



Outline

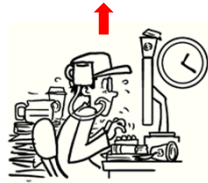
- One-Year Career Development Timeline
- Personal Branding
- Networking
- Resumes
- Tips for Career Success

This is not your typical internet advice!

One Year Plan

	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
Step 1 - Personal Branding	[Green bar with star icon]											
Step 2 - Professional Identity	[Green bar with text: maintain your identity]											
Step 3 - Professional Networking	[Green bar with arrow icon]											
Step 4 - Write Your Resume/CV	[Green bar with star icon and text: maintain your resume & tailor to specific job]											
Step 5 - Job Search	[Green bar]											
Step 6 - Apply, Interview, and Negotiate	[Green bar with text: early opportunities and star icon]											

Now what?



You now.



You then.

PERSONAL BRANDING



What is a Personal Brand?

Who are you?
 What do you want to do?
 What is unique about you?
 How do you want the world to see you?



Market yourself and
 your career as a brand.

Develop and maintain yourself and
 your reputation toward your brand.



Personal SWOT Analysis



- **Strengths**
 - *What puts you above your competition?*
- **Weaknesses**
 - *What holds you back?*
 - *What about you may stop you from getting a job?*
- **Opportunities**
 - *What weaknesses and threats can you overcome?*
 - *How?*
- **Threats**
 - *Who is better than you?*
 - *Why?*

Funnel Test

- What are you most passionate about?
 - *Electromagnetics?*
 - *Circuit design?*
 - *Art?*
 - *Computer Programming?*
- Tone – How do you approach things?
 - *Aggressive?*
 - *Relaxed?*
 - *Ambitious?*
 - *Lazy?*
- Purpose – What do you want to accomplish?
 - *Win Nobel prize?*
 - *Become a CEO?*
 - *Help people?*

EMPossible Slide 7

Funnel Test Example

College professor in 3D printed EM

Aggressive
Ambitious
Risk Taker

• Pursue high-risk/high-payoff research
• Help people

“I want to motivate students and to mentor them through high-risk/high-payoff research in 3D printed electromagnetics & photonics.”

EMPossible Slide 8

Personal Branding Statement

- 1-2 sentences.
- Who you are, what you do, and what is unique about you.
- No jargon. Speak to a layperson.
- Memorable and exciting.

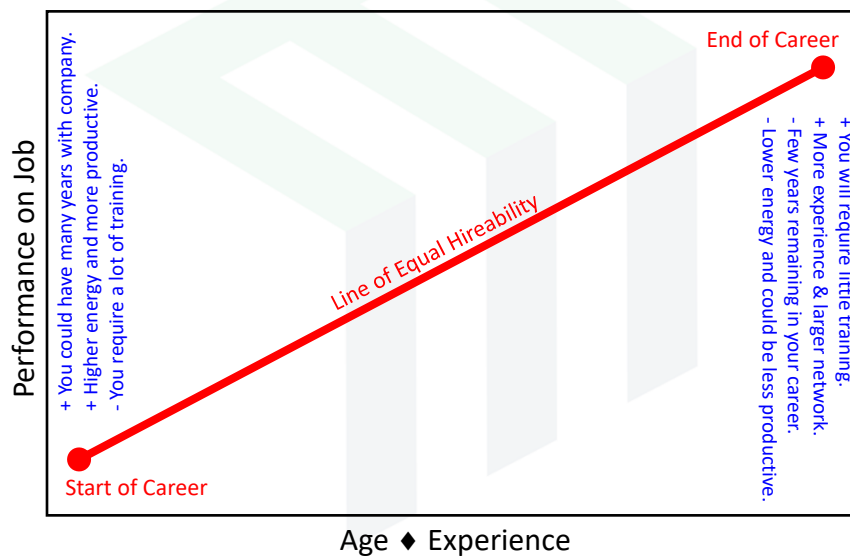
"I motivate students and mentor them through high-risk/high-payoff research in 3D printed electromagnetics & photonics."

"Signal integrity evangelist."

"I use the power of words to increase your online revenue."

"Saving the world from bad content."

Your Hireability to a Company or Organization





How to Network

Give Give Get

Networking Advice

- Do not just collect names and grow a list
 - Develop relationships
 - Nurture and maintain your network
 - Help and contribute to your network
- Where to meet professionals?
 - Conferences
 - Discussion board: Quora, EDABoard, Reddit, etc.
 - Social Media: LinkedIn, ResearchGate, Facebook, etc.

RESUMES

Best Resume Advice Ever

If you want to have an awesome resume,
do awesome things to put on your resume.

- Good grades
- Get involved in student organizations.
- Take on leadership roles.
- Get involved in research (volunteer if necessary)
- Get involved in community service.
- Read and be aware of things.
- Demonstrate that you are active and interested in your career.
- If you want to go to graduate school, get involved in research try to publish as an undergraduate.

Six-Second Rule

Your resume has about six seconds of the hiring manager's time to sell you.

- Professional and easy-to-use format that conveys information fast.
- Extremely well spelling and grammar checked.
- First page is most important.
- Consider doing something unique that may buy you more than 6 seconds.

Top of Resume

OBJECTIVE:

To obtain a satisfying position that will utilize my skills and provide growth potential.

Start your resume with an awesome summary of all the reasons they should hire you.

My Resume/CV

Raymond C. Rumpf, PhD, FSPIE, SMIEEE
 6504 Los Lagos Drive, El Paso, TX 79912 | (972) 84-EMLAB | raymond.rumpf@gmail.com
 INNOVATIVE • DIVERSE • BUSINESS DEVELOPMENT • MOTIVATING LEADER

Dynamic, results-oriented Engineer/Scientist with extraordinary record of accomplishments in business, research, teaching, and innovation. Helped transform technology portfolio for Prime Research, LLC, to position it for unlimited opportunities in commercial and government sectors, including DoD. Founded EM Lab with a mission to develop revolutionary technologies enabled by 3D printing and delivered an array of significant breakthroughs in a short time. Skilled in forecasting technology trends, building and nurturing teams, writing proposals, shepherding research, and managing intellectual property. Able to make sound decisions based on limited data and to originate and direct high-risk/high-payoff research. Energetic, motivating, and extremely ambitious.

EXPERIENCE

Teaching Assistant University of Texas at El Paso	Research Assistant University of Texas at El Paso	Associate Professor & Founder of EM Lab University of Texas at El Paso
Digital Design Engineer Co-op EM Lab	Principal Investigator EM Lab	Chief Technology Officer EM Lab
EM Lab	EM Lab	EM Lab

EDUCATION

M.S. in Electrical Engineering University of Texas at El Paso	Ph.D. in Optics University of Texas at El Paso	Online Courses in EM & Computation University of Texas at El Paso
B.S. in Electrical Engineering University of Texas at El Paso	New Parent University of Texas at El Paso	Teaching Online Academy University of Texas at El Paso

Core Competencies

- Non-technical**
 - Mentoring & education
 - Technical writing
 - Graphics & visualization
 - Strategy
 - Managing leader
 - Business development
 - Managing risk
 - Presentations
 - Proposal writing
- Technical**
 - Hybrid 3D Printing
 - Electromagnetics
 - MEMS & Photonics
 - Simulation & optimization
 - Spatially variant lattices
 - Photonic crystals & metamaterials
 - Antennas & frequency selective surfaces
 - Diffraction gratings
 - Waveguides
 - Electronics & Advanced packaging
 - Devices for extreme environments

Interest Areas

- Leadership, education & mentoring
- Electromagnetics & photonics
- Computational electromagnetics
- Photonics crystals & metamaterials
- Electronics, RF & microwave circuits
- Antennas & frequency selective surfaces
- Graphics & visualization

Major Awards & Recognitions

- 2015 UT Regent's Outstanding Faculty Award
- Dean Eugene Thomas Award for Outstanding Faculty Member, 2017
- Schaeffler Prof. in Electrical Research
- BUILDING SCHOLARS & CAREER Mentoring Award
- Dean's Award for Excellence in Research, 2019
- Dean's Award for Teaching, 2012 & 2015
- 2019 FSPIE Outstanding Faculty Award
- Senior Member IEEE, 2019
- Best Professor Technology 2015, Opti Mag
- Research in 3D printed EM featured by IET
- Magnet Inquest Endorser for OERI, Teaching
- DARPA Young Faculty Award, 2011-2013
- Five Citrus Award Records in Publishing

Key Accomplishments

- Teaching**
 - Developed six graduate courses
 - Distilled 3 PhD, 8 MS, & 8 BS students
 - Developed multiple online courses
 - Top student evaluations in department
- Service**
 - Associate Editor for SPIE
 - Co-Chair for Photonics West
 - Faculty Advisor for IEEE Eta Kappa Nu
 - Advised by middle and grade schools
 - Mentor & advise numerous students in 30+ other countries
 - Frequent volunteer for the Boy/Girl Scouts
- Business**
 - Transformed company's technology portfolio
 - Awarded \$4.5M in research in 9 years
 - More than doubled number of new programs
 - Managed company's intellectual property (IP)
 - Awarded 15 US patents
- Research**
 - First to fabricate hybrid direct-write 3D printing
 - First ever 3D volumetric circuits
 - Tightest bond of unguided optical beam
 - Highest power frequency selective surface
 - Widest FOV and most broadband dielectric filter
 - Thinnest all-dielectric antenna

Raymond C. Rumpf, PhD, FSPIE, SMIEEE

PROFESSIONAL EXPERIENCE

University of Texas at El Paso, El Paso, TX 2010 – Present
Full Professor, Electrical & Computer Engineering 2018 – Present
Associate Professor, Electrical & Computer Engineering 2010 – 2017
Director, EM Lab 2010 – Present

Established the EM Lab to develop revolutionary technologies in electromagnetics and circuits that are enabled by digital manufacturing (i.e., 3D printing). Developed and patented an array of breakthroughs, including first 3D volumetric circuits, invention/discovery of three new electromagnetic phenomena. Developed and taught six new graduate courses and two undergraduate courses in electromagnetics and in computation. Currently advising 2 undergraduate and 11 graduate students. Awarded \$3M in external research funding since 2010.
 Contacted Address: rumpf@utep.edu, 810 S. El Paso, El Paso, TX, and numerous BS to BS2

Prime Research LLC, Blackburg, VA 2006 – 2010
Chief Technology Officer 2006 – 2010

Responsible for strategic planning, business development, intellectual property, and technical management of research and development activities. Provided vision and strategic plan that transformed Prime Research and positioned company for new opportunities in commercial and government sectors, including DoD. Re-engineered proposal process and generated over \$2M in advanced research and development funds in less than three years and more than quadrupled the number of new programs. Proposal win rate met or over 20%. Managed and negotiated more than 15 government contracts. Participated in trade shows and conferences.

Harris Corporation, Palm Bay, FL 1997 – 2006
Principal Investigator, Microsystems Technology Group 2000 – 2006
Senior Electrical Engineer, Government Communications Systems Division 1997 – 2000

Responsible for identifying and developing revolutionary technologies to radically minimize transmitter communications systems. Technologies included microelectronics, advanced packaging, thermal management, antennas, matrix, power generation, energy harvesting, radio, communications, signal processing, photonics, MEMS, and more.

NASA, Kennedy Space Center, FL 1992 – 1994
Digital Design Engineer Co-Op, Developmental Systems 1992 – 1994

Responsible for designing and testing digital circuits and software for NASA's Central Data Storage System. Technical duties included circuit design, layout, and testing as well as software development to control digital circuits. Digital circuits were based on the VMEbus architecture.

EDUCATION

University of Central Florida, Orlando, FL 1999 – 2006
Ph.D. in Optics, GPA 4.0/4.0, The College of Optics and Photonics (CREOL) 2006

Thesis: Design and Optimization of Nano-Optical Elements by Coupling Fabrication to Optical Behavior
 Advisor: Dr. Eric Johnson

- Finerest design of nanophotonics by combining simulations of fabrication with simulations of optical behavior.
- First to fabricate 3D photonic crystals on a standard UV mask aligner. Technique was new field nano-patterning.
- Founded and led IEEE Numerical Modeling Forum Group that was open to all students.
- Developed testing process used during fabrication of guided mode resonant filters to control spectral response.
- Investigated super-variant photonic crystal filters for computational imaging applications.
- Investigated fabrication of high aspect ratio ferro-birefringent devices by auto-fabrication.
- Developed numerical tools to simulate micro- and nano-fabrication including photolithography, developing, chemical etching, auto-loading, and plasma etching processes.
- Developed DUV far dispersive materials based on a Lorentz-Drude model of arbitrary order.
- Investigated methods for precise alignment of micro-optic structures including fiber micro-graspers.

Page 2 of 2



TIPS FOR CAREER SUCCESS

#1 Practice

Networking

- Meet and help people
- Nurture relationships
- Give, give, get

#1 Skill

Communication

- Speaking
- Writing
- Graphics & Visualization
- Professional Formatting

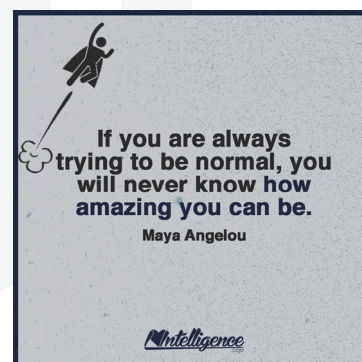
Miscellaneous Tips

Write your own letters of recommendation.

- Write drafts for those you ask for letters.
- Have those drafts ready before you even ask.
- Make your letters different and emphasize different things.

Miscellaneous Tips

If you want to accomplish things that others do not, you must think and act differently than others do.



Miscellaneous Tips

Fail your way to success.

- Push yourself hard enough that you occasionally fail.
- Fail for the right reasons.
- Fail forward.
- Fail fast and cheap.

Miscellaneous Tips

Find your own path.

- Be yourself.
- No need to be like others.

Miscellaneous Tips

Operate Outside of Your Comfort Zone

- Push yourself.
- Take on a job and then figure out how to do it.
- “I am always doing that which I cannot do so that I may learn how to do it.”
-Pablo Picasso

Miscellaneous Tips

People hold themselves back
way more than society does.
Do not pigeonhole yourself!



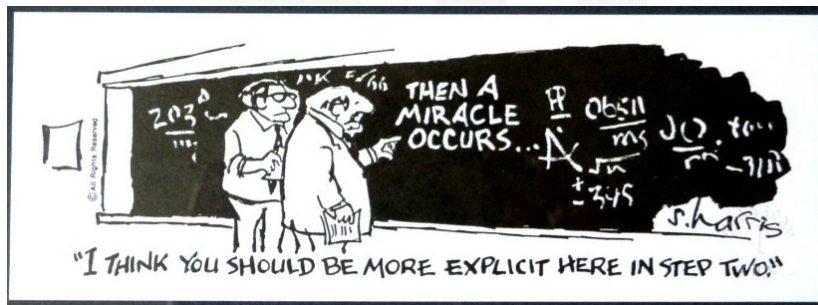
Miscellaneous Tips

Hey perfectionists...
Learn to do "good enough."



Miscellaneous Tips

Avoid habits and peer-pressure that limit
your creativity and performance.



Absolutely #1 Thing

Help Others

- Campus Organizations
- Tutoring
- Philanthropy

THANK YOU!!