

Spring 2-1-2004

# GEOL 582.01: Advanced Structural Geology

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G582 Advanced Structural Geology  
The University of Montana  
Spring Semester 2004  
Jim Sears SC 371 [jwsears@selway.umt.edu](mailto:jwsears@selway.umt.edu)

We journey through the works of the distinguished Canadian structural geologist, Professor Raymond A. Price. We will work through the first paper together. Each week thereafter, students will lead the discussion of papers, using transparencies. The key to this course is participate! Approximate weekly schedule below:

- |     |    |   |
|-----|----|---|
| Jan | 26 | Price and Mountjoy, 1970, The geological structure of the Southern Canadian Rockies between Bow and Athabasca Rivers,--A progress report.   |
| Feb | 2  | Price and Mountjoy, 1970, (cont.)   |
|     | 9  | Price, 1967, Tectonic significance of mesoscopic subfabrics in the southern Rocky Mountains of Alberta and British Columbia: Canadian Journal of Earth Sciences, v. 4, p. 39-70.  |
|     | 16 | Price, 1973, Large-scale gravitational flow of supracrustal rocks, Southern Canadian Rockies, in Gravity and Tectonics, Wiley, p.491-502.<br>Monger and Price, 1979, Geodynamic evolution of the Canadian Cordillera—Progress and problems: Canadian Journal of Earth Sciences, v. 16, p. 770-791.  |
|     | 23 | Price, R.A., 1981, The Cordilleran foreland thrust and fold belt in the southern Canadian Rocky Mountains, in Thrust and Nappe Tectonics, Geol. Soc. London, Special Publication 9, p. 427-448.<br>Price, R.A., and Hatcher, R.D., Jr, 1983, Tectonic significance of similarities in the evolution of the Alabama-Pennsylvania and the Alberta-British Columbia Canadian Cordillera: GSA Memoir 158, p. 149-160. |
| Mar | 1  | Price, R.A., 1986, The southeastern Canadian Cordillera: Thrust faulting, tectonic wedging, and delamination of the lithosphere: Journal of Structural Geology, v. 8, p. 239-256.<br>Price, R.A., and Carmichael, D.M., 1986, Geometric test for Late Cretaceous-Paleogene intracontinental transform faulting in the Canadian Cordillera: Geology, v. 14, p. 468-471.  |
|     | 8  | Price, 2001, transverse faults, displacement transfer, and the co-evolution of several major thrust faults in the Banff area, Rocky Mountain Front Ranges, Alberta: Journal of Structural Geology, v. 23, p. 1079-1088.   |
|     | 15 | Fermor and Price, 1987, Multi-duplex structure along the base of the Lewis thrust sheet in the southern Canadian Rockies: Bull Can. Petr. Geology, v. 35, p. 159-185.   |
|     | 22 | Cook and others, 1988, Lithoprobe seismic reflection structure of the southeastern Canadian Cordillera: Initial results: Tectonics, v. 7, p. 157-180.   |
|     | 29 | Spring Break  |
| Apr | 5  | Price, 1988, The mechanical paradox of large overthrusts: GSA Bull., v. 100, p. 1898-1908.  |
|     | 12 | Harms and Price, 1992, Newport fault: GSA Bull., v. 104, p. 745-761.<br>Doughty and Price, 2000, Geology of the Purcell Trench rift valley and sandpoint conglomerate: GSA Bull. v. 112, p. 1356-1374   |

- 19 Colpron et al., 1996, Middle Jurassic denudation along west flank of Selkirk fan structure: GSA Bull., v. 108, p. 1372-1392.  
Colpron et al., 1998, Selkirk fan structure of SE Canadian Cordillera: GSA Bull, v. 110, p. 1060-1074.
- 24 Saturday field trip Rogers Pass-Helena area.
- 26 Price and Sears, 2000, Preliminary Palinspastic Map
- May 3 Sears and Price, 2003, Tightening the Siberian connection to Laurentia: GSA Bull, v. 115, p. 943-953.
- 10 Finals week

#### EVALUATION

This pass-not pass course will be graded based on class attendance, participation, and presentations. There will be approximately 2 presentations per student.