

慶應義塾大学 21世紀COEプログラム
「統合数理科学：現象解明を通じた数学の発展」

Pathways Lecture Series in Mathematics, Keio

Speaker : Prof. Gudlaugur Thorbergsson
(Mathematisches Institut der Universitaet zu Koeln)

Place : 14-203, Yagami Campus
Faculty of Science and Technology,
Keio University

Submanifold geometry and critical point theory

Lecture 1 **16:30-18:00 March 13, Monday, 2006**

In this lecture we will introduce the second fundamental form and the shape operator and derive the formulas of Gauss and Weingarten.

Lecture 2 **16:30-18:00 March 14, Tuesday, 2006**

We will introduce focal points of submanifolds and explain their relationship with principal curvatures. We will then define the distance function between a fixed point and a submanifold and discuss its critical points. Finally we will explain how their indices can be calculated with help of focal points.

Lecture 3 **16:30-18:00 March 15, Wednesday, 2006**

We will describe the theory of isoparametric submanifolds in Euclidean spaces. The proofs of the results will only be sketched in this last lecture.

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