**Proposal for ZTF Collaborator Status**

**for**

**Boris Gaensicke**

**External Collaborator**

*An external collaborator is an individual who is not a ZTF Member or Associate, but who wishes to engage in long-term mutually beneficial collaboration with ZTF members on specific, prescribed ZTF science analyses.*

*If such a collaboration can benefit multiple groups and science programs within ZTF, and the ZTF collaboration is amenable to such a setup, individual MoU’s will cover each project with a different senior ZTF member from each Key Project as a Point Of Contact (POU) for each MoU.*

*The collaboration MOUs are one year at a time and expected to be renewed annually, based on mutual satisfaction.*

1. **Proposed contribution to the ZTF Variable Key Project**
2. Identifying cataclysmic variables with nuclear evolved donors. Boris tends to call them "failed SNIa", as many of them will have evolved through a phase of stable shell burning. Their optical emission is dominated by the donor, and they seem to have rare outbursts - so are hard to find. The plan is to use Gaia & GALEX to get candidates, and ZTF to detect orbital periods (ellipsoidal modulation), an example is this system: <http://adsabs.harvard.edu/abs/2009A%26A...496..805R>
3. Detached white dwarf + main sequence binaries. They are easy to spot via multi-color photometry & Gaia astrometry, but getting periods is expensive . ZTF could help with those that are close to starting mass transfer (again, ellipsoidal modulation, and in some cases eclipses). The long-term goal is to connect the various white dwarf binary populations, <https://arxiv.org/abs/1903.04612>. He will be working with Jan van Roestel and others from ZTF on this topic.
4. White dwarfs with transits from planetary debris.  Keaton Bell is leading the effort to detect WD transits from planetary debris, but Boris would be glad to participate, if useful, and bring in relevant expertise for the follow-up and interpretation if and when such systems are found.
5. **List all personnel**

Boris Gaensicke will be an individual investigator.

1. **Observing Resources**

The University of Warwick has a 1m telescope on La Palma with a fast (few seconds) read-out dual arm camera, so could help out ZTF follow up that needs simultaneous blue & red photometry. Boris can also support ZTF via ESO facilities. He is member of SDSS-V, leading the white dwarf survey and co-leading the compact binary survey, and can ensure that ZTF sources of interest will be targeted by SDSS-V spectroscopy.

1. **Point of contact (POC) in the Partnership**

Tom Prince will be point of contact.

1. **Proposed publications**

Boris’ current key interest is the identification, follow-up, and confirmation of CVs with evolved donors, and he is likely to lead some publications in that area.

1. **Required access to ZTF data**

Boris Gaensicke will require access to ZTF data on targets that are cross-matched to likely white dwarf sources based on Gaia or other catalog data.

1. **Data Rights and Benefits**. *In return for their specific contribution, the members of a Project Collaboration will be included in all papers that specifically rest on their contribution and, of course, given the specific arrangements within their MoU they will be able to lead papers based on their proposed program in a given ZTF Key Project. Given the large size of the ZTF Consortium, well-defined and specific Project Collaborations are strongly preferred.*