# The International Conference on Approximation Theory, Related Topics and their Applications

October 26–30, 1970, University of Maryland, College Park, Maryland

#### LECTURE PROGRAM

### Monday, October 26

- 9:30-10:20 M. Golomb, Purdue University: " $\mathscr{H}^{m, p}$ -Extensions by  $\mathscr{H}^{m, p}$ -Splines."
- 11:00-11:30 A. Gleason, Harvard University: "Stochastic Interpolation."
- 11:45–12:15 W. H. J. Fuchs, Cornell University: "On the Closure of  $\{z^{\lambda_n}\}$ ."
- 1:45- 2:35 D. J. Newman, Yeshiva University: "Completeness Questions for  $\{F(nx)\}$ ."
- 3:15-3:30 M. Marden, University of Wisconsin-Milwaukee: "Axisymmetric Harmonic Infrapolynomials in  $\mathbb{R}^{N}$ ."
- 3:35- 3:50 J. H. Curtiss, University of Miami: "Overdetermined Harmonic Polynomial Interpolation."
- 3:55- 4:10 D. B. Shaffer, Fairfield University: "Lemniscates and Equipotentials."
- 4:15- 4:30 E. B. Saff, University of South Florida: "Regions of Meromorphy Determined by the Degree of Best Rational Approximation."
- 3:15- 3:30 D. A. Sprecher, University of California, Santa Barbara: "A Survey of Solved and Unsolved Problems on Superpositions of Functions."
- 3:35- 3:50 H. Berens, University of California, Santa Barbara: "On a Theorem of de la Valée-Poussin and its Relation to the Saturation Problem for Sequences of Positive Operators."
- 3:55-4:10 D. Amir, Pennsylvania State University, University Park, and Tel-Aviv University, and F. Deutsch\*, Pennsylvania State University, University Park: "Suns, Moons, and Quasi-Polyhedra."
- 4:15-4:30 R. Askey, University of Wisconsin, Madison: "Jacobi Summability and Symmetric Tangential Limits for Harmonic Functions in Several Variables."

Tuesday, October 27

- 9:30-10:20 S. Karlin\*, Weizmann Institute of Science, and J. M. Karon, Stanford University: "On Hermite-Birkhoff Interpolation."
- 11:00-11:30 P. L. Butzer, Technological University of Aachen: "Approximation Theorems for Sequences of Commutative Operators in Banach Spaces."
- 11:45-12:15 --- L. Nachbin\*, University of Rochester, S. Machado, University of Wisconsin, Madison, and J. B. Prolla, University of Rochester: "Concerning Weighted Approximation, Vector Fibrations and Algebras of Operators."
- 11:00-11:30 J. H. Ahlberg, Brown University: "Cardinal Splines on the Real Line."
  - 1:45-2:35 J. Wermer, Brown University: "Invariant Subspaces and Approximation Problems."
  - 3:15- 3:30 --- H. Widom, University of California, Santa Cruz: "Rational Approximation and *n*-Dimensional Diameter."
  - 3:35- 3:50 A. L. Shields, University of Michigan: "On Exceptional Values of Analytic Functions."
  - 3:55- 4:10 P. L. Duren, University of Michigan: "Smirnov Domains and Conjugate Functions."
  - 4:15- 4:30 T. Bagby, Indiana University: "Rational Approximation in the  $L_p$  Norm."
  - 3:15- 3:30 J. B. Diaz\* and H. W. McLaughlin, Rensselaer Polytechnic Institute: "The Equivalence of the Simultaneous Chebyshev Approximation of Two Functions and the Chebyshev Approximation, with a Suitable Additive Weight, of the Average of the Two Functions."
- 3:35- 3:50 J. Blatter and E. W. Cheney\*, University of Texas, Austin: "Extremal Problems on Projections."
- 3:55- 4:10 D. M. Young, University of Texas, Austin: "Second-Degree Iterative Methods for the Solution of Large Linear Systems."
- 4:15- 4:30 Z. Ziegler, Technion-Israel Institute of Technology: "On Trigonometric Spline Approximation."

### Wednesday, October 28

## 1:30- 2:00 - R. P. Boas, Jr., Northwestern University: "A Uniqueness Theorem for Harmonic Functions."

- 2:10- 2:40 T. S. Motzkin\*, University of California, Los Angeles, and A. Sharma, University of Alberta: "A Sequence of Linear Polynomial Operators and Their Approximation-Theoretic Properties."
- 2:50- 3:05 R. C. Buck, University of Wisconsin, Madison: "Approximation Theory and Functional Equations."
- 3:30- 4:20 P. J. Davis, Brown University: "Double Integrals Expressed as Single Integrals or Interpolatory Functionals."
- 8:00- 9:00 I. J. Schoenberg, Mathematics Research Center, U.S. Army, University of Wisconsin, Madison: "Solution of Landau's Problem Concerning Higher Derivatives on the Halfline."

#### Thursday, October 29

- 9:30-10:20 G. Birkhoff, Harvard University: "Approximate Solution of Elliptic Equations Using Spline Functions."
- 11:00-11:30 D. J. Newman, Yeshiva University, and T. J. Rivlin\*, IBM Research Center: "The Zeros of the Partial Sums of the Exponential Function."
- 11:45-12:15 A. R. Reddy, University of Toledo, and R. S. Varga\*, Kent State University: "Approximation on [0, ∞) by Rational Functions and Spline Functions."
- 1:45- 2:35 H. S. Shapiro, University of Michigan: "Estimates for a Generalized Modulus of Continuity, with Applications."
- 3:15- 3:45 G. Choquet, University of Paris: "Determination and Study of Positive Forms on Spaces of Functions."
- 4:00-4:15 D. Gaier, University of Giessen: "Saturation in Spline Approximation and Quadrature."
- 4:20-4:35 C. de Boor, Purdue University: "On calculating with B-Splines."
- 4:40- 4:55 -- A. Sinclair, Purdue University: "Approximation of Extremal Functions in  $H^p$  by a Recursion Method."
- 5:00- 5:15 J. L. Fields, University of Alberta: "A linear Scheme for Rational Approximations."
- 4:00-4:15 L. A. Rubel\*, University of Illinois, Urbana, and A. L. Shields, University of Michigan: "Invariant Hyperplanes in  $H^{\infty}$ ."
- 4:20-4:35 A. M. Davie, University of California, Los Angeles: "Bounded Approximation by Analytic Functions."
- 4:40- 4:55 R. C. James, Claremont Graduate School: "Quasicomplements."

#### Friday, October 30

- 9:30-10:20 J. R. Rice, Purdue University: "On the Classification of Functions."
- 10:45-11:15 --- T. Kövari, Imperial College: "Faber Expansion and Polynomial Approximation."
- 11:25-11:55 G. G. Lorentz\* and L. L. Schumaker: "Saturation of Positive Operators."
- 12:05–12:55 --- G. Meinardus, Erlangen-Nürnberg University: "A Survey of Some Asymptotic Results in Rational Approximation."