<sup>™</sup> Tablets, advanced syntheses of PSAs based on novel ionene elastomer, and new CFC-free low adhesion backsizes.



**Anthony R. Maistrovich** – For his creativity and many contributions in pioneering and championing the development of proprietary water-based adhesive materials and processes which are organic, solvent-free, coatable, fast drying, and have led toward numerous new and improved adhesive tape products; and for original work in new polymerization and polymer isolation processes.



**Richard A. Newmark** – For his personal dedication, enthusiasm, and outstanding technical achievement in the basic understanding and application of NMR spectroscopy and related analytical sciences that make possible the development of a wide variety of proprietary materials, processes and products, including improved magnetic recording tapes, photographic films and advanced manufacturing processes for a variety of adhesive materials and products.



**Matthew T. Scholz** – For outstanding dedication and technical achievements in the development, commercialization, and creation of a strong proprietary position that has established 3M as a global leader in orthopedic casting tapes and splints, and for the development and application of advanced drug delivery materials.

#### 1994



**Elden H. Banitt** – For his career-long creativity, dedication and success in the field of medicinal chemistry, especially for his invention and contributions to the commercialization of 3M<sup>™</sup> Tambocor<sup>™</sup> Tablets, an important drug for cardiovascular therapy and the most significant new molecule product in the history of 3M Pharmaceuticals.



**John D. Munter** – For his outstanding innovation and implementation of coating and drying technologies that have both defined the manufacturing methods for 3M<sup>™</sup> Particulate Magnetic Media Products and have also substantially influenced the academic and industrial scientific communities in their fundamental understanding of coating processes.

# 1995



**Clyde D. Calhoun** – For innovative leadership in the development of microstructured web technologies and unique microreplication processes having broad applications, including advanced abrasive systems, repositionable adhesives and drug delivery systems; and for inspiring creativity and innovation in others.



**Cheryl L. Moore** – For exceptional development and application of acrylate pressure sensitive adhesive technologies to produce a wide variety of adhesive-based products in such fields as wound care and transdermal drug delivery, and for many contributions in guiding and mentoring new employees and colleagues.



**William B. Robbins** – For outstanding technical accomplishments in the field of materials science and for pioneering efforts in developing, championing, commercializing, and transferring to manufacturing, novel and proprietary technologies and products, particularly in the field of vacuum thin film vapor deposition.



**Robert A. Scherrer** – For outstanding scientific skills and contributions to organic and medicinal chemistry, for outstanding service to 3M as a scientific collaborator, advisor, and mentor to many 3M colleagues, with whom he has been willing to enthusiastically share his knowledge, creative ideas, and insights.

#### 1996



**John F. Gerster** – For the innovative application of exceptional skills in the areas of medicinal and heterocyclic chemistry leading to the discovery and development of significant new pharmaceuticals, and for tirelessly helping to develop those skills in his colleagues.



**Harlan L. Krinke** – For his many creative contributions leading to the development of precision microreplication technology and the significant 3M products from it and for his ready example in mentoring and assisting others in the true spirit of 3M.



**Roger A. Mader** – For his unparalleled ability to design synthetic routes for the manufacture of organic fine chemicals, his ability to teach this skill to his associates, and his willingness to help solve synthesis problems for anyone in the 3M technical community.

# 1997



**Steven M. Heilmann** – For his outstanding dedication and achievement in unique organic and polymer chemistry which have led to valuable 3M proprietary products based on photopolymerization and reactive polymers; for his contribution to not only innovative chemistry, but also to strong intellectual property protection and critical process development; and for his mentoring, teaching, and global technical outreach.



**Timothy L. Hoopman** – For his significant contributions to 3M's microreplication technology platform, especially in precision micromachining and tooling processes, and applying these innovations toward the commercial success of new retroreflective sheeting, new structured abrasives, and various light management products.



**John E. Riedel** – For his innovative adaptation of non-woven technologies which resulted in proprietary medical and electrical tapes; for his guidance in the development of Tegaderm<sup>™</sup> wound dressing; and for his leadership in teaching, fostering, and expanding non-woven technology throughout 3M.

# 1998



**Terry R. Bailey** – For his broad technology championing, creativity, enthusiasm, and especially his technical leadership and innovation in conceiving and driving the successful commercialization of Ex-Lam technology. This cost-effective and environmentally sound film technology is used in many reflective sheeting products.



**Sanford Cobb** – For his many contributions to the development and understanding and applications of microstructured surfaces and microreplication and for his market vision for these technologies which has led to numerous revolutionary products for the display and lighting industries.



**Sumita B. Mitra** – For her pioneering efforts in technology innovation and product development leadership resulting in many significant light-cured dental restorative products which have established 3M Dental Products Division as a market leader, and for her international recognition as a technical authority in the field of dental restoration and preservation.



**William J. Schultz** – For his tireless dedication to research and development in materials science, especially for the preparation of useful new polymers, advanced composite materials, and nanocomposite materials; for his continued creativity, new product-focused materials scouting, and for his long-standing commitment to mentoring younger scientists.

# 1999



**Gary W. Maier** – For his many creative contributions to coating process technologies including: the invention of the RMO fluid bearing dies and B & M methods, the development and implementation of cost effective processes in all sectors that have contributed to competitively sustainable new product growth, which includes the coating of Post-it® Notes; and for his long-standing, accomplished mentoring of young engineers.



**Joseph M. McGrath** – For his pioneering work in the commercialization of e-beam curing technology and his technical leadership in the development of new and improved retroreflective products; for his dedication to the development of new technology and the supporting intellectual property; and for his commitment to mentoring young scientists.



**Richard L. Miller** – For expertise, vision, perseverance and leadership in the discovery and development of a significant new class of pharmaceuticals, known as immune response modifiers, and in the introduction of 3M's Aldara™ as the world's first commercial product in this class.

## 2000



**William E. Coyne** (Honorary Member) – For his leadership in strengthening 3M's technical community and its culture of innovation; for his active support of the Technical Council and Tech Forum; for championing Pacing Plus and all new product growth; for placing high value on technical people, recognizing their efforts and enhancing the Dual Ladder; and especially for demonstrating throughout his career the Richard Carlton values which make 3M an engine for innovation and a premier company.



**John D. Moon** – For his pioneering contributions to radiation processed-pressure sensitive adhesives and for his technical expertise and innovative development of new pressure-sensitive adhesive technology and products.



James R. Onstott – For vision, dedication, and perseverance in establishing the fiber optics platform leading to a wide variety of revolutionary products in specialty optical fibers; serving as the foundation for establishing advanced optical component systems such as Volition® Brand Connectors, and for his guiding and mentoring of new employees and colleagues in this technology.



**Alphonsus V. Pocius** – For significant contributions to adhesion science and the application of its principles to numerous 3M products and product technologies; for career-long efforts as a teacher, mentor, and advocate in the fields of adhesive technology and adhesion science.



**William P. Wood** – For major contributions and vital role in the invention and development of Advanced Abrasives with new compositions, controlled microstructures, and superior grinding properties, which has led to strengthened customer relationships, new abrasive business and an enhanced reputation as a leader in R&D for 3M.

### 2001



**Richard M. Fischer** - For creativity and technical leadership in applying science to understand and model the durability of materials and products in an outdoor environment, underpinning several large 3M businesses and greatly enhancing 3M's reputation; and for his many contributions to innovative product development in adhesives, sealants, coatings, inks, films and reflective sheetings.



**Mieczyslaw (Mietek) Mazurek** - For his fundamental research and development in the fields of silicone release chemistries, silicone-based pressure-sensitive adhesives and microreplicated adhesives, which provides the basis for key products in a wide range of 3M business units throughout the world, including Commercial Graphics, Automotive, Skin Health and Personal Care and Related Care Products.

# 2002



**Andrew J. Ouderkirk** – For his identification and creation of a major new technology/product platform for 3M - Multilayer Optical Films. From inventor to visionary leader, his creativity, foresight, persistence, and guidance have led to several new revolutionary families of products, with more on the horizon. And, for his commitment to mentoring, networking, and enhancing the technical image and reputation of 3M as a leader in R&D.

#### 2003



**Joel D. Oxman** – For his contributions to the development of proprietary adhesive products that revolutionized the dental industry, and for his leadership role in the development and implementation of light-curing technology as well as his ability to solve problems and teach this technology to the R&D community.



**Thomas E. Wood** - For his inventive application of inorganic materials science leading to the creation of new pavement marking products and novel 3M Cubitron™ abrasives; for his incredibly positive and infectious enthusiasm in problem solving; and for outstanding recruiting and mentoring of new colleagues.

#### 2004



**Wayne K. Dunshee** – For his leadership and many innovations in building the consumer health care business, his passionate pursuit of new product ideas, and his enthusiastic approach to every project he tackles. For his zealous collaboration, teaching and mentoring of co-workers, peers and management. Wayne is truly one who epitomizes and embodies the spirit of creativity and innovation that 3M pioneered.



**Richard M. Flynn** – For his leadership role in the development of proprietary fluoromaterials including the hydrofluoroethers (HFEs) which, as replacements for chlorofluorocarbons (CFCs) and perfluorocarbons (PFCs), were a major advancement in materials to reduce ozone depletion and global warming potential; for his role in the development of the perfluoroketones as new clean extinguishing agents for firefighting; and for the years he taught the "Organofluorine Chemistry" course and has been a mentor for new employees.



**Gernot Löhr** – For his pioneering research to develop a comprehensive, fundamental understanding of fluoropolymer polymerization, the development of 3M Dyneon Fluoroplastic Polymer four-key product lines, and leadership in safety and environmental technology.



James R. Shirck – For his technical leadership in advancing the science of vacuum metallization; for his pioneering work in the development of adhesiveless, one- and two-metal layer, flexible microcircuits for use in inkjet cartridge, hard disc drive, integrated circuit packaging, and liquid crystal display applications; and for serving as a role model for technical employees at all levels.

# 2005



**Steven B. Heinecke** – For scientific and entrepreneurial leadership in creating the single-largest trademark within the Medical Division, 3M<sup>™</sup> Tegaderm<sup>™</sup>. Since 1990, his inventions, extraordinary commitment to customer focus, collaborations with colleagues throughout the business and around the globe, and exceptional industry knowledge have led to 31 new-product introductions in Medical, the Drug Delivery Systems Division, the Consumer Health Care Department and the Pharmaceuticals Division.



**Daniel A. Japuntich** – For leadership and significant new business and technical contributions to occupational safety products and ergonomic products; for recognition as a technical authority in the field of air filtration, nonwovens, aerosol physics and ergonomics; for visionary leadership and for promoting excellence in product development and the enhancement of 3M's reputation as a technological leader in filtration technologies.



**Terence D. Neavin** – For creativity and leadership in advancing key manufacturing processes and equipment used for the production of multilayer optical films; for engineering excellence and effective use of advanced simulation/modeling tools in making this extraordinarily complex manufacturing process robust and useable in a plant environment; and for vision and ingenuity in devising a basic feed-block design, which has enabled the production of a wide range of products and is providing substantial new-product growth for 3M.

#### 2006



**Olester Benson, Jr.** – For vision and extraordinary technical leadership in advancing microreplication process and product technology, which has directly led to the successful commercialization of innovative new optical film, abrasive and retroreflective products; and for exemplary humanitarianism and generosity in helping others succeed.



**Michael F. Weber** – For vision in helping identify the market demand for reflective polarizers to enhance the brightness of liquid crystal displays; for fundamental discoveries in the optics of birefringent polymers and multilayer films; for his central role in defining the optical design, key manufacturing processes and film construction of the successful dual-brightness enhancement film reflective polarizers and mirror films; and for entrepreneurial contributions that helped transform multilayer optical film technology into a major growth platform for 3M.

# 2007



**Rainer Guggenberger** – For his unparalleled vision, extraordinary technical creativity, unselfish collaborative leadership and extensive broad based technical and global business contributions which have led to the successful development of numerous world class dental materials and the extraordinary growth of 3M ESPE Dental Products.



Kenneth L. Smith – For his technical leadership and vision in developing optical designs for prismatic microreplicated structures, master tool fabrication techniques and the scale-up of manufacturing processes; for championing the successful commercialization of Diamond Grade™ products establishing 3M as the world standard for high-performance retroreflective sheeting; for his prolific innovations and his integral role in protecting the intellectual property around this high-growth business opportunity.

# 2008



**Richard F. Averill** – For his vision, entrepreneurial leadership and pioneering research that helped revolutionize health care management and payment systems, and created the foundation for the 3M Health Care software business. He has a unique ability to anticipate and help influence the direction of national health care policy. In addition, he provided technical leadership for successful commercialization of innovative software products that allow health care providers to adapt to the changing regulatory environment.



**Babu N. Gaddam** – For his innovation and many valuable contributions to 3M's pressure-sensitive adhesive (PSA) technology platform, including novel cross-linkers for radiation-curable PSAs and more recently for acrylic monomers from renewable sources. He is also being lauded for his development of reactive oligomers used in dental and medical products; for prolific innovation as reflected in his strong intellectual property portfolio; and for his efforts in improving 3M's technical reputation through active involvement in mentoring 3M employees. He has also enhanced 3M's technical reputation through contributions to numerous external publications and through his involvement in professional societies.

#### 2009



Scott R. Culler – For his scientific passion, technical creativity, program leadership, and unselfish sharing of knowledge. He put these traits to work utilizing silane coupling agents, rheological control of UV curable slurries, and microreplicated 3-D structure product designs. His accomplishments contributed to market leadership positions with sustainable growth of 3M ESPE Division Restoratives and Abrasive Systems Division Trizact™ Structured Abrasive products.



**James M. Jonza** – For his fundamental contributions to the multilayer film technology platform and for the multitude of new products he has inspired, enabled and developed from that platform; for his product development efforts with tear-resistant films, multilayer polymeric mirrors, reflective polarizers and color shifting security films. His leadership, enthusiasm, clever innovation and networking have inspired others to follow in his path.



Ramesh C. Kumar – For his technical vision and leadership in developing unique release materials that have significantly contributed to the success of many 3M products including Post-it® Notes and Post-it® Flags, masking tapes, and Scotch® Magic™ Tapes. This work also enables continuing reduction in solvent usage and emissions. For his creativity evidenced by an extensive release materials patent portfolio and for his mentorship of many 3M technical employees in the U.S. and India.

# 2010



Ying-Yuh Lu – For his many innovative contributions to 3M's water-based acrylic pressure-sensitive adhesive (PSA) technology platform. This includes bicontinuous micro-emulsion acrylic PSA technology for 3M™ Red Dot™ Electrodes, optical adhesives for applications in LCD and projection displays, and the core/shell latex primer for Scotch™ Magic Tape. His passion for sustainable development is further exemplified with microsphere adhesives from renewable resources for Post-it® Greener Notes, which are the first commercialized 3M product using a "renewable" plant-based acrylic adhesive. He is also being recognized for his long history of teaching 3Mers around the world about water-based acrylic PSAs and their applications in product development.

#### 2011



Klaus Hintzer – For his numerous innovations, passion for solid science and engineering, and leadership in building one of the world's leading technology centers in field of fluoropolymer research and development. His endeavors have resulted in the development and commercialization of novel fluoropolymer building blocks and materials like THV, new emulsifiers and materials to improve the efficiency and safety of fluoropolymer production. With his team, he's helped to create major, differentiated growth platforms for 3M with superior environmental and sustainability benefits.



**Carl A. Stover** – For his leadership in translating Multilayer Optical Film technologies into a commercially viable and highly profitable product portfolio by leveraging his tremendous depth of knowledge in polymer science, melt processing, display optics, data collection systems, oriented film manufacturing, and customer requirements; for his ability to teach, mentor and develop knowledge in other disciplines thereby enabling the expansion of 3M's capabilities throughout this platform.

### 2012



**David B. Olson** – For his fundamental contributions to the conception, synthesis, scale-up and application of multiple new materials platforms critical to a broad range of 3M products, as well as for his mentoring and leadership at all levels of the 3M technical community. His development of UV cured resins has enabled significantly reduced materials costs and improved product performance and sustainability across major product lines such as brightness enhancement film, flexible retroreflective sheeting and security laminates.



Mark A. Strobel – For his technical leadership in corona, flame and plasma processing leading to the Surface Modification Technology Platform. His pioneering efforts, on-going determination and scientific rigor have enabled a diversity of 3M products spanning virtually all of 3M's businesses. This includes products ranging from retroreflective sheeting to packaging tapes to Post-it® flags to optical films and medical tapes. His seminal publications and excellent internal and external classes have brought great technical stature to 3M in the field of surface modification and characterization.



**David J. Yarusso** – For his fundamental modeling studies of the rheological, physical and mechanical properties of pressure sensitive adhesives; product development and plant support leading to: masking tapes, pavement marking tapes, electrode adhesives, flame retardant adhesives, quiet unwind tapes and microstructured adhesives for repositionable graphic films; his worldwide reputation as an expert and educator in pressure sensitive adhesives; and his passion for problem solving and mentoring other researchers.

#### 2013



Hassan Angadjivand – For his fundamental contributions to the development of electrostatically charged filter media and nonwoven fabric technologies and translation of these technologies into novel, industry leading products benefiting multiple 3M businesses. His development of the hydrocharging process and boundaryless sharing of his technology expertise has resulted in products from respirators with reduced breathing resistance to ultra-efficient furnace filters and clean sanding tools establishing 3M as the premier provider of particulate air filters for respiratory protection and HVAC applications.



James L. Bries – For the key technical work and tenacious follow through on the invention and development of four product and technology platforms that have created and built the fast growing and profitable Command™ Adhesive product family into the successful business it is today. He is a skilled and disciplined scientist, a highly inventive developer responsible for a large portfolio of intellectual property and a respected business and technical colleague. He has been the primary product inventor and developer over the life of this business.



**Craig E. Hamer –** For his leadership in developing both materials and process technology for solventless pressure sensitive adhesives and tapes. His technology advances have provided major 3M businesses with environmentally superior and sustainable PSA solutions. He has led the deployment of this technology globally, enabling solventless PSA technology to become a standard method across multiple 3M products and markets.

# 2014



**Robin E. Wright –** For his leading role in the development, understanding and commercialization of UV radiation technology. The advances that he has made in radiation processing have been implemented by all major 3M business areas in manufacturing sites throughout the world. He is widely known as an educator through his many internal classes on UV technology; he is a nationally recognized scientific expert in his field; and he has led both 3M and industry groups focused on radiation technology.

#### 2015



**Patrick J. Hager** – For his leadership in expanding 3M's polypropylene film technology platform and stretch-release adhesives. His contributions to the seminal patents on stretch-release adhesives helped form the basis for the development of the highly successful Command™ Adhesive product platform while his work on oriented polyolefin films enabled or revolutionized many Scotch™ tape products. He is widely valued for his technical leadership, customer focus, mentoring, and insatiable curiosity.



**Larry A. Wendling –** For his leadership and significant contributions to the globalization of 3M technical capabilities. This includes his active role in rebuilding 3M's fluorochemical technology platform, his mentorship and sponsorship of outstanding scientists and technical leaders, as well as the transformation of 3M's international technical operations. And, for his vision and integral role as the architect and leader of the modern day Corporate Research Laboratory. Today, the synergies that are created with CRL are critical for the efficient transfer of technologies and product commercialization across all businesses and geographies for 3M.

#### 2016



**David J. Kinning** - For his development and commercialization of pressure sensitive adhesives and release liners across a broad range of 3M businesses. He advanced the fundamental understanding of adhesive release through disciplined application of modern material and interfacial science and transformed it into customer solutions found in many of 3M's iconic branded products. Throughout his career, he has developed a strong collaborative approach to solving problems, actively educated the 3M community and mentored a generation of scientists to help sustain one of 3M's most enduring franchises.



Mark G. Schwabel – For his leadership in inventing, developing and commercializing the seeded sol-gel abrasive-grain technology. He is a principal inventor and the driving force behind the development of Cubitron™ loose-grain abrasives and portable-bonded abrasives. He also led the acquisition and integration of complementary external abrasive technologies into 3M. He is a recognized global expert in sol-gel abrasives and a widely valued mentor who excels in connecting technical employees worldwide with their U.S. counterparts.

## 2017



Albert I. Everaerts – For his technology leadership in pressure sensitive adhesives within 3M and across multiple industries. He has used his fundamental knowledge of polymer chemistry, structure-property relationships, and deep customer application knowledge to create new PSA platforms with significant business impact. He has been the primary driver of the 3M Optically Clear Adhesives platform that has changed the way consumer electronics displays have been designed and manufactured. His contributions to product development, manufacturing, intellectual property and application development have all been critical to the ultimate success of the PSA portfolio. In addition to his technology leadership, he has been widely recognized as a mentor, educator and promoter of the 3M PSA franchise.



**Reinhold Hecht** – For his ingenuity and technical leadership in creating a new, disruptive platform of adhesive cements resulting in a significant and continuous source of growth for 3M Oral Care. The flagship product RelyX™ Unicem Self-Adhesive Universal Resin Cement has become synonymous with high performance, ease of use and improved patient comfort. Based on that platform, and numerous other inventions, he is recognized as a world class expert for dental materials, advanced polymer systems, and new initiator chemistries within 3M and in the industry.



**Stephen C. Joseph** – For his leadership in creating the 3M Paint Preparation System (PPS™), which has allowed 3M to expand its relevance to its customers into the paint-mixing and spraying areas of automotive repair body shops. His inventions have revolutionized the painting process by uniquely addressing customer needs and have saved paint technicians worldwide countless hours while making their operations more sustainable. He works tirelessly to strengthen and defend 3M's intellectual property portfolio and sets an enduring example of innovation, customer insight, diligence and attention to detail.

#### 2018



**Dong-Wei Zhu** – For his global leadership in the continual advancement of pressure sensitive adhesives at 3M. His contributions to 3M's PSA polymerization technology have led to multiple new product families across the franchise and have made 3M's polymer processes more efficient, more environmentally sustainable, and safer. Additionally, his vision and passion were instrumental in the creation of a 3M materials laboratory and factory in China.



**W. Blake Kolb –** For his leadership in advancing and championing roll-to-roll processing, and precision coating and drying technologies, which have had broad and significant impact across all business groups. These advances have enabled the successful commercialization of highly uniform, defect-free coatings for numerous optical film products and his revolutionary gap-drying technology has been instrumental in providing scalable manufacturing capability for highly loaded filler materials. He is highly respected and valued for his experimental capacity, passion for commercialization, collaborative spirit, and impact as an educator and mentor.

#### 2019



**Michael R. Berrigan** – For his leadership in the development, understanding and commercialization of Non-Woven Technology. The technology advances made have led to broad and significant impact across the major 3M business areas. He has consistently combined scientific knowledge with analysis of emerging technologies to deliver innovative commercial solutions that deliver true customer value. He is highly respected externally and internally for his collaboration as an educator and mentor.



**Jayshree Seth** - For her global leadership in discovering trends, delivering new platform opportunities, reinventing and strengthening our core capabilities around PSA, liners, and fastener technologies. Her development of Voice of Patent and opportunity mapping methodologies has enabled others to develop and protect new platforms across 3M. Her business contributions, passionate leadership, championing and execution of innovative ideas, coaching, mentoring, inspiring others, and furthering the 3M culture and brand led her to being designated 3M's first Chief Science Advocate.



**Brant U. Kolb** - For his technical expertise and leadership in nanoparticle synthesis, functionalization and incorporation into composites. His ability to develop new materials and economical processes to manufacture them, coupled with his research and development breakthroughs, has enabled the implementation of a robust nanoparticle technology platform supporting numerous products across multiple divisions, ranging in applications from optical displays to oral care. He is a scientist, engineer, inventor, collaborator, and mentor with boundless curiosity and relentless drive to commercialize differentiated products.

# 2020



**Donald G. Peterson** - For championing, inventing and implementing world-class rotary converting manufacturing processes that have provided significant competitive advantages thereby enabling successful commercialization of innovative products across multiple businesses. His dedication, boundless passion, expertise, willingness to collaborate, and non-incremental thinking has been an asset within 3M. In addition, his teaching, training and mentorship of countless engineers has enhanced 3M Company's manufacturing competency.



**Mahfuza Ali** - In recognition of her technical leadership and broad-based innovations originating from a renowned expertise in monomer and polymer architecture and synthesis, which has led to the creation of a novel materials technology platform that enabled new product solutions across all 3M business groups. Her mentoring, advocacy, determination, and guidance has empowered numerous researchers and students worldwide, while her unwavering commitment and dedication is an example for all.

### 2021



**Kazuhiko Toyooka** – Recognized for outstanding technical contributions and foundational inventions that have enabled and supported high impact optical film platforms across the display industry. His collaborative style, insightful leadership, and willingness to mentor, teach and coach others, coupled with his dedicated customer engagement and ability to initiate and pursue new product concepts, continues to provide differentiation within a highly competitive market.



**Gary Boyd** - For providing fundamental scientific understanding and industry leading design and application expertise in the field of optical physics. An inspiring leader, his comprehensive knowledge of display technologies, enabled by the use of predictive modeling has driven and improved customer collaboration and engagement. Recognized as an educator and mentor, his proficiency, credibility, and technical rigor also remain vital in building and maintaining key global technical and business relationships.



**Robert Asmus** - For his technical leadership in antimicrobial product development that has propelled 3M to become a global leader in the fight against healthcare-acquired infections. His inventions have revolutionized the clinical experience for many and have improved countless lives worldwide. He is highly valued for his fierce championing of customer needs, mentoring of technical talent, and for his compassion and drive to find practical, intuitive solutions to address challenges critical to patient health.

# 2022



**Martin Denker** – For leading the commercialization of a new-to-the world method for oriented stretching in multilayer optical films (MOF). This expanded the MOF value proposition into the smartphone and consumer electronic market. Having scaled the process technology from the lab to manufacturing, his overall leadership across multiple generations of reflective polarizers has provided a competitive advantage and delivered significant new sales given the broad adoption of this technology across the industry.



**Fuming (Bruce)** Li - For groundbreaking discoveries in the fundamental science of the filter media technology platform which enables new products and manufacturing excellence; his tireless effort led to the discovery and development of additives and processes to improve performance of filter media. He is also known for his broad collaboration across roles, and for mentorship and support of colleagues worldwide.



**John Sebastian** - For leadership and innovation in creating air filtration materials, for driving the use of these materials to create multiple new products, and for transforming the air filtration community in 3M. He is recognized as an expert in all aspects of air filtration from fundamentals to suppliers, and he has led 3M's intellectual property protection in this field. He is also an exceptional teacher and mentor, supporting colleagues in many roles, leading with humility, insight, and vision.

## 2023



**Mark Ellis** – In recognition of his development of a groundbreaking solvent free polymerization platform that has enabled differentiated adhesives and specialty polymers. His out of the box innovation, devoted championing, unbridled curiosity, and generous mentorship have inspired colleagues worldwide to pursue their boldest ideas.



**Bradley D. Craig** - In recognition of his exemplary advancement of nanotechnology and materials science to significantly advance innovation in the field of dental composites. As a customer focused inventor and collaborator, he is known for continuously connecting science to solve customer problems, bringing forward solutions that have differentiated 3M as a global leader in a highly competitive environment while significantly improving patient's lives.



**Margaret (Peggy) Sheridan** - For her leadership and fundamental understanding of pressuresensitive adhesives leading to sustained accelerated growth of the stretch and release platform, as well as a range of other pressure sensitive adhesive product families. She is known for her business building mindset, effectively building relationships, and inspiring scientists globally.

#### 2024



**James Nelson -** For leadership in design and implementation of diamond turning technology enabling the expansion of the micro-replication platform and growth of micro-replicated products across multiple divisions and portfolios including Optical Films and Connectors, Reflective Sheeting and Abrasives. He is a dedicated mentor and trainer developing the next generation of engineers to ensure the viability of product growth in this essential technology space.



**Timothy J. Hebrink -** A recognized expert in specialty polymers and multilayer films, his leadership and pioneering work in the development of copolyester resins helped enable the Multi-layer Optical Films platform. Passionate about advancing sustainable technologies he has developed novel film construction solutions that conserve energy and reduce the carbon footprint. As an advocate, mentor and innovator he has pushed the 3M multilayer film platform to new areas such as climate technologies.



**Kris Thunhorst** - For distinguishing herself as a company leader in new product development from inception through commercialization. She is a catalyst for growth and innovation and an exceptional leader with demonstrated impact developing scores of new products across multiple product platforms. Her selfless teaching, mentoring, and science advocacy has built a stronger 3M community and accelerated the development of a rising generation of scientists.

### 2025



**Matthew Atkinson** - For his leadership in creating world-class optical and nanoscale analytical platforms. His fundamental scientific understanding, novel optical insights, instrumentation, and mathematical algorithms inspired and enabled new IP protection strategies and products. His community building is exemplified by his advocacy to serve our 3M communities.



**Jeffrey O. Emslander** – A prolific inventor and visionary, most notably within 3M film and process technology platforms he has been an inspiring collaborator, a selfless mentor, and a driver for new products, new ideas, and growth. He is one of the pioneers of 3M blown film coextrusion technology and inventor of several print receptive technologies.



**David Hays** – A 3M materials expert who has applied the fundamentals of chemistry to successfully invent, validate, scale and commercialize new-to-3M polymer classes. These efforts are exemplified by a unique class of silicone elastomers impacting multiple product platforms.



**Eric W. Nelson** - For his work creating a step-change in 3M's curing process capability and technology. He contributed 3M's fundamental knowledge of curing and advanced 3M's capabilities into new areas, techniques, and methods. His impact is expanded through his collaboration, mentoring, and external engagements.