Recruitment and retention discussions about the ‘pipeline model’ have been circulating through the STEM community for years, with a primary focus on attrition rates (termed ‘leaks’). However, the pipeline model is not conducive for understanding variations in students’ experiences, behaviors and decisions when pursuing their academic and professional careers. Houlton (2010) developed a ‘pathway model’ which identified reasons why students decided to pursue the major and may explain attrition rates in the geoscience discipline.

Houlton (2010) developed a ‘pathway model’ which identified reasons why students decided to pursue the major and may explain attrition rates in the geoscience discipline. This model explicitly maps students’ career trajectories starting from initial interest through intended career ambitions, which can be used to focus future recruitment and retention efforts. This resulted in 6 distinct, chronological pathway steps.

- **Innate Attributes or Interest Sources:** Intrinsic interests or actions resulting from those interests.

- **Critical Incidents:** Specific events students experienced that led them to make choices or changes in behavior (Flanagan, 1954).

  - **Pre-College:** Critical Incident(s) that happened prior to college enrollment.
  - **College:** Critical Incident(s) that happened after college enrollment.

- **Current or Near Future Goals:** Goals that students, at the time of the interviews, were working towards.

- **Expected Career Attributes:** Different aspects of what students believe geoscience careers will have. These are reasons they have for pursuing these types of careers.

- **Desired Career Choices:** Students’ perceptions of what they believe a geoscience degree will allow them to pursue in the future. Many are connected to the expected career attributes.

This is the first of four Geoscience Currents on the topic of Geoscience Academic Provenance. AGI is hosting a GeoWebinar to discuss this set of Geoscience Currents on August 23, 2011 from 1:00-1:30 pm US EDT. Register at: www.agiweb.org/workforce/webinars.html

To read Houlton’s full study, go to: http://www.eas.purdue.edu/riggslab/Houlton_Final_Thesis.pdf