

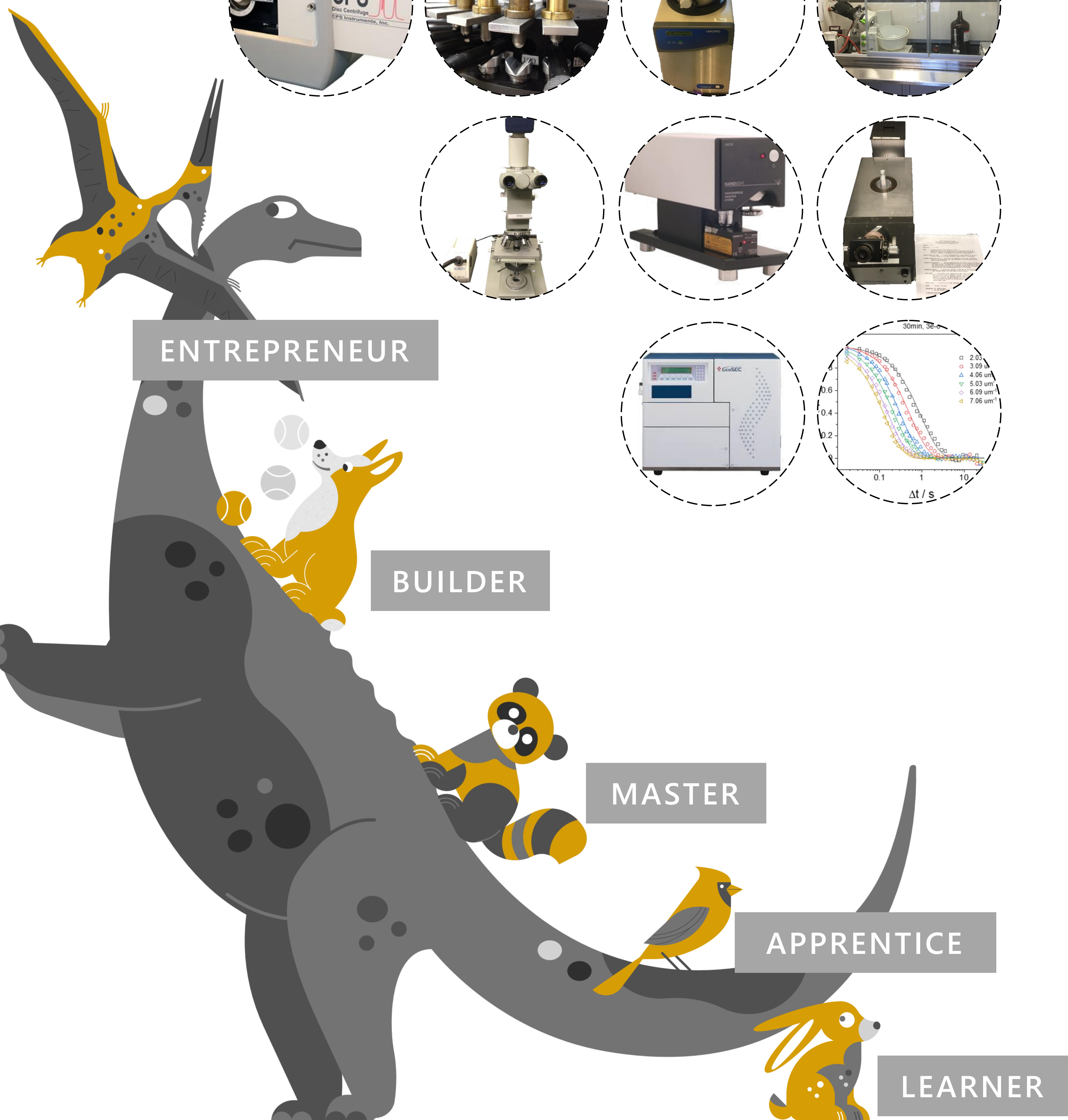


# OPALL The Open Polymer Active Learning Laboratory

School of Materials Science & Engineering / School of Chemistry & Biochemistry / Georgia Tech Polymer Network  
Polymers Undergraduate Network of Students (undergrads) / Student Polymer Network (grads)

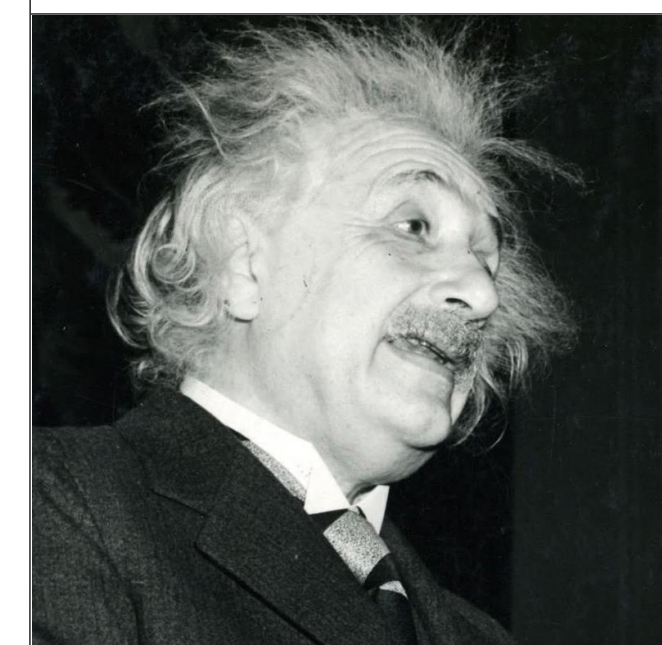
**Synthesis & Prep** / Hood, Sonication, Freeze-drier, Centrifuge, Vacuum Oven, Temperature controllers, Precision thermometer, Vacuum still, Soxhlet, Filters / **Characterization** / Polarized & fluorescence light microscopy, fiber interference microscopy, GPC/MALS, AF4/MALS, Disk centrifuge, Dynamic light scattering, Static light scattering, Small-angle light scattering, refractive index, Nanotracker

**Expertise = Equipment + Know-how + Practice**



## Selected Research Projects

- NANOPLASTICS: ULTRASONIC DEGRADATION
- SIMPLE DEGRADATION OF POLYESTERS
- 3D PRINTING TO MINIMIZE PLASTICS WASTE
- POLYPEPTIDES
- POLYMER-PARTICLE COMPOSITES
- ADVANCED METHODS OF POLYMER CHARACTERIZATION
- POLYELECTROLYTE PHYSICS
- NATURAL LANGUAGE PROCESSING FOR POLYMER ANALYSIS (ALEXA IN THE LAB!)
- DATA ANALYTICS FOR POLYMER CHARACTERIZATION
- BIOENCAPSULATED POLYMERS



### Community service & teaching

If you cannot explain it simply, you don't understand it well enough.  
--Albert Einstein

## Hit the Ground Running in Industry



Students who have *already*:

- ✓ Measured polymer molecular weights: Static Light Scattering.
- ✓ Measured polymer and particle sizes
- ✓ Used a gel permeation chromatograph
- ✓ Measured shear thinning fluids
- ✓ Assessed morphology by light microscopy and SALS
- ✓ Measured optical properties and densities
- ✓ Synthesized polymers
- ✓ Mastered statistical analysis of data
- ✓ Understand measurement fundamentals: S/N, filtering, A/D

*Taught these things to other students.*

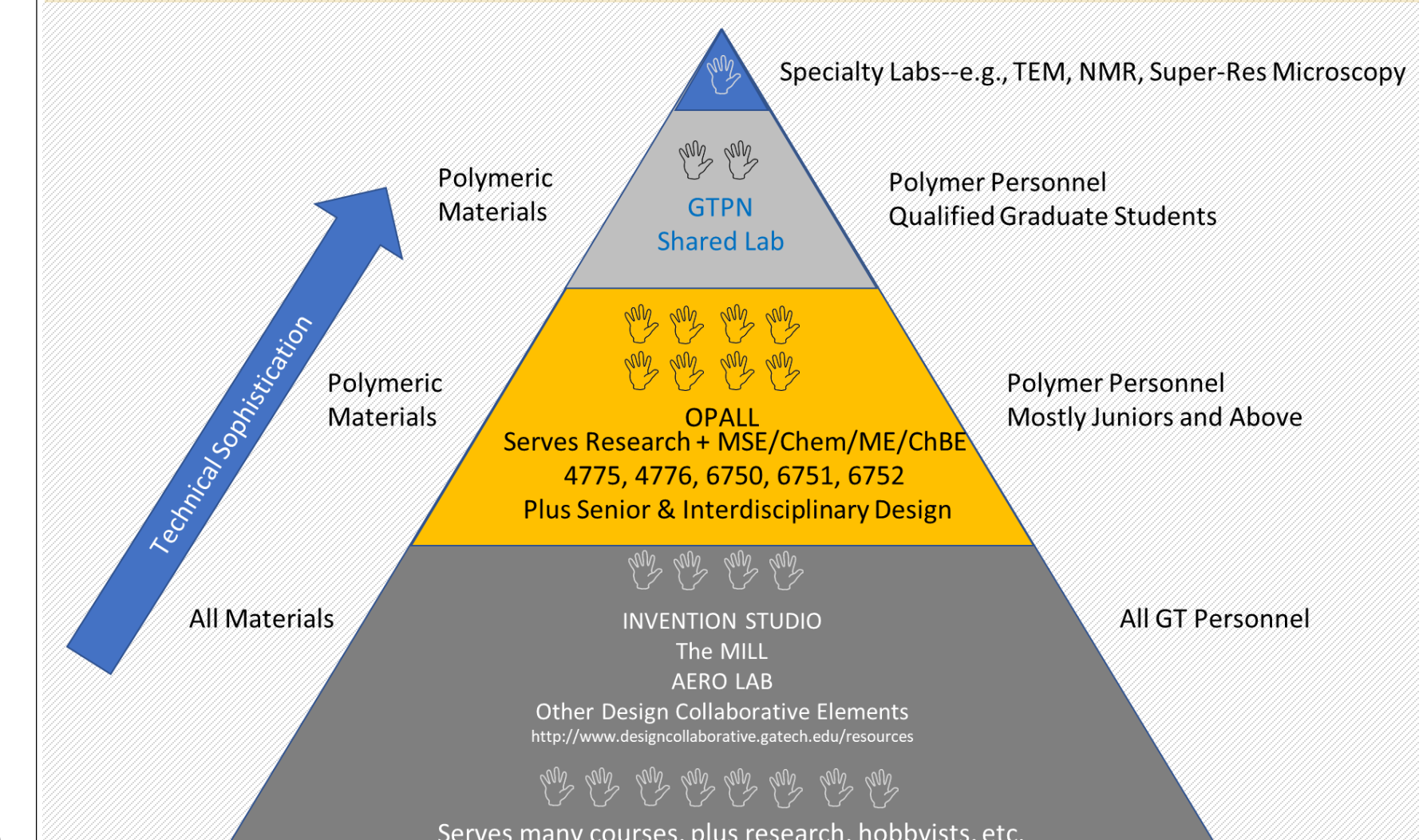


## THE OPALL STUDENT



MSE/CHEM/ChBE/ME 4776/8803  
OPALL Recruits January 2020

- WORKS SAFELY
- HELPS OTHERS
- SEES OPPORTUNITIES TO IMPROVE HIS OR HER SURROUNDINGS
- TAKES INITIATIVE
- GETS AN INTERNSHIP OFF-CAMPUS
- TOLERANT AND RESPECTFUL OF OTHERS
- PROFICIENT AND PRACTICED IN HANDS-ON EXPERIMENTATION
- NETWORKED THROUGH INDUSTRIAL RESEARCH/DESIGN
- PREPARED TO BE GTPN'S SHARED LAB TA: EVEN MORE NETWORKING
- KEEN EYE FOR ENTREPRENEURSHIP
- LEAVES THINGS BETTER THAN HE OR SHE FOUND THEM
- RECENT ALUMNI SALARIES: UP TO \$130,000/year
- AVERAGE INTERVIEWS TO GET OFFER: 1



## 1 Prepare

confident graduate students, seniors and juniors to hit the ground running in polymer science & engineering

## 2 Provide

a laboratory experience to lecture courses for polymer seniors and beginning graduate students

## 3 Facilitate

polymer research at all levels

## 4 Pioneer

the safe use of chemicals in make-measure-discover-design spaces

## 5 Support

industrial partners

## 6 Encourage

entrepreneurship in analytical measurements

## 7 Build

credentials for an academic position