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Subject: Report on “Constructive Functions 2014”

Quite a few of our colleagues are celebrating a significant birthday this year and often this is accompanied by a conference. Dick Askey's 80th birthday was celebrated in December 2013, Ed Saff's 70th birthday in May 2014, Mourad Ismail's 70th in October 2014, and Roderick Wong's 70th in December 2014. Martin Muldoon already reported on Askey's 80th birthday in OP-SF NET 21.1, the January 2014 issue of this newsletter. Here I will report on Saff's 70th birthday conference, which was held at Vanderbilt University in Nashville, Tennessee from May 26 to May 30, 2014.

There were 11 plenary speakers and various contributed talks (20 minutes) in parallel sessions, covering Ed Saff's research interests: rational approximation, logarithmic potential theory, distribution of points on spheres and other manifolds, computational function theory, etc. A special feature was that there were also four evening “School Lectures” by Barry Simon (Orthogonal Polynomials on Finite Gap Sets), Henry Cohn (Discrete Minimal Energy Problems), Arno Kuijlaars (Riemann-Hilbert Problems for Orthogonal and Multiple Orthogonal Polynomials), and Nick Trefethen (Ten Things You Should Know About Quadrature). Of the plenary lectures, I particularly enjoyed the opening lecture of Vilmos Totik on how small a polynomial can be on a compact set if its leading coefficient or its value at a point is given, Igor Pritsker's talk on zeros of random polynomials, Guillermo López Lagomasino's talk on row sequences of Padé and Hermite-Padé approximation, and Alexander (Sasha) Aptekarev's talk on Steklov's problem: what is the size of orthogonal polynomials (on the unit circle) for which the weight is bounded from below by $\delta/(2\pi)$ ? As usual Andrei Martinéz' talk (on the symmetry property for equilibrium measures) was clear and entertaining and won the prize for talk with the best transitions. The other plenary speakers all covered various areas of Ed's interest: continued fractions with random coefficients (Lisa Lorentzen), multiscale radial basis function approximation (Ian Sloane), orthogonal polynomials in the complex plane and the recovery of supports of measures in the complex plane (Nikos Stylianopoulos), approximation theory seen through Chebfun (Nick Trefethen), random matrices and multiple orthogonal polynomials (Arno Kuijlaars), and inverse potential problems in higher dimension (Laurent Baratchart). The contributed talks were organized in topical sessions: students of Ed Saff, orthogonal polynomials, special functions and differential equations, approximation theory, polynomials and matrices, cubature and approximation, discrete minimum energy, numerical analysis, number theory and polynomials, spectral theory, wavelets and frames, polynomial asymptotics, approximation, potential theory, function theory, and applied analysis. The level of the contributed talks and the number of

interesting titles made it quite difficult to choose between talks in parallel sessions.

The social program surely also deserves to be mentioned. It included a reception at the Wildhorse Saloon (including country music and inline dancing, but not so inline when the conference participants entered the dance floor), an excellent conference dinner with cocktails, a fire alarm, recollections by some of Ed Saff's friends and collaborators, a crowded dance floor, a closing beer party with Peter Dragnev and Laurent Baratchart on the guitar, and vocal support by many of the participants (a good illustration of simultaneous approximation of well known songs). All in all, an excellent conference: the organizers did a perfect job.