

# GENEALOGY DATABASE ENTRY

©Vera V. Mainz and Gregory S. Girolami 1998

Plücker, Julius

1801 - 1868

DEGREE: PhD

DATE: 1824

PLACE: Bonn

TEACHER/RESEARCH ADVISOR:

mathematician and physicist; discovered that tourmaline crystals behave differently in a magnetic field depending upon the orientation of the crystal axes with the magnetic field; studied the effect of electrical discharges in rarified gases (anticipating the discovery of cathodic rays by Hittorf), and the spectra of gaseous substances; discovered the first three hydrogen lines (preceding Bunsen and Kirchhoff's experiments); studied analytic and projective geometry, esp. the plane analytic geometry of the line, circle and conic section; discovered Plücker's equations which prepared the way for a general theory of quartic curves and their configurations; defined the Plücker-Clebsch principle, which determines when a system of algebraic equations will have infinitely many solutions; studied the problem of focal points of algebraic curves, the osculation of two surfaces, and algebraic and analytic space geometry; created the field of line geometry; introduced the notions of complexes, congruences, and ruled surfaces for subsets of lines of three, two, or one dimension; classified linear complexes and congruences and initiated the study of quadratic complexes (beginning with Klein's doctoral thesis).

1. *Dictionary of Scientific Biography*; Charles Scribner's Sons: 1970-1990; vol. 11, p44-47.
2. *Proc. Roy. Soc.* **1869**, 17, lxxxi-lxxxii.
3. *Abhandl. K. Akad. Ges. Wiss. Göttingen.* **1871**, 16, 1-40.
4. *Allgemeine Deutsche Biographie*; Duncker & Humblot: 1967-1971 Reprint; vol. 26, p321-323.