

Dane Thompson

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OBJECTIVE

Seeking full-time employment in the RF/microwave industry near first quarter 2006.

EDUCATION

- 2002–present **Georgia Institute of Technology** Atlanta, GA
- PhD student, Electrical and Computer Engineering
 - Emphasis: **Microwave design/simulation, fabrication, and measurement**
 - Research advisors: Dr. John Papapolymerou and Dr. Manos Tentzeris
 - Major GPA: 3.40/4.00
 - Overall GPA: 3.17/4.00
- 2001–2002 **Santa Clara University** Santa Clara, CA
- M.S., Electrical Engineering
 - Emphasis: **Wireless communications**
 - GPA: 3.74/4.00
- 1997–2001 **Santa Clara University** Santa Clara, CA
- B.S., Electrical Engineering
 - GPA: 3.52/4.00

EXPERIENCE

- 2002–present **Georgia Institute of Technology** Atlanta, GA
PhD Student / Graduate Research Assistant
- **Summary: Electrical, thermal, mechanical, and process characterization of Liquid Crystal Polymer – an advanced dielectric and packaging material for low-cost high frequency RF systems; Multilayer antenna arrays; Antenna field pattern measurements to 40 GHz; Laser-machined packaging structures; Cavity resonators for mm-wave material characterization**
 - Electromagnetic simulation
 1. Ansoft HFSS – design of ring resonators, cavity resonators, antennas, RF connectors, metamaterials, and numerous other design projects.
 2. Agilent ADS/Momentum – matching networks, filters, power dividers, etc.
 3. Flomerics Microstrips – antenna simulations. Also wrote a MATLAB script to convert the Microstrips FDTD grid and material boundary declarations into an input file for an in-house parallel FDTD code at Georgia Tech. This allowed large and complicated geometries to be easily input into the parallel simulator achieving a 10-20x simulation speed increase.
 4. Hydra FDTD – large multilayer antenna arrays were simulated on this parallelized Georgia Tech finite difference time domain simulator
 5. FEMLAB – RF MEMS switch modeling. Simulations performed with coupled electrostatic and structural mechanics physics modes provided accurate actuation voltage and switch deflection that matched measured results
 - Developed process for multilayer antenna fabrication on Liquid Crystal Polymer (LCP) substrates. Performed photolithographic patterning using dry film and liquid photoresists. Researched metal sputtering, electroplating, and standard etching for LCP metallization. Optimized LCP bonding recipes. Performed dielectric characterization for the first time on LCP from 30-110 GHz.

- Planned, purchased, and installed absorbers to retrofit a shielded room into a custom anechoic chamber. Supervised all aspects of the spherical near-field antenna measurement system, including measurements, training, alignment, and general upkeep. Researched, ordered, and installed components to upgrade the antenna system to operate up to 40 GHz.
- Became an experienced cleanroom user in the Georgia Tech Microelectronics Research Center. Learned techniques, equipment, and materials for processing on both organic and semiconductor substrates. Familiar cleanroom equipment includes:
 1. Karl Suss SB6 silicon wafer bonder
 2. MA-6, OAI, and MJB-3 mask aligners
 3. CVC DC sputterer
 4. Plasmatherm RIE
 5. Scanning electron microscope
 6. Wyko optical profilometer
 7. Alphastep profilometer
 8. E & H Hi-Vac 600 vacuum laminator
 9. Spinners, hot plates, microscopes, power supplies, chemicals
- Mastered on-wafer and coaxial microwave measurements. Trained and checked off 5 students for operating network analyzers and performing on-wafer microwave measurements. Familiar equipment and software used in measurements includes:
 1. Agilent 8510XF, 8510C, and 8530A vector network analyzers
 2. NSI 700S-30 spherical near-field antenna measurement system
 3. NIST Multical software for performing TRL and other microwave calibrations
 4. Various signal generators, spectrum analyzers, modulation domain analyzers, and digital oscilloscopes

2001-2002 **Santa Clara University** Santa Clara, CA

Teaching Assistant

- Supervised three 3-hour laboratories per week in the area of telecommunications
- Taught students to use spectrum analyzers, modulation domain analyzers, digital oscilloscopes, and signal generators

Summer 2000 **Symbol Technologies – Wireless Division** San Jose, CA

Intern

- Designed and operated the Access Point unit test lab
- Became resident expert of both Direct Sequence and Frequency Hopping Access Points
- Configured 20 computers, each with 4 operating systems for use with wireless/wired testing

SOFTWARE PROFICIENCY

Ansoft HFSS, Ansoft Designer, Agilent ADS, Momentum, AWR Microwave Office, CST Microwave Studio, Flomerics Microstripes, MEFiSTo 3D, Hydra FDTD, Zeland IE3D, FEMLAB, MATLAB, MathCAD, AutoCAD, Inventor, NIST Multical, Wincal, WinEdt, MS Office, Macromedia Studio MX

SELECTED PUBLICATIONS

1. **D. C. Thompson**, O. Tantot, H. Jallageas, G. E. Ponchak, M. M. Tentzeris and J. Papapolymerou, "Characterization of Liquid Crystal Polymer (LCP) Material and Transmission Lines on LCP Substrates from 30-110 GHz," *IEEE Trans. Microwave Theory Tech.*, vol. 52, pp. 1343-1352, April 2004.
2. **D. Thompson**, N. Kingsley, G. Wang, J. Papapolymerou, and M. M. Tentzeris, "RF characteristics of thin-film liquid crystal polymer (LCP) packages for RF MEMS and MMIC integration," accepted for presentation to the *IEEE MTT-S Int. Microwave Symp. Dig.*, pp.857-860, Long Beach, CA, June 2005.

ADDITIONAL INFORMATION

U.S. Citizen – born Sacramento, CA 1979

REFERENCES Available upon request