BIOGRAPHICAL SKETCH
IVO M. BABUSKA

PROFESSIONAL PREPARATION

- Technical University; Civil Engineering Dipl. Ing. 1949
- Technical University Technical Science Dr. (Ph.D.), 1951
- Czechoslovak Academy of Mathematical and Physical Sciences C. Sc. (Ph.D.), 1955
- Czechoslovak Academy of Mathematical and Physical Sciences Dr. Sc. (D. Sc.), 1960

APPOINTMENTS

- Professor, Aerospace Engineering and Engineering Mechanics, 1995-present
- Professor, Mathematics, 1995-present
- ICES Senior Research and Scientist, 1995-present
- Robert B. Trull Chair in Engineering, 1995-present
- Mathematical Institute of the Czechoslovak Academy of Sciences, Aspirant of Mathematics, 1949-52
- Mathematical Institute of the Czechoslovak Academy of Sciences, Research Fellow, 1951-55
- Mathematical Institute of the Czechoslovak Academy of Sciences, Department Head, 195568
- University of Maryland at College Park, Professor, 1968-95

PUBLICATIONS

10 Significant Publications

1. Babuška, I and U. Banerjee, "Stable Generalized Finite Element Methods (SGFEM)," *Comput. Methods Appl. Mech Engrg*, 201-204,(2012),91-211.
2. Babuška, I., R. Lipton, "Optimal Local Approximation Spaces for Generalized Finite Element Method with Application to Multiscale Problems," *Multiscale Model.Simul*. 9 (2011), 373-406.
3. Babuška, I., F. Nobile, and R. Tempone, "A Stochastic Collocation Method for Elliptical Partial Differential Equations with Random Input Data," *SIAM Review*, Vol. 52, No. 2, pp. 317-355 (2010).
4. Babuška, I., F. Nobile, and R. Tempone, "A systematic approach to model validation based on Bayesian updates and prediction related rejection criteria," *Computer Methods in Applied Mechanics and Engineering*, Vol. 197, no. 29-32 (2008), pp. 2517-2539.
5. Babuška, I, U. Banerjee, and J. E. Osborn, "Generalized Finite Element Methods-Main Ideas, Results and Perspective," *International Journal of Computational Methods*, 1, (2004), 67-103
6. Babuška, I., G. Caloz and J. E. Osborn, "Special finite element methods for class of second order elliptic problems with rough coefficients," *SIAM Journal Numerical Analysis*. 31 (1994) 945-981
7. Babuška, I. and J.M. Melenk, "The Partition Unity Finite Element Method," *International Journal For Numerical Methods in Engineering*, 140, (1997), 727-757
8. Szabo, B.A., I. Babuška, J. Pitkaranta, S. Nervi, "The problem of verification with reference to the Girkmann problem," *Engineering with Computers*, (2010), 26: 171-183.
9. Babuška, I. and Renato S. Silva, "Numerical treatment of engineering problems with uncertainties. The fuzzy set approach and its application to the heat exchanger problem," *Int. J. Numer. Meth. Engrg* (2011), 87: pp. 115-148. Published online 13 September 2010 in Wiley Online Library.
10. Babuška, I., B. Guo, "Direct and Inverse Approximation Theorems for the p-Version of the Finite Element Method in the framework of Weighted Besov Spaces. Part I. Approximability of Functions in the Weighted Besov Spaces." *Journal of Numerical Analysis*, 39: 1512-1538, 2001.

SYNERGISTIC ACTIVITIES

1 Editorial Board, *International Journal for Numerical Methods in Engineering*, John Wiley & Sons, Chichester, New York, Brisbane, Toronto, Singapore.
2 Editorial Board, *Numerical Methods for Partial Differential Equations*, John Wiley & Sons, Chichester, New York, Brisbane, Toronto, Singapore.
3 Editorial Board, *Computer Methods in Applied Mechanics and Engineering*, North-Holland Publishing Company, Amsterdam, The Netherlands. Also serve on 12 other international journals
4 Society for Industrial and Applied Mathematics, Member, Fellow
5 U.S. Association for Computational Mechanics, Fellow

COLLABORATORS AND OTHER AFFILIATIONS

Collaborators and Co-Editors (within 48 months)

U. Banerjee, Syracuse Univ. Leszek Demkoowicz, Univ. of Texas at Austin
B. Guo, U. Manitoba
R. Lipton, Louisiana State Univ.
J. Osborn, U. Maryland
J. Pitkäranta, Helsinki Univ. of Technology
R. Silva, National Laboratory of Scientific Computations, Univ. of Rio de Janeiro, Brazil
T. Strouboulis, Texas A&M Univ.
B. Szabo, Washington Univ.
R. Tempone, Florida State Univ.
J. Whiteman, Brunel Univ.

Graduate and Postdoctoral Advisors: E. Cech, deceased.

Thesis Advisor and Postgraduate-Scholar Sponsor (last 5 years)

(Career Graduate Students total=36 , Current=0; Current Postgraduate total=0) None in the last five years.