

Bahçeşehir University, Istanbul, Türkiye
Analysis & PDE Center, Ghent University, Ghent, Belgium
Institute Mathematics & Math. Modeling, Almaty, Kazakhstan

“Analysis and Applied Mathematics”

Weekly Online Seminar

Seminar leaders:

Prof. Allaberen Ashyralyev (BAU, Istanbul),
Prof. Michael Ruzhansky (UGent, Ghent),
Prof. Makhmud Sadybekov (IMMM, Almaty)

Date: **Tuesday, December 19, 2023**

Time: 12.00-13.00 (Istanbul) = 10.00-11.00 (Ghent) = 15.00-16.00 (Almaty)

Zoom link: <https://us02web.zoom.us/j/6678270445?pwd=SFNmQUlVt0tRaH-IDaVYrN3I5bzJVQT09>, **Conference ID:** 667 827 0445, **Access code:** 1

Speaker:

Prof. Dr. Bayram Şahin

Ege University, İzmir, Türkiye

Title: **Conformal Riemannian Maps to Almost Hermitian Manifolds**

Abstract: As a generalization of conformal isometric immersions and conformal Riemannian submersions, conformal Riemannian maps have been studied intensively recently, and the geometric results obtained for conformal isometric immersions and conformal Riemannian submersions have been extended to a broader class. The purpose of this talk is to present recent developments on conformal Riemannian maps to almost Hermitian manifolds. Geometric notions in almost Hermitian manifolds are defined according to the complex structure on the manifolds. Considering this approach, invariant, anti-invariant, semi-invariant and slant classes of conformal Riemann maps are introduced, examples are given for each class, characterizations are obtained and the properties of the map are presented. In addition, results are given on whether the map of these classes is totally geodesic and harmonic. Considering that these presented conformal Riemannian maps are a broad class of almost Hermitian manifolds including holomorphic submanifold, totally real submanifold, CR-submanifold and slant submanifold, these new geometric concepts seem to have the potential to stimulate new research problems in differential geometry.

Biography:

Bayram Şahin is a Professor of Mathematics in the Department of Mathematics at Ege University of Izmir in Türkiye. After he obtained his Ph.D. in Differential Geometry from the University of Inonu, he spent 12 months at the University of Windsor, Windsor, Ontario, Canada as a Postdoctorate and a visiting research scholar. Dr. Şahin is the founder of the

International Journal of Maps in Mathematics and he is editorial board member for the Turkish Journal of Mathematics and Mediterranean Journal of Mathematics. Prof. Dr. Şahin is the co-author of the book titled "Differential Geometry of Lightlike Submanifolds" published by Springer in 2010 and the sole author of the book titled "Riemannian submersions, Riemannian Maps in Hermitian Geometry and Their Applications" published by Elsevier in 2017. He is also the author of the books "Differential Geometry of Manifolds" and "Differential Geometry" published in Turkish and has written more than 130 research papers on manifolds, submanifolds and maps between them in various peer-reviewed journals.