MAPI – Computer Vision

Multiple View Geometry

- 3-Camera Geometry: Epipolar Geometry
 - The scene is imaged with three cameras perhaps simultaneously in a trinocular rig, or sequentially from a moving camerao.



• 3-Camera Geometry: Epipolar Geometry



• Trifocal Plane



• 3-Camera Geometry



- 3-Camera Geometry
 - The fact that the projection of any point **P** on **L** in image *i* belongs to the line l_i can be written as: $l_i^{T}\mathbf{M}_i\mathbf{P} = 0$



- 3-Camera Geometry
 - The fact that the projection of any point P on L in image *i* belongs to the line l_i can be written as:



This is expressed by an expression linear in /1, /2, /3 - the trilinear (trifocal) tensor