Bercovier Michel

Born : September 10th, 1941

I. Academic Background

1976-Rouen University-Doctorat d'Etat in « Functional Analysis Applied to Numerical Analysis »

1964-Paris University-Licence es Sciences de Doctorat (Mathématiques)

II. Employment

2010 - Head of the Department of Computer Science , Hadassah College

2006 - Bertold Badler (Emeritus) Professor of Computer Science, the Hebrew University of Jerusalem

1997 -2006-Bertold Badler Chair of Computer Science, Hebrew University of Jerusalem

1983 - 1997-Associate Professor, Department of Computer Sciences, Hebrew University of Jerusalem

1979 - 1983-Senior Lecturer the School of Applied Science and Technology, Hebrew University of Jerusalem

1977 - 1979-Lecturer, the School of Applied Science and Technology, Hebrew University of Jerusalem
(Head, Division of Applied Mathematics)

1973 - 1977-Manager, users' services and applications software at the Hebrew University Computer Center

1972 - 1973-Visiting Instructor, Inst. of Math., Hebrew University of Jerusalem

1970 - 1972-Head of Computer Center, Université de Rouen

1969 - 1977-Maître-Assistant (same place as above). Equivalent to Instructor with tenure (on leave 1972 – 1977)

1967 - 1969-Assistant – Department of Mathematics, Faculté des Sciences, Université de Rouen

(1965-67 French compulsive military service)

1964 - 1965-TV director for an experiment in University distance teaching, Faculté des Sciences de Paris

III. Professional Experience

- Research in the field of finite element methods in non linear elasticity and in flows (Newtonian and non Newtonian), iterative algorithms for large problems. Distributed and Parallel Scientific Computing. Numerical methods in CAD. Integration of CAD and CAE. Computer Aided Geometry for Design. Numerical Modeling in life sciences. Isogeometric Analysis (pioneered in 2000, book in 2017)
- In Industry : consultant « tire modeling » mathematics/software KLEBER 1972 to 1981 ; MICHELIN 1981 to 1985 ; Advanced Eng. Software C.A.E. Haïfa (1983 – 1986) ; Matradatavision (1985 -1999); Fluent-FIDAP (1983 -1998) ; Renault (1986 - 2000) ; Pechiney-Alcan–Rio Tinto(1987 - 2015) ; Hutchinson (1986 - 2017) ; Eramet (1995 – 1997) ; Lyonnaise des Eaux, (1997 -2000) numerical simulations ; L'Oréal, (1996 - 2013) on Internet and Intranet. Merck MSD (2004-2006)

Others : ISSCAR Blades, Alliance tires, CEA (Cadarrache), EL-OP, TADIRAN, TAAS, IBM, DEC (USA), Bridgestone, Sumitomo Rubber (1993), Expert for High Tech IPOs, Sauerman pumps, expert Réseau national des technologies logiciel (**RNTL)**(20001-2004),etc.

IV. Invited Lectures and Sejours

LAN Pavia, June 1976, July 1981. INRIA Rocquencourt, October 1976, August 1981, March 1982. ICASE (NASA, LANGSLEY), August 1977. Ecole Polytechnique, Paris, Jan. 1978, Ap. 1982 US AirForce Flight Test Lab., Dayton, Ohio, 1979 MIT, April 1979, Université Laval, Québec, 1979. U. of Colorado, Boulder, 1980, 1981, 1982. U. of Georgia, April 1981. U. of Paris-Nord, 1981 (Visiting Prof.) Batelle Institute, London, Jan. 1985. IBM Centre Scientifique Paris (1985 – 1986 Visiting Senior Scientist). E.N.S. Ulm Paris, Visiting Prof. 1986. SASIAM, Bari, Italy, June 1987, July 1988. IBM Bergen Scientific Center, Norway, Summer 1987. U. of Kaiserslautern, Dec. 1989. Ceremade, Paris, Oct. 1989 – Feb. 1990 (Visiting Prof.) Fibonacci Inst. of Foundation of Comp. Science Trento, Invited Prof. Summer 1990. Pfalz Inst. of Maths, Kaiserslautern U., Summer school on advances in FEM. (Scientific director and main lecturer), June 1991. University of Paris 6, Visiting Professor, Sept. 1991 – Jan. 1992. Chuo University, Tokyo, Advances in CFD, April 1993. Purdue U., College of Eng., Indianapolis, April 1995. Feb. 1997. EPFL, Lausanne, Département de Mathématiques Appliquées, December 1996. Erlangen, 1997. Invited Professor, University of Paris Dauphine (1995 – 1996 and 1999). « Directeur d'Etudes et de Recherches », Pôle Universitaire Léonard de Vinci, La Défense (1996 – 1998). Paris VI , February 2000. MIT June 2001. TU Wein, June 2002. Universite Paris Dauphine, March 2004. U-Kaiserslautern, April 2004. EPFL, Sept 2004. Université Pierre et Marie Curie, visiting professor , Feb 2005-July 2005 and Feb 2006-July 2006.

Subdivisions Sienna (june 2006). Pavia , Feb. 2010 , Cime –Cetraro, June 2011. UPMC Paris 2013, GDM 2014 (Eilat), SMART 2014 (Pontignano), Linz , UKL January 2015, Pavia January 2015. Strobl April 2017. SMART 2017 (Gaeta), Altair International Meeting (2018).IACM(Oct 2019)

V. Editor, Reviewer

Journal of Computational Physics, Computer and Fluids, Applied Mechanics Review, Journal of Crystal Growth, Int. J. for Num. Methods in Fluids (*editorial board*), Int. J. Heat and Mass Transfer, IEEE on TVGC, Numerical Heat Transfer, Int. J. of Computer Applications in Technology (*Editorial Board*), ACM Transaction on Graphics, M.A.A.N., Computational Mechanics, ONERA journal, English Edition (*editorial board*), Computer Aided Geometric Design, Computer Aided Design, Computer Modeling in Engineering and Science, (*editorial board*). Int. J. for Num. Methods in Engineering, SIAM Journal in Numerical Analysis, The Int. J. of Computational Fluid Dynamics ;Progress in Computational Fluid Dynamics *(editorial board*); ASME jour. of. Hydraulics,Trans Of Graphics, Numerishe Maths, etc… Member of the Editorial Team, English edition of the Soviet Encyclopedia of Mathematics, D. Reidel Publishing Comp., 1993.,IJCAT (ass. Editor). J. of Math. in Industry, Advances in Engineering Software, Comptes Rendus de l'Academie des Sciences (CRAS), ANR (2014), ANR 2015 Computer Assisted Methods in Engineering and Science (Editorial Board)., ERC remote Referee (2016)

VI. Committees

Int. Committee, 3rd Int. Conf. FEM in fluids, Tokyo (1982) – Co-Organizer, the Franco-Israeli Binational Math. Sym., Jerusalem, March 1985 – IFIP, working goup 2.5, (elected member, June 1985) – Int. Conf. On Comp-Mechanics, Tokyo, May 1986 (Steering Committee, Invited Speaker) – Int. Conf. On Comp. Mech. (organizing committee, Invited lect.), Atlanta, 1988 – CADG, Erice, May 1990 (Chairman) – Int. Conf. On Comp. Mech. (organizing committee), Greece, June 1991 – WG2.5 Int. Conf., Karlsruhe, Sept. 1991, (Organizing Committee) – First Int. Conf. On Comp. Fluid Appl., Basel, 1992 (Chairman) – Topics in CAGD 1993, (organizer) – 2nd Int. Conf. On CFD Applications, Basel, 1994 (Chairman) – SIA, Paris, 1996 – Eccomas, 1996, Int. Committee – 3rd Conf. On CFD, Basel, 1996 (Co-Chairman) – ICHT'97, Scientific Committee CAGD 97, June 1997, CRETE – SIA-Aeronautical Eng. Paris, Nov. 1997 - IACM'98, Scientific Committee and Keynote lecturer, Basel, 1998 (Co-Chairman) – CIRP STC Design Paris, Jan. 1998 keynote speaker – Eccomas 2000, International Com. CFD , Beijing Oct 2000 (Chairman). MIT2001 June . ICES01 Aug 2001. ICAM Wein 2001. Siam CAD meeting Sacramento, Nov. 2001.SIAM CAD meeting 2003. ECCOMAS 2004 (Finland). SIA ,

Risk and Simulation, Sept 2003. Crash (SIA 2004) . CFD in Transport (SIA 2005), MIT june 2005., DDM18 , Jerusalem, Organiser, (2008). SMP'10, Haifa 2010. "Atelier" HPC, SIA, October 2010. SPM 2011 , Orlando. YIC 2012 Aveiro. ,ECCOMMAS 2012,Vienna, SPM 2012 Dijon, SECMM III,Kos,2013., SIA Conf on Simulation-March 2015, Hecht Celebration, Malaga, April 2015. Hofeim 2016 Jerusalem (co-President). ECCOMAS, June 2016 SIA Conf on Simulation-March 2017. IGA2018. SIA conference on numerical simulation (April 2019), (2021). IGA –Europe (2019)ECCOMAS Paris 2021.IGA2022 (Banff)

VII .Board Member, Director

Aleph Yssum (1986 – 1996-Chairman) - Bercom (1986 – 1996) - Numerica (Paris,1989-2000) - International Forum in High-Tech, Basel (1992 – 1996) - World Users Association in Computational Fluids, Chairman (1992 -2001) , – IACM , Israel (founding member)- Société des Ingénieurs Automobiles, Membre du Bureau Simulation (1994 -) – Numeca Intl, Bruxelles (1998 -)- ISCES, Founding member (1999) -Visiowave, Lausanne (1999-2002) -EzFace (2001-2011) – National Chamber of Computer Analysts, Israel (2001-2006). ExLibris (2003-2005). Head of W3C office in Israel (2000-2008). Conseil Scientifique et Pedagogique du Pole Leonard De Vinci, Paris la Défense (2000-2008), ICT-Cordis ,observer (2007-2009) ECCOMAS Board(2009-), Hadassah Academic College, Jerusalem (2010-),AMIES Scientific Committee (2011-2016).

VII.Honours

Chevalier des Palmes Académiques (1986) – Conseiller du Commerce Extérieur (1993 renewed 1995)

VIII.   Research Students – from 1990

- D. Ross (Ph.D. 1990), P. Allione (Ph.D. Paris 1990), A. Rodgold (Leibniz fellow 1991), E.Tishel (MSc. 1992), G. Schmeltz (Leibniz Post Doc, 1993 – 1994), O. Volpin (MSc. 1994,PhD 1999), E. Sheffer (MSc. 1995, PhD 1999), S. Aharon (Ph.D. 1995), A. Schlesinger (Ph.D. 1995), A. Jacobi (Ph.D. 1996), O. Ricou (Ph.D. Paris 1997). N. Volfovsky (Ph.D. 1998), M. Alhanaty (Ph.D. 2000), A. Marowka (MSc. 1995, PhD 2001), Tanya Matskevitch (Ph.D. 2001), Rami Tzafriri (Ph.D. 2002), Rony Goldenthal (M.SC. 2003, PhD 2010),Yehuda Arav (MSc 2003, PHD, 2009), Moshe Luzon (PhD 2005), Eran Ziman (MSc 2005), Muawayah Akash (MSc 2005), Katerina Shechtman(MSc 2006), Maxim Veinstein (MSc 2006), Emanuel Hachamov(MSc

2007)), Ilya Sloveychik (MSc 2010)

IX. Grants and Awards received within the past 20 years

- CAGD and Mesh Generation, Hutchinson, Paris, 1994 – 2001 ($ 10000/y)
-   , 2010-2016   (15 000 Euros/Y)
- Intranet and Distributed Work, L'Oréal Paris $ 25000/Y–(2001-2008)
- Question How W3C, European 5th program,   Euros 80000 –(2002-2003)
- France Telecom-Yissum contract on technological watch Euro 100 000 (2002-2003)
- Gridification of MATLAB, R&D Innovation fund HUJI $40000- (2004)

X. List of Publications (September 2017)

Publications in refereed journals and books

1.-**Bercovier, M**., *A Family of Finite Elements with Penalisation for the Numerical Solution of Stokes and Navier Stokes Equations*, in Proc. IFIP Conf. 1977. B. Gilchrist, ed., North Holland Amsterdam, 1977, pp. 97-101 (Part of Doctorate)

2.-**Bercovier, M**. and Pironneau, O., *Estimations d'erreurs pour la résolution du problème de Stokes en éléments finis conformes de Lagrange*, C.R. Ac. Sc. Paris, t. 285. December 1977, pp. 1085-1087

3.-**Bercovier, M**., *Perturbation of Mixed Variational Problems, Application to Mixed Finite Element Methods*, RAIRO (Num. An), 12, no. 3, 1978, pp. 211-236 (part of Doctorate)

4.-**Bercovier, M**. and Pironneau, O. *Comparisons and Error Estimates for Several Finite Elements for the Numerical Simulation of Incompressible Viscous Flows*, Conf. On Num. Math. In Laminar and Turbulent Flow, Taylor, ed., Pineridge Press, Swansea 1978

5.-Engelman, M. and **Bercovier, M**., *Estimation de l'erreur pour la résolution du problème de Stokes par un élément final quadrilatéral conforme sur les vitesses*. C.R. Ac. Sc. Paris, série A, t. 285. Feb. 1979, pp. 555-557.

6.-**Bercovier, M**. and Pironneau, O., *Error estimates for finite element solution of the Stokes problem in the primitive variables*, Numerishe Mathematik 33 : 211-224, 1979

7.-**Bercovier, M**. and Livne, E., *A 4 CST Quadrilatéral Element for the Numerical Solution of Incompressible and Nearly Incompressible Materials* CALCOLO, XVI : 5-19, 1979

8.-**Bercovier, M**. and Engelman, M. *Finite Element for the Numerical Solution of Viscous Incompressible Flows*, J. of Computational Physics, Vol. 30, 30 : 181-201, 1979

9.-**Bercovier, M**., Engelman, M. and Borman, J*., Numerical Simulation of non Newtonian blood flow models by a finite element method, Proceedings*, 4th International Symposium on Computing Methods in Applied Science and Engineering, Glowinski and Lions, ed., North-

Holland, Amsterdam, 1980

10.-**Bercovier, M**. and Engelman, M., *A Finite Element Method for Incompressible non Newtonian Flows*, J. of Comp. Physics, 36, 313-326, 1980

11.-Bardos, C., **Bercovier, M**. and Pironneau, O., *Approximation numérique de l'équation d'Euler en dimension deux*, C.R. Ac. Sc., Paris, 289, Série A, 829-832, 1979 (Also detailed in Bardos, C., Bercovier, M. and Pironneau, O., Vortex Method with Finite Element for the Euler Equation, Proceedings, 4th International Symposium on Computing Methods in Applied Science and Engineering, Glowinski and Lions, ed., North-Holland, Amsterdam, 1980)

12.-**Bercovier, M**., *Approximation of Bingham's variational inequalities by a penalty function for the incompressibility constraint*. Numerical Functional Analysis and Optimization, Vol 2, (5), 361-373 (1980)

13.-Bardos, C., **Bercovier, M**. and Pironneau, O., *The Vortex Method with Finite Elements*. Mathematics of Computation, 36 (153), 119-135, (1981)

14.-**Bercovier, M**., Berold, G. and Pironneau, O., *A Finite Method for the Numerical Solution of Transient Inviscid Incompressible Flows*. Invited paper for *Recent Advances in FEM and Fluids*, C. Taylor editor, Pineridge Press, 1981

15.- Bercovier, M., Hasbani, Y., Gilon, Y. and Bathe, K.J. *A Finite Element Procedure for Non Linear Incompressible Elasticity*. Invited paper for Symp. on Hybrid and Mixed Methods, S. Atluri ed. Wyley (1981)

16.-Jankovich, F., Durand, M. and **Bercovier, M.,** *A Finite Element Method for the Analysis of Rubber Parts, Experimental and Analytical Assessment*, Computers and Structures, 14, 385-391, 1981

17.-**Bercovier, M**., Pironneau, O., Hasbani, Y. and Livne, E., *Characteristics and FEM applied to the equation of fluids*. in Proc. MAFELAP 1981, Whiteman ed., J. Wyley and Sons, 1982

18.-**Bercovier, M.,** Pironneau, O., *Characteristics and the finite element method*, invited lecture, 4th Int. Symp. Finite Element Methods in Flow Problems. Tokyo, July 1982, T. Kawai ed., North Holland Press

19.-**Bercovier, M.,** *On C0 Beam Elements with Shear and their Corresponding Penalty Function Formulation*, Computer and Mathematics, '8', (4) 245-246, 1982

20.-Engelman, M., Sani, R.L., Gresho, P.M. and **Bercovier, M**., *Consistant versus Reduced Integration Penalty Methods for Incompressible Media Using Several Old and New Elements*, Int. J. fort Num. Meth. In Fluids, 3, 25-42, 1982

21.-Hasbani, I., Livne, E. and **Bercovier, M.,** *FEM and Characteristics applied to Advection Diffusion Equations*. Computer and Fluids, 11, N° 2 : 71-83, 1983

22.-**Bercovier, M**., Pironneau, O. and Sastri, V., *Finite Elements and Characteristics for some Parabolic/Hyperbolic Problems*. Applied Maths. And Modeling 7 : 89-96, April 1983

23.-Schatzmann, M. and **Bercovier, M**., *Vibrations with Unilateral Constraints*, Proc., 6th Intl. Symp. on Computing Methods in Applied Science and Engineering, Glowinski, R. and Lions, J.L. eds., North Holland, Amsterdam, 1984

24.-**Bercovier, M**., Pat, *A C Finite Element Method for the Analysis of Inextensible Pipelines*, Computers and Structures Vol. 18, N° 6, pp. 1019-1023, 1984

25.-**Bercovier, M.,** *A New Quadratic Finite Element for the 3D Simulation of Incompressible Fluids Flows or Materials*, in Finite Element Method 85 (invited lecture), P.G. Bergan ed., August 1985, Trondheim., Springer 1986

26.-**Bercovier, M**., Rosenthal, A., *On Using Conjugate Gradient Method with Preconditioning for Solving FEM Approximations of Elasticity Problems*. Engineering Computations, Vol. 3 Iss: 1, pp.77 - 80

27.-**Bercovier, M**., Engelman, M., Fortin, M., Goldberger, N., *Simulation of Forming Processes by FEM with a Bingham Fluid Model*. IJNMF vol. 6, pp. 197-, 1986

28.-Rittel, D., **Bercovier, M**.,and Roman, I. *A.F.E. Modeling of Embrittlment in Composite Liquid Phase Sintered Heavy Alloys*. J. Eng. Mat. Tech Vol 108. Pp. 159-162, 1986

29.-Zdunek, A, B, **Bercovier, M**., *Numerical Evaluation of Finite Elements Methods for Rubber Parts*. SAE Tech. Series, 860817, pp. 155-167, April 1986

30.-**Bercovier, M**., Hanna, K., and Jouve, F., *An Analysis of Refractive Surgery by the Finite Element Method*. Computational Mechanics'86 pp. IV 143-148, Yagawa and Atluri Ed. Springer Verlag, Tokyo, 1986

31.-**Bercovier, M**. and Engelman, M. *Simulation of Large Incompressible Flows by Finite Element Method* (as in N° 30 above pp. VII 89-97) (also Bercovier, M. and Engelman, M. *Simulation of Large Incompressible Flows by Finite Element Method II*. 10th Int. Conf.On Num.Meth. Fluid Dynamics, Beijing,1986, pp.120-122, F.G. Zhuang and Y.L. Zhu ed., Springer Vg, 1986).

32.-Hanna K., Jouve F., **Bercovier M**., Waring G., Ciarlet P.G., *Computer Simulation of Lamelar Keratectomy and Laser Myopic Keratomielosys*. J. of Refractive Surgery, vol. 4, 6, pp. 222-231, 1988

33.-Jouve F., Hanna K. and **Bercovier M**., *Simulation of Keratotomy by 3D non linear FEM* Invited lecture at Computational Mechanics 88, Alturi ed., Springer Verlag, 1988

34.-**Bercovier, M**., Jankovich, E., Durand, M. *The Development of a Mechanical Model for a Tire : A 15 Years Story to Replace Test Machines*, 2nd European Symposium on Mathematics in Industry, H. Neunzert ed., B.G.Teubner, Stuttgart, 1988

35.-Schatzman M., **Bercovier M**. *Numerical Approximation of a Wave Equation with Unilateral Constraints*, Mathematics of Computation, vol. 53, 187, pp. 55-79, July 89

36.-Ross, D., **Bercovier, M**. *Travelling Waves in a Cylinder Rolling on a Flat Surface*. R.A.I.R.O. MMAN, vol. 25, n° 1, pp. 129-150 (1991)

37.-**Bercovier, M.,** Jacobi, A., *Approximation / Construction of Curves by Minimization Methods with or without Constraints*, MMAN, vol. 26, pp. 211-232, 1992

38.-**Bercovier, M**., Shital, E., *Enhancement of Gordon-Coons Interpolations by Bubble Functions*, CAGD, vol. 10, pp. 253-265, 1993

39.-**Bercovier, M**., Jacobi, A., *Constrained Curves Construction by a Variational Approach*,

CAGD, vol. 11, pp. 533-563, 1994

40.-Aharon, S., **Bercovier, M**. *Semi Automatic Computer Construction of Three-Dimensional Shapes for the Finite Element Method*. Comp. Method and Prog. In Biomedicine, vol. 41, pp. 135-146, 1994

41.-Ash, M., **Bercovier, M**., *A Mixed 3D Finite Element of Modeling Thick Plate Bending*. Computational Mechanics, vol. 13, pp. 332-342, 1994

42.-**Bercovier, M**., Ricou, O., *Dimensional reduction of a Stokes flow using a polynomial approximation*, pp. 225-234 Proceedings of the 9th Int. Conf. On FINITE ELEMENTS IN FLUIDS NEW TRENDS AND APPLICATIONS, Venezia It. Morandi Cecchi et all Eds, Wyley, 1996

43.-**Bercovier, M**., Volpin, O., *Energy Duality Methods for Piecewise Bezier Curves Constructions*. Computer Graphics Forum, vol. 15, n° 2, june 1996, pp. 143-154

44.-Aharon, S., **Bercovier, M**., Parnas, H. *Parallel computation enable precise description of Ca++ distribution in nerve terminals*, 1996. Bulletin of Mathematical Biology, vol. 58 (6), 1075-1097

45.-Rappoport, A., Sheffer, E., Youlus, D., **Bercovier, M**., *Volume-Preserving Free-Form Solids*, Number 563, Solid Modeling of the IEEE, TVCG vol. 2, n° 1, March 1996

46.-**Bercovier, M**., Volpin, O., Matskewich T., *Globally G1 Free Form Surfaces using « Real » Plate Invariant Energy Methods*, 10 pages, pp. 25-34, Proc. Of Surface 1996, A. LeMehaute et all Ed., Vanderbilt U Press, Nashville, 1997

47.-**Bercovier, M**., Volfosky, N., Parnas, H., *Parallel Domain Decomposition for Reaction Diffusion Problems* in « Computational Science for the 21st Century », pp. 102-111, Periaux et all ed., Wyley, 1997

48.-Gerbeau,J.F., Le Bris,C., **M. Bercovier**,M, *Spurious velocities in the steady flow of an incompressible fluid subjected to external forces*, Int. Jour. Num. Meth. Fluids, 25, pp. 679-695, 1997

49.-Matskewich,T., Volpin,O. and **Bercovier,M**. *Discrete G1 Assembly of Patches over Irregular Meshes*, 8 p, in Mathematics of Surfaces, Lyche and Shumaker ed., Vanderbilt U. Press, 1998

50.-Sheffer, E., Blacker, T., **Bercovier, M.** *Clustering : Automated Detail Suppression Using Virtual Topology,* AMD, vol. 220, pp. 57-64, ASME, 1997

51.-Blacker, T.D., Sheffer, E., Clements, J., **Bercovier, M**., *Using Virtual Topology to Simplify the Mesh Generation Process,* AMD, vol. 220, pp. 45-50, ASME, 1997

52.-Sheffer, E., Blacker, T.D., **Bercovier,** M., *Virtual Topology Operators for Meshing* the 6th International Meshing Roundtable, October 13-15, 1997, Park City, Utah and International Journal of Computational Geometry and Applications, 10(3) :309-331 2000 .

53.-Volpin,O., and **M. Bercovier**,M. *Generation of Quadrilateral meshes from triangular data with resulting smooth surface reconstruction*,Proc.IEEEConf.InformationVisualisation-IV98,London,July1998. http://www.computer.org/proceedings/IV/8509/

54.-**Bercovier M**. *Optimal Approximation of Derivatives : an Application of the Mixed Finite Element Method*, 15 pages, in *Equations aux Dérivées Partielles et Applications*, Articles dédiés à JL. LIONS, O. Pironneau et all ed., Elsevier, June 1998.

55**.-**Sheffer A., Blacker T., Bercovier M., *CAD Data Repair Based on Virtual Topology*, 10p, ASME publication, DECT 98, Proc of the 98 ASME Design Engineering Technical Conf., Sept 98 Atlanta

56.-Volpin, O., Sheffer, E., **Bercovier, M**., Joskowicz, L., *Local curvature based smooth surface over simplified mesh using plate energy method* CAD,30(11) :875-882, 1998.

57-Volfosky N and **Bercovier M.,** *Parallel Domain Decomposition for Reaction Diffusion Problems II.* in Domain Decomposition Methods , Choi Hog- Lai et All ed. pp. 5-11, Wyley, 1999

58.-**Bercovier, M**., Volpin, O., *Hierarchical Bezier Surface over Arbitrary Meshes,* Computer Graphics Forum,18(4) :223-236,1999.

58bis-O. Volpin**-**M. Bercovier**,** *A comparaison of energies for free form surface construction ,* ext abstract, 6p. International Conference on Imaging Science, Systems, and Technology : July 1,1999,LasVegas,Nevada,USA .

59.-Sheffer A., Etzion M.,Rappoport A. and Bercovier M**.,** *Hexahedral Mesh Generation using Embedded Voronoi Graph ,* Engineering with Computers ,15 :248-262, 1999.
60.-Volpin O., Bercovier M**. and Matskewitch T.,** *A Comparison of Invariant Energies for Free-Form Surface Construction*, The Visual Computer,15 :199-210. 1999

61.-Alhanaty M. and **Bercovier M**., *Shape with Offsets of nearly Constant Surface Area* CAD, 31: 287-296*, 1999.*

62.-Marowka A., Yarhi I. and **Bercovier M**., *Scalable Portability Evaluation of High Performance Applications*. Int. J. of Computers and their Applications 7 (1) :39-47, 2000

63 Ami Marowka and **Michel Bercovier**, A Scalable Portability Model for Parallel Computing. Journal of Parallel and Distributed Computing Practices(PDCP) , Volume 3, No. 3, September 2000.

64-Sheffer A. and **Bercovier M.,** *Hexahedral Meshing of Non-Linear Volumes Using Voronoi Faces and Edges.* INJME, 49 (1-2) :329-351 2000.

65.-Matskewitch T., Inselberg A. and **Bercovier M**.,*Approximated Planes in Parallel Coordinates ,* in Curves and Surfaces Design, Laurent PJ et all ed., pp257-266, Vandebuilt U Press, 2000.

66.-Pavlov E., Luzon M. and **Bercovier M**., *Detecting Coplanar Sets of Points in Space.* in «VMV2000» 407-414 ,B Girod et all ed. IOS press Amsterdam 2000.

67.-Alhanaty M. and **Bercovier M**., *Curve & surface fitting and design by optimal control methods, in* CAD, 33 : 167-182 , 2001.

68.- **Bercovier M**., Ricou O., *A Dimensional reduction of the Stokes problem* CMES, 3, No. 1, pp. 87-102, 2002

69- Marowka A., and **Bercovier M.,** *Scalable Portability Model of Parallel Computing ,*

PDCP, Vol3 ,#4,2002.

70.-**Bercovier M**., Luzon M. and Pavlov E. "*Detecting planar patches in an unorganized set of points in space* " Advances in Computational Mathematics, 17: 153-166,2002.

71-Tzafriri,,R , **M. Bercovier,M.** and Parnas ,H., *"Reaction Diffusion Model of the Enzymatic erosion of Insoluble Fibrillar Matrices"* Biophysical Journal , 83 (2): 09/ 2002.776-93

72.-**Bercovier M.** and Goldenthal ,R. *Spline Curve Approximation and Design by Optimal Control Over the Knots,* Computing, 72,53-64, (2004).

73-Rony Goldenthal, David Harmon, Raanan Fattal, **Michel Bercovier** and Eitan *Grinspun Efficient Simulation of Inextensible Cloth* ACM Transaction on Graphics (Proceedings of SIGGRAPH 2007)

74-Arav Y, Bercovier M, Parnas H. Selecting the particle size distribution for drugs with low water solubility - mathematical model. Drug Dev Ind Pharm. Feb 10. [2012] -38(8) 940-951

75-, M.Kapl, F.Buchegger, **M.Bercovier**, and B.Jüttler.- Isogeometric analysis with geometrically continuous functions on multi-patch geometries, Computer Methods in Applied Mechanics and Engineering, 316(2017) 209-234

76 Book M Bercovier T. Matskewich (see below)

Books
Topics in computer aided geometric design Barnhill RF.,**Bercovier M**., Boehm W., Capasso V. ,eds Symposium on topics in computer aided geometric design held in Erice 1990 RAIRO MMAN 26 (1992) Dunod Paris pp263

Domain Decomposition Methods in Science and Engineering 18, ,Editor, With M.J Gander, Kornhubler and O Widlund, Springer,2008.

- with Tanya Matskevich, Smooth Bezier Surfaces over Arbitrary Quadrilateral Meshes Lectures Notes of the UMI, 2 ,2107 Springer, ISBN 978-3-319-63840-9
  http://www.springer.com/de/book/9783319638409

ArXiv

C37 Michel Bercovier, Tanya Matskevich, Smooth Bezier Surfaces over Arbitrary Quadrilateral Meshes
http://arxiv.org/abs/1412.1125v2,Janv 2015.

C38 – Michel Bercovier, Ilya Soloveichik ,Overlapping non Matching Meshes Domain Decomposition Method in Isogeometric Analysis http://arxiv.org/abs/1502.03756 February 2015.

conference proceedings:

1.-Bercovier M., Hasbani Y., and Livne E., *Applications of the finite element method with a view to computer aided design*. Proc of the Nat Conf. On data proc. Jerusalem, 1975

2.-Bercovier M., *Finite Elements for Incompressible or Nearly Incompressible Materials*. ADINA Conf. 1977, K.J. Bathe, ed. M.I.T. Report 82448-6

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