



Paul Slysh

From: "A better way to design high-performance structures", by Paul Slysh, Machine Design, June 5, 2008

See:

<http://machinedesign.com/article/a-better-way-to-design-high-performance-structures-0605>

<http://www.manta.com/g/mmnyjsf/paul-slysh>

<http://patents.justia.com/inventor/PAULSLYSH.html>

<http://www.patentgenius.com/inventedby/SlyshPaulSanDiegoCA.html>

<http://www.worldcat.org/title/isogrid-structural-applications/oclc/043078992>

Inventor of the isogrid concept

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<http://isogrid-sst.com/referenc.htm>

<http://isogrid-sst.com/pictures.htm>

BME College of the City of New York (1949), **MME**, **MEE** Brooklyn Polytechnic Institute (1953, 1958), **PE** License, **AIAA**, **SAWE** Member, Session Chairman, GD Graduate Studies, 18 Patents and 35 technical publications on CAD/CAM, structural analysis, design and testing. See website www.isogrid-sst.com .

P S Associates, Inc. - 1977 to date, President.

Consulting, engineering, structural analysis, design, concurrent engineering, optimization and manufacturing planning and support of aerospace, aircraft and commercial structures, ASME Boiler & Pressure Vessel Code. Organizations for which advanced structures were developed include: Martin Marietta, Rohr, GD, Gates Learjet, Chem-tronics, Garrett Corp., P&WA, GE, SNECMA, Rolls Royce, AIDC, Fermilab, General Atomics. Designed following aircraft engine ducts: PW1120, FMM88, RB211, XG40, F101DFE, F100 exp.

General Dynamics, Convair and Data Systems - 1960 to 1988, Design Specialist.

CAE/CAD/CAM - Expert systems, analysis, optimization, design shell and plate structures.

Space structures - Analyses, synthesis, trade studies, tests, concepts, isogrid, adapters, fairings.

Isogrid Structures - Principal IRAD investigator, development, extensive tests, innovation.

Phalanx CIWS - Coordination, structures, isogrid applications, cost reduction, performance.

Advanced Technology Cruise Missile - Cost, variable wings, RAS/RAM and hardening studies.

CAPTOR/IWD Mine Cases - Project leader, advanced structure development and testing.

Space Launch Vehicles Fairings and Adapters - IRADs, NASA isogrid structures tests.

Structural Thermal Meteoroid Protection System - Principal investigator two IRADs.

Dahlgren Gun Mount - Program manager. Primary isogrid structure for howitzer gun mount.

TIROS N Instrument Mounting Platform - Project and technical leader, isogrid application.

Centaur INTELSAT IV Payload Structures - Headed up design, stress, CAD/CAM, release.

Magnetic Cleanness Test Facility - Headed up structural design and installation.

Fourier Spectrum Analyzer - Precision mechanical device design, fabrication, test.

Shuttle Mid Orbiter Fuselage - GSE hardware design, fabrication, test, isogrid, honeycomb.

Radio Telescope in Orbit - Won NASA contract, was study technical manager, innovation.

Studies - Electromagnetic pulse (EMP), non-propulsive space power systems, horizon scanners, star trackers, deep space tracking, electromagnetic compatibility (EMC).

Airborne Instruments Laboratory - 1957 to 1960, Project Engineer.

Stripline microwave rotary joints. Multicavity narrow band preselectors. Wide band local oscillators. Unfurlable space antennas. Lumped constant tunable microwave components.

ITE Imperial Corporation - 1955 to 1957, Project Leader

Ground based and shipboard radar antennas, pedestals, scanners, feeds, and reflectors. SPS12, SPS6, SPS17 radar antennas production design. 75 GHz Foster scanner, radar.

Weather radar production design.

American Machine and Foundry Company - 1949 to 1955, Project Engineer

Radar antennas, pedestals, rotary joints, feeds. S-band radar organ pipe scanner, SPS8, SPS29, SPS31, MPS16 radar antennas production design/development. RADC low frequency Yagi antennas. Cigarette making machine mechanisms. Machine tool components. High-speed large caliber anti-aircraft gun loader.

SELECTED PUBLICATIONS - PAUL SLYSH

Slysh, P., "[A better way to design HIGH-PERFORMANCE STRUCTURES](#)". Machine Design June 5, 2008

Slysh, P., Rohl, P.J., Carsten, J., Jabola, A., " [Habitat for Space and Lunar Environments -- Light Weight Structure Concept](#)", AIAA-7821. 9-11 Sept 2008, [Presentation](#)

1. Expert System for Generation of Flat Patterns of Isogrid Shell Structures with Circular Bosses. SAWE Paper No. 1675, May 1985.
2. Methodology for Optimization of Shell Structures, SAWE Paper No. 1625, May 1984.
3. Expert System for Layout of a Flat Pattern of a Waffle Structure Containing Bosses, Computer Vision Users Conference 1984.
4. Synthesis and Optimization of Large Space Structures for Orbital Transfer SAWE Paper No. 1443, May 1981.
5. Large Space Structure Automated Assembly Technique, Journal of Spacecraft and Rockets, Vol. 17, No. 4, Aug. 1980.
6. Isogrid Structural Applications, SAWE Paper No. 1097, May 1976.
7. An Engineering Procedure for Calculating Compressive Strength of Isogrid Cylindrical Shells with Buckled Skins, NASA TND-8239. June 1976.
8. Isogrid Structural Test and Stability Analysis, Journal of Aircraft, Vol. 13 No. 10, October 1976.
9. Isogrid Structures Technology and Applications, SAWE CAS-2, 1976.
10. Isogrid Weight Optimum Structures, SAWE Paper No. 1063. May 1975.
11. Isogrid Structures, AIAA Paper 75-816 May 1975.
12. Conical Isogrid Adapter & Structural Test Program, NASA CR-120205, February 1974.
13. The Isogrid - King of the Lightweight Design, Cover Story, Machine Design, April 19, 1973
14. Isogrid Structures, GD Convair Aerospace Report GD/CA-ERR-AN-1972. November 1973.
15. Structural Thermal and Meteoroid Protection System, GD Convair Aerospace Reports GDC-ERR-AN-1574, 1635, December 1970, 1971.
16. Modular Assembly in Space, USAF Aero Propulsion National Conference, Space, Extra Vehicular Activities, Orlando, Florida, March 1966.
17. Single shot Transient Analyzer, IEEE 1966 International Conference, N.Y., March 1966.
18. Manned-Automatic Spaceborne Structural Assembly, SAE Paper No. 650787, October 1965.
19. Fundamentals of Servomechanisms Components Textbook, CA. State Department of Education, 1962.

20. Aerodynamically Balancing a Shipboard Radar Antenna, Electronic Industries, April 1958.

21. High Gain Scanning Antenna, AN/SPS-8, AMF, Final Report NOBSR-52425, May 1953.

U.S. PATENTS - Awarded to Paul Slysh

- < Laser Assisted Masking Process, 5,147,680, September 15, 1992.
- < Electrochemical Machining Process, 5,122,242, June 16, 1992.
- < Parts Orbiter for Chem-Milling Vat, 4,921,565, May 1, 1990.
- < Expandable Panel and Truss System/Antenna/Solar Panel, 4,380,013, April 12, 1983.
- < Method for Assembling Large Space Structures, 4,337,560, July 6, 1982.
- < Device and Method for Assembling Large Space Structures, 4,334,816, June 15, 1982.
- < Structural Node for Large Space Structures, 4,332,501, June 1, 1982.
- < Device and Method for Assembling Large Space Structures, 4,314,636, February 9, 1982.
- < Structural Strut and Node for Large Space Structures, 4,3087,699, January 5, 1982.
- < Panel Deployment and Retraction System, 4,151,872, May 1, 1979.
- < Panel Deployment and Retraction System, 4,116,258, September 26, 1978.
- < Panel Deployment Systems, 4,015,653, April 5, 1977.
- < Isogrid Shell Gun Mount, 4,040,333, August 9, 1977.
- < High Strength Composite Structure (Isogrid), 4,012,549, October 10, 1974.
- < Conical Structure (Isogrid), 3,940,891, March 2, 1976.
- < Reciprocating Thermal Engine, 3,772,876, November 20, 1973.
- < Spaced Wall Container, 3,713,560, January 30, 1973.
- < Cigarette Cut-off Mechanism, 2,711,764, June 28, 1955.