#### MICHAEL BURT – ARCHITECT&TOWN PLANNER D.Sc PROF. EMERITUS (Mary Hill Swope Chair in Architecture) Faculty of Architecture and Town Planning Technion - I.I.T, Haifa, Israel

Born October 2, 1937-Warsaw, Poland Military service in the Israeli Army (1955÷58) Married, with 3 children.

## **Education and Degrees**

1963, – B.Arch., cum Laude–Faculty of Architecture & Town Planning, Technion I.I.T. 1968, - D.Sc. Faculty of Architecture & Town Planning, Technion I.I.T, was granted for submission of 'Master's Degree Thesis', in appreciation of its high excellence standard and originality, first case in the Technion (Technion publication M. Burt, 'Profile of a maverick architect').

Teaching Experience and Academic Appointments

• 1967, – present

Lecturing on 'Architectural Design', "Industrialized Buildings', 'Structural Morphology'- 'Space Structures', in under- graduate and graduate programs. Supervision of Master (18) and Doctoral (13) Theses.

- 1974, Senior Lecturer with Tenure at Technion-I.I.T,
- 1975, Associate Professor
- 1991, Professor
- 2006, Professor Emeritus

# **Visiting Positions**

- 1970 71, (as Associate Prof.) Waterloo Univ. Canada Southern Illinois Univ. - U.S.A (Carbondale). Mexico Autonomous Univ. – Mexico
- 1981 82, (Visiting Professor) Universite De Montreal Ottawa Carlton Univ. – Vancouver Univ., Canada; Oregon Univ. Eugene –U.S.A
- 1985 86, (Visiting Professor) Stuttgart Univ.; Light-Weight Structures Inst. (I.L.) as a recipient of the 'Minerva Grant' – Germany, Sydney, N.S.W Univ., – Australia; Kobe Univ. – Japan
- 1992, Kyoto and Tokyo Universities, as a recipient of the 'Japan Foundation Fellowship' for senior scientists Japan.
- 1994 96, Universite De Paris (Architecture, La Villette)
- 2005 06, –University of Budapest Hungary; Sydney, N.S.W Univ.- Australia; Kyoto & Kobe Univ., – Japan

# Administrative Posts

• 1977-1979, (3 years) and 1989 – 1993 (5 years) as **Dean** of the **Faculty of Architecture & Town Planning,** Technion, I.I.T.

• 1978 – 1984, – Member of the Israeli Central Committee of the Architects and Engineers Association.

1989-2006, Was active on many organizing and judgment committees of world conferences;

Member of Higher Education Board of Israel in committees concerned with architecture education.

#### **Prizes & Awards**

- 1. 1968, **Sagorski Prize** for distinguished Academic Thesis achievement, by The Technion I.I.T & Hebrew Univ.
- 2. 1974, **Dworski and Sandberg Prize**, in collaboration with the Israel Museum Jerusalem, for product design (**'Easy Camp' tent** design).
- 3. 1976, '**Rokah Prize**' for 'Advanced Engineering and Design' for Bridge design Projects, by the Mayor of Tel Aviv City.
- 4. 1985 86, 'Minerva Grant' for one year research period abroad, in Stuttgart Univ. (I.L. Frei Otto institute)- Germany.
- 5. 1992, 'The Mary Hill Swope Chair in Architecture' Award, Technion, I.I.T. Israel.
- 6. 1992, **Japan Foundation Fellowship** (Senior Scientists category), 2-month Lecture travel in Japan.
- 7. 1995, **Honorary Member of ISIS** International Association for Symmetry in Art and in Science (Budapest Hungary).
- 8. 2002, 'Pioneers Award', For Distinguished Contribution in the Field of Space Structures by IASS World Organization and the Space Structures Research Center of Surrey Univ. G.B.
- 9. '2014, Appreciative Award 'Honorary Fellow' of the Israeli Architects Association, for Professional-Academic International Excellence and Ground-Breaking contributions in research of 'Space Structures' and 'Marine Development' and contribution to Education of Generations of Architects in Israel.
- 10. 2016, Applewhite SNEC Award Morphology Research, USA.
- 11. 2020, Recognized as one of world leading individuals in the field of Spatial Structures Univ. of Surrey, Spatial Structures Research Center.

## **Prizes in International Professional Competitions**

- 1964, Even Gevirol (Hayarkon) Bridge Design. Israel. First Prize - International Competition (with Prof. D. Yitzhaki).
- 1990, **SURF' 90 "NAGISA"** Design Idea Contest on "How To Live In Harmony With The Sea", 'Best prize', 'A Winning Work', Japan.

## **Major Publications**

• 1967, - 'Spatial Arrangement and Polyhedra, with Curved Surfaces and their Architectural Applications' (139p.), - Technion Publication.

- 1974, 'Infinite Polyhedra' (102p.), with Wachman & Kleinman, Technion Publication. Second edition 2005, Technion Publication.
- 1996, 'The Periodic Table of the 'Polyhedral Universe' (147p.), Technion Publication.
- - 'Sponge Breakwater', an 'Experiments Study of wave Transmission Through Permeable Sponge Breakwater', – In collaboration with CAMERI -Marine Engineering Inst. – Technion I.I.T and Epstein & sons, structural Engineering – Firm. (83p.)
- 2012 -14, 'The Israeli Marine Option, The Blue Avenue Vision'; Hebrew Version (45p.), English Version (71p.), Technion Publication.
- 2020, 'Exhaustive Enumeration of three-Dimensional Symmetry Space Groups' (75p.) Technion Publication.
- 2021, 'The Quintuplet Phenomenology of 3D Space', Surrey Univ. G.B.

# Public Exhibitions, in Israel and Abroad.

- 1968, **'Hyperbolic Minimal Surfaces'** Architecture 14, Triennale of Milano (through recommendation of Renzo Piano).
- 1969, 'Morphology and Space Structures', Ha'aretz Museum Tel Aviv (one man show).
- 1969, 'Aquaville Undersea Habitat' project, representing Israel in the Architects Paris Biennale.
- 1970 71, 'Structural Morphology' travelling Exhibition University galleries in Canada, U.S.A. and Mexico.
- 1998, '**Conceptual Architecture**', on 'Morphology of 3D Space and Architecture', with a Catalogue (55p.), Haifa Municipality funding (250.000 NIS). Haifa Art Museum, Israel.
- 2003, 'Conceptual Architecture' 'the Structure of Space and Space Sructures', Muar - Architecture Museum of Moscow - Russia. (~ 160 poster panels).
- 2011, Sponge Surfaces and Uniform Space Networks Krakow Science Academy, Poland.
- 2015, 'The Israeli Marine Option' Haifa University and The Technion, I.I.T.

# **Professional Activity – important projects**

- 1964, **Hayarkon (Even Gevirol) Bridge,** As result of an International design Competition (with D. Yitzhaki) and execution (1965 -67). Earned the 'Rokah Prize', (1976).
- 1965 69, **Industrial Bridge Design** (with D. Yitzhaki), resulting in design construction of 15 bridges in Israel, 'Al Parashat Derachim Bridge' included.
- 1969, Hexahyp 7, Hyperbolic Fiberglass Polyester Shell Structure (~300 sqm), Haifa, Israel. Received wide public news coverage and International recognition. Was incorporated in 'Advanced Structures Around the World' Exhibition and Catalogue U.S.A, Syracuse Univ., 1984).

- 1969, Present, **Car attached**, **deployable membrane tent structure** R&D., for recreation or emergency solutions. Patented 2015.
- 1969, present, Infinite Polyhedra Lattice (I.P.L) Space Frame Structures
  Application to wide span Stadiums, Floating Stadiums, Air Terminal Hangars, Bridge Avenues, with international patent (1986 Germany).
  Application to Aero Electric Power Station Towers, reaching to the height of 1300m (with Zaslavski and others), with registered international patent and funding of 2,000.000 U.S.D. (1991 1996).
- 1972 75, **'BETA- Industrialized High Rise Building System**' (with Even Or and Tene). A 20 story residential (prototype) structure was realized. Was publicized appraised in **Newsweek International** (1973) and generated wide comparative research activity.
- 1976, present, '**Bridge Avenues**', a multi-level bridge space structure, combining Urban Habitat, Transportation and Services. Was applied to numerous case studies, also as '**Bridging Over the Mesina Straits**' (2005).
- **1980, 'Kaleidospaces'** A mirror-clad Space on a building scale with groups of participating performing people as a replicated motif form. Exhibitions (1984; 1997) in Haifa Art Museum) and figured in master theses.
- 1980 2010, Development (design & construction) of Tensile Membrane and Shell Structures.
- 1980, Floris International Flower Exhibition Pavilions (1750 sqm)-Haifa, Israel.
- 1981, 86, **Design and construction of Membrane Structures** by **'Binot Firm'** (~ 26.000 sqm ~ 8.000.000 U.S.D.) in Israel and U.S.A, including:
- 1985, Amado Court Cover (750 sqm), at the Technion, I.I.T.
- 1985, Morphorit Space Structure (2000 sqm) over the Marine Engineering Laboratories Technion, I.I.T.
- 1985, Present, 'The Olympic Flotilla' A Floating Transportable Modular Array of Facilities For Mega Sport Events, (Olympics included), to be rented to hosting authorities nations. Was commented appraised in many publications, also in Der Spiegel Journal (May 2011).
- 1997- 2000, Permeable Sponge Breakwater (Shell structure). Development and wave testing (in collaboration with CAMERI Marine Wave Lab., Technion, I.I.T). Funding by Infrastructures Ministry (250.000 U.S.D.)
- 1992 2017, 'Alternative, Fill Material Free' Marine Technology Development, for Infrastructures and Urban Development (on artificial islands), leading to formulation of 'The Israeli Marine Option'.

All mentioned R & D issues were reflected in M.Sc. & D.Sc theses, led to 16 patent applications and were commentated – criticized – appraised in numerous periodicals, Journals, Book chapters and T.V. programs, In Israel and abroad.

All were critical part of the specified **Structural Morphology Research Activity**. Last presentations, (2013 – 2019), mostly as invited lectures, include: Crete, Madrid, Seoul, New Delhi, Wroclaw, Montreal, Brasilia, Surrey, York(G.B.) Rome, Hamburg, Kanazawa (Japan) and Israel.